UNIVERSITY OF ILLINOIS
LIBRARY

Class 630.5 Book CA Volume 31

REMOVED FROM STACKS

Ja 09-20M

California Cultivator

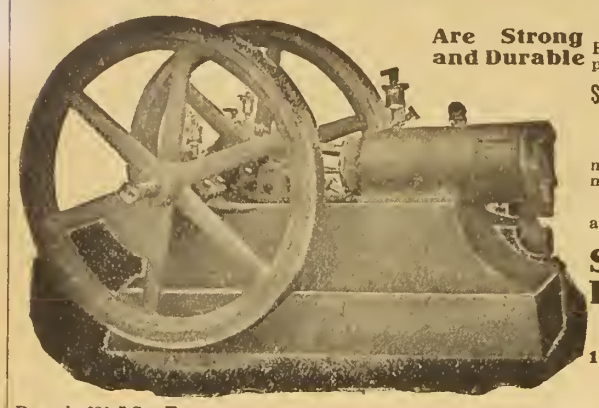
Published Weekly — One Dollar a Year

Los Angeles — July 2, 1908 — San Francisco

In the Woods of California

630.5
C A
v.31

Samson Gasoline and Distillate Engines



Are Strong and Durable

Fully Guaranteed in every Particular. We make complete Irrigation Outfits.

Samson Centrifugal Pumps
Are the Best.

Enlargement of our factory makes it possible for us to make prompt delivery.

Send for our new catalogue and estimates.

Samson Iron Works

Office and Factory:
1100 to 1198 Aurora St.
Stockton, Cal.

Branch: 920 J St., Fresno

553 S. Los Angeles St. Los Angeles

A Railway on the Ranch

Saves Much of the Hard Labor

The equipping of the ranch with a ***Portable Railway*** is a very ***Profitable Investment*** and ***not*** very expensive.

Our booklet S. F. 60 gives several suggestions for applying it to the Dairy and Ranch.

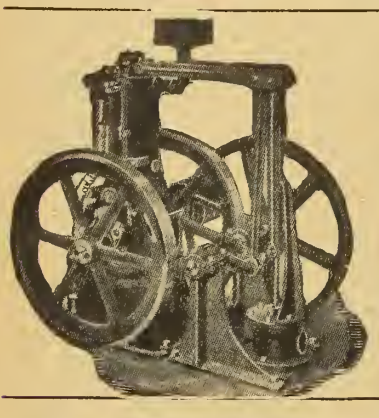
Works at Koppel, Penn.

ARTHUR KOPPEL CO.

Eastern Offices:
Pittsburg
New York
Chicago
Boston

212 So. Los Angeles St. Los Angeles, Cal.

Chronicle Building San Francisco, Cal



A Handy Little Engine

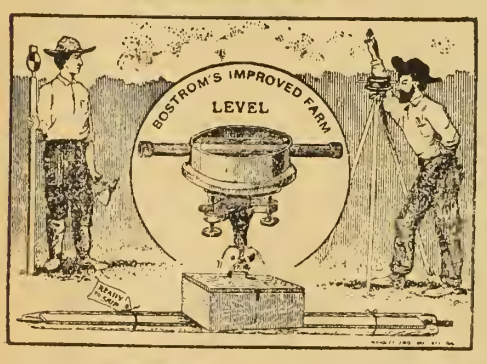
Just the thing to run the feed cutter, the pump, the churn, the grinder, or anything on the ranch. It's well named

The Little Wonder

Write or call on

Wm. Gregory

602 No. Main St. Los Angeles, Cal.



BOSTROM'S IMPROVED FARM LEVEL

Used for irrigation and drainage work. Cheapest and best level yet invented for farm use. Has the latest patented improvements in simplicity and usefulness. Can be operated by any one. Price including telescope tripod and target rod $12.50.

PALACE HARDWARE COMPANY
581 Market Street, San Francisco
Coast Agents. Send for Circular

CEMENT PIPE TOOLS

Do you want to make money? Here is your chance. Get a set or two of our pipe tools, make up a stock of pipe and do contracting of installing irrigating systems. Your neighbors are wanting something to save water and labor. Here it is. Write for our Brown Book. It contains much information for those interested in irrigation.

KELLAR & THOMASON
COVINA, CALIFORNIA

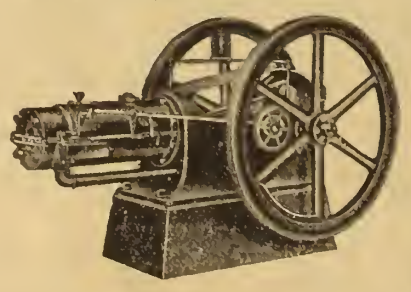
Commercial Gas Engines

are Better Engines than you have been using.

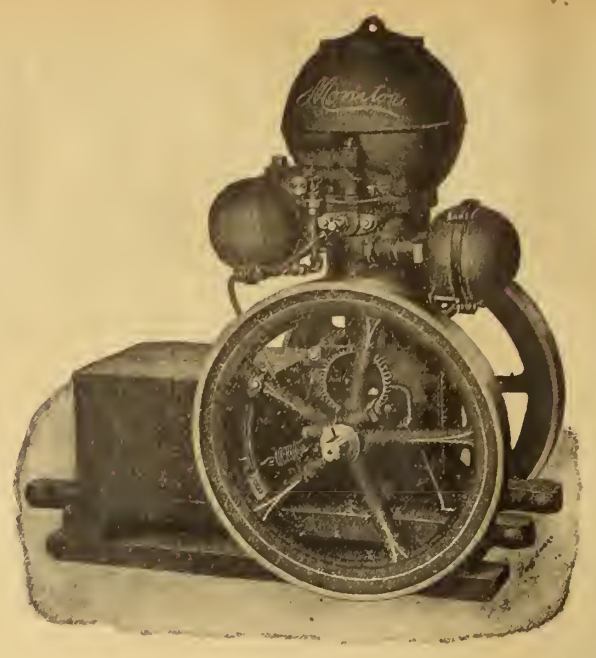
See One Buy One

So will your neighbors.
Send for Bulletin No. 11

Commercial Engine Company
953-955 No. Main St., Los Angeles, Cal.



When writing advertisers, mention Cultivator.



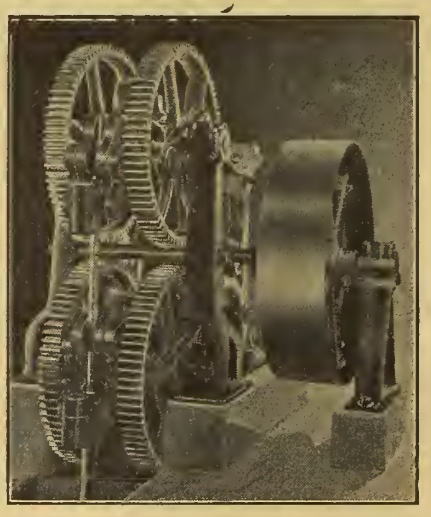
MONITOR ENGINES

Economy and Simplicity

Far in advance of competitive engines. Don't fail to personally inspect this engine before buying. Popular priced. Handsome illustrated booklet on request.

Arnott & Company, Inc.

112-114-116-118 South Los Angeles St. LOS ANGELES, CAL.



This is a cut of the

NEW POMONA DOUBLE PLUNGER DEEP WELL PUMP HEAD

for raising water for all purposes. It is highly efficient, thoroughly reliable and the smoothest running deep well pump made. It is built in three sizes from 10 to 40 Horse Power. Send for new catalog to

Pomona Manufacturing Co.
Manufacturers
Pomona, California

or C. H. Weed, Porterville, Cal.

KILL
Pocket Gophers, Moles and Squirrels

More than 500 feet of holes flooded with gas in five minutes, at a cost of three cents. no pumping required. kills them by the dozen in a single operation. Not an experiment, but a sure destroyer of the pests; just turn on the gas and the work is done. Guaranteed not to injure vegetation. No danger. Any one can operate it.

Fully guaranteed. Your money back if it fails to do the work. Sent prepaid on receipt of price, with supply of carbide for ten acres, ready for instant use $5.00; without carbide $3.50.

Patent applied for. Agents wanted.
Write today for catalogue and description.

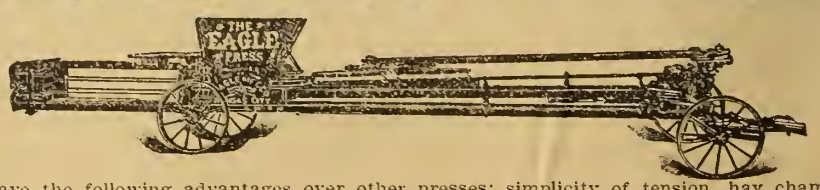
W. H. Lamb, Director in Bank of Santa Cruz County and Hardware Merchant in Santa Cruz, Cal., says:

I am sole agent in Santa Cruz County for the Rodent Destroyer. Am selling them rapidly and have never heard of one that did not give satisfaction. THEY DO THE WORK. The owners of the patent are reliable people.

W. H. LAMB.

Peerless Rodent Destroyer Co., **P. O. Box 307 Santa Cruz, California**

EAGLE HAY PRESSES



Have the following advantages over other presses; simplicity of tension, hay chamber being 9½ inches larger at bottom than hopper making it the easiest press to feed on the market. Has steel channels and parts are strongest and simplest of any press made. Over 600 in use south of Fresno and not a secondhand press on the market. Write for descriptive catalogue, or call

Los Angeles Vehicle & Implement Co. Successor to L. M. Davenport **110-112 No. Los Angeles St., Los Angeles**

California Cultivator

Vol. XXXI—No. 1 Los Angeles, California, Thursday, July 2, 1908 Subscription $1 a Year

An Unexplored Horticultural Field

By JOHN ISAAC, Sacramento

IN THE early history of Horticulture in California all attempts at fruit growing were confined to the interior valleys, and here apples did not give such good results as in the East, and with the memory of the apples of our boyhood and the inferior quality of our earlier attempts with apples, we jumped to the conclusion that apples would not do well in California, and this has been so often repeated that it has become a tradition, that California can grow all fruits but apples. Some bold men who were not bound by tradition carried on experiments elsewhere and as a result, we have the great apple sections at Watsonville, Lompoc and other points on the coast.

The greatest apple country on the coast and, perhaps, we would not exaggerate if we were to say in the United States, is yet almost wholly untouched and unknown. We refer to the mountain regions of the State, where at an elevation varying from two thousand to five thousand feet, there are thousands of acres of land still open for settlers which are capable of producing apples which cannot be beaten anywhere on earth. We predict that, with the population pouring into the State, the gradual narrowing of the available opportunities for settlement, population will be forced into these mountain sections and when it once starts there, there will be a revelation in horticulture which will surprise many of our older inhabitants.

All through these mountain sections there is abundant water, most of which now goes to waste. Mountain streams and springs are to be found everywhere, many of which decrease their flow in the summer, but with land steadily rising to a higher level, with small valleys and depressions of from a few to hundreds of acres in extent, there are unparalleled oportunities for reservoiring water and no shortage need be feared.

The soil in these mountain sections is usually a deep, rich vegetable loam of unexampled fertility, generally rolling, and much of it level; the climate cooler than that of the valleys both in winter and summer, with light snowfall and some frost in the winter. The scenery and surroundings are all that could be wished.

We have seen apples from these sections that could not be excelled on earth, while the yield was all that the trees could bear. Apples from the Femmons' "Home Orchard" in Madera county have been selected by experts as models of what perfect apples should be, and have been painted and used to show what certain varieties would do under perfect conditions. Apples from the same orchard were the admiration of all who attended the Fruit Growers' Convention at Marysville last fall, and leading growers from Oregon were forced to admit that nothing in their State could compare with them.

Now we believe that here is the next field upon which the California horticulturist will enter, and once fairly started we are going to surprise the world with our apples as we have done with our other fruits. We have in our mountains the soil, the climate, abundant water for the developing, and all the conditions for producing perfect apples, and we have the assurance from examples produced, that it can be done and it will be done as soon as it is known what opportunities are offered for this industry.

The great drawback at the present time is the remoteness of these sections from market, and their isolation. These defects will be overcome in a short time, for already the electric roads are forcing their way into hitherto inaccessible mountain sections, and it is only a question of time before every point which offers any business will be reached. There is room here for thousands of families, and the young man who gets a mountain ranch suitable to apple growing will within the next few years find himself among the best rewarded of the horticulturists of the State.

The Drying of Deciduous Fruit

As Practiced in California

IN no section in the world has deciduous fruit drying reached the magnitude it has in California. The perfect climatic condition together with the abundance of fruit grown here have combined to make this possible. To fully describe this process and to give such information as one should have who expects to enter the business would require a volume of a great many pages. In fact, one to enter the business should have the experience of actual work in a drying yard before undertaking the work from any description which may be written. However, each year questions come to this office for information so that a few points may have interest for those who have their own small parcel of fruit to cure.

Evaporated.

California fruit is practically all sun dried and the evaporator here is practically unknown, although owing to the heat and lack of moisture in our atmosphere most California fruit passes in the Eastern market as evaporated fruit. Last year's flurry regarding the sulphur question is settled at least for the time being, so that the usual sulphuring may be given all fruit dried this year. We think it would be wise, however, for all dryers to use caution in the amount of sulphur used. The ruling which the Department of Agriculture promulgated last year insisted that the amount of sulphur dioxide should not exceed .035 per cent. But to sulphur fruit sufficiently to be of value so as not to exceed this amount would be probably impossible, for, as Prof. Wickson has said, the fruit as sulphured in the past, has varied from .102 to .23 per cent of sulphur dioxide, and experiment has shown that whenever the per cent of sulphur dioxide falls below .10 that the color is unsatisfactory.

It is perhaps impossible to say what is the smallest amount of sulphur one may use to fill a certain sized house, and yet acomplish the perfect bleaching of the fruit, because of the fact that fruit in the various stages of ripening requires more or less sulphur. For instance, underripe fruit takes more sulphur than that which is in just the right condition. One grower has stated that he has found that two pounds of sulphur to each thousand of pounds of green fruit is about the right amount. This will be found to vary, however, as noted with the condition of the fruit, also with the variety. Peaches for instance, will require a heavier sulphuring than the apricot.

Trays.

Trays vary greatly in size, ranging from two by three feet to three by six feet. The two by three trays are simple in construction, having a cleat across either end with sometimes a narrow strip on the back to prevent the warping of the bottoms. The larger sizes have cleats through the middle also. Formerly the sulphur house was built quite solidly with cleats so that the trays with the fruit were slid into position on these cleats. This is still followed in some of the smaller yards on the ranches, but where sulphuring is done in a large way the fruit trays are stacked on cars and the cars run on truck directly into the sulphur house which is often of very light paper construction, but at the same time built almost perfectly gas or air tight. The sulphur is usually placed in an iron pot and fired under the fruit. It may be left for three or four hours, but we believe the plan of leaving overnight or until perfectly convenient to take the fruit from the sulphur fumes, is very objectionable and one of the causes of the sulphur ruling.

Cutting.

The cutting is usually done by hand, although with apricots the almost perfection which has been secured in the more improved cutting machine which is today operating, has made that method of pitting apricots almost universally used. The cutting is usually done by piece work where it is necessary to employ outside labor, and varies from 7 cents to 12 or 15 cents per box according to size of fruit, condition of labor market, etc. This year we have noticed that some sections have discussed the idea of payiug by the hundred pounds instead of by the box. This will give more definite piece work, as boxes vary greatly in size.

Drying.

After cutting and sulphuring the fruit is run to the drying ground, which is usually a field where the sun has the full sweep all day, which has been cleaned of weeds and rubbish which may blow around and dirty up the fruit. Many who take extra care, and possibly secure additional price to justify, build racks for holding the tray, which are from 18 inches to two feet above the ground. This precaution, together with that of sprinkling the road ways, if the fruit is spread near the road, are factors which the careful fruit dryer will insist upon.

Before the fruit begins to rattle on the trays it

Continued on Page 7.

Old Harness Like New

Keep your harness pliable and lively with Eureka Harness Oil, and no matter what its age, it will be good as new

EUREKA Harness Oil

is a positive benefit to leather—Nothing injurious in it. Gives the fine dressy appearance every harness should have. Made by
STANDARD OIL CO.
(Incorporated)

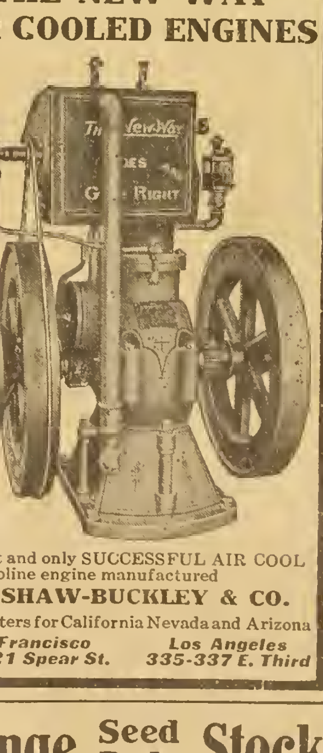
Water Pipe Cheap

25 CAR LOADS NOW BEING UNLOADED

250,000 feet of this shipment is second-hand pipe, practically as good as new, and is now on sale at a big discount by the Adams Pipe Works, 2025 Bay street. Sizes and prices: ¼ inch 1½ cents per foot; 3-8 inch, 2 cents per foot; ½ inch, 2½ cents per foot; ¾ inch 3½ cents per foot; 1 inch, 4¾ cents per foot; 1¼ inch, 6 cents per foot; 1½ inch, 7 cents per foot; 2 inch, 9¾ cents per foot; 2½ inch, 15 cents per foot; 3 inch, 18 cents per foot; 3½ inch, 20 cents per foot; 4 inch, 32 cents per foot.

Oil well casing prices and sizes: 2 inch, 7 cents per foot; 2½ inch, 9 cents per foot; 3 inch, 13½ cents per foot; 3¼ inch, 15 cents per foot; 3½ inch, 17 cents per foot; 4 inch, 18 cents per foot. All pipe is carefully inspected, new coupling and new thread are put on every piece, every joint is guaranteed to be first-class, serviceable pipe. This pipe is sold in any amount; small orders are given the same attention as large ones. Mail orders promptly filled. To reach the Adams Pipe Works, take car marked Pacific Boulevard, starting east on 7th St. from Broadway. All lines will transfer to East 7th St. new line. Ask conductor to let you off at Bay St., and go east half-block. Phones, A1917, Broadway 1264. Los Angeles, Cal.

THE NEW WAY AIR COOLED ENGINES



The first and only SUCCESSFUL AIR COOLED Gasoline engine manufactured
HENSHAW-BUCKLEY & CO.
Distributers for California Nevada and Arizona
San Francisco 219-221 Spear St. *Los Angeles 335-337 E. Third*

Orange Seed Bed Stock

Fine, Large, Healthy Stock For Sale Cheap. Call on or address
T. J. Locke, 27 Union Avenue, Alhambra, Cal.
P O. Box 168. Home Phone Black 177

The 20th annual session of the State Grange was held at Vancouver, the week of June 10th.

With the Citrus Growers

MORE OPINIONS ON FERTILIZATION.

SOME years ago an orange grower in San Gabriel conceived the idea that the natural forest conditions which created more humus than can possibly be kept in the ground under cultivation would be the proper method of orange culture. Weeds were allowed to grow at will and when they became too high and were an inconvenience to the fruit pickers a mowing machine ran down the row and cut the highest of the weeds. Ditches had been laid through which water ran as needed. We have never heard the final outcome of the experiment, but so far as we know no other orchardists ever had the nerve to try. At least if they did, they are not, as a rule, following the plan today.

We now have, however, the following from Newcastle. The writer is apparently succeeding and from his statement is holding up his soil. That is all important whether it meets the approval of any one. A farmer in the warmer and dryer part of San Joaquin valley or in the Imperial valley would we believe come to grief so quickly that he could not write as favorably as does Mr. Gerald Geraldson, the writer of the following:

Mr. Geraldson is manager of the Foothill Orchard Company's property at Newcastle, about 30 miles northeast of Sacramento. We do not know the rainfall, but as it is close to the foothills of the Sierra Nevedas, we presume that it has a fairly liberal rainfall.

Now, we do not think that Mr. Geraldson's communication is "too full of error" nor "too anarchistic" to be admitted to these columns, but we do think his plan will work in but few sections of this State. Meantime, we want all the light we can get as to how to set humus, and we thank Mr. Geraldson for his statement. We understand that his orchard is set with figs.

Mr. Geraldson says:

It has occurred in the history of journalism, scientific, religious and political, that editors who have thought they desired discussion of a given subject, have only wanted further contributions in support of their individual views of the matter, and anything at variance therewith was either "too full of error," "too wicked," or too "anarchistic" to find room in their columns.

Now, if you really and truly want discussion of this question of "soil regeneration" and "soil preservation" I have several (hundred) things that I should like to say on the subject. I have had near thirty years of practical experience in California orchards, so I should be reasonably well qualified to speak.

Being a layman I am largely in sympathy with Mr. Pryse in his criticism of "classical" literature. It generally goes entirely over our heads, but I don't see any fault with the terms "humus," "nitrogen," etc.

What Mr. Palmer says about humus is good—and true, too. What he says, and what you say, sir, and what Mr. Mills says, about the best way of getting humus is where I take issue.

You have discovered the "cover crop" and you get a little of the blessed humus, and you think you have reached the acme, but you haven't, though I may not be able to convince you of the fact.

You are all doubtless familiar with the disastrous results that follow the deforesting of mountains, here or anywhere; it ultimately results in the soil being washed away, among other things. Now, when we clear the brush from land and plow the leaves and grass under, and establish a system of cultivation whereby no more grass is allowed to grow, as nature grew it, we make the conditions perfect for the soil to be washed away, and it goes.

Nature's Way.

That soil which is rich and mellow at first was made so by nature's system of depositing dry, matured leaves, twigs and grass from year to year. In fact, that was the way she made the soil, which is simply sand and humus.

You will never, anywhere, find nature making humus out of green, immature vegetation; note carefully that she always uses the dried, matured article. Why does she do so? Well, one reason is that it makes from ten to twenty times more humus. Another is that it deposits much more nitrogen.

When we cultivate "thoroughly" we not only provide a splendid means of wasting our present capital, humus, through wash, but we wear it out otherwise very rapidly and utterly prevent nature from making any more. This has been seen more or less clearly by students of the subject, and the "cover crop" has been evolved as a remedy.

Now, among other defects, the cover crop falls short in this, that it only yields from one-tenth to one-twentieth of the humus that would be produced were the same crop to be allowed to reach full maturity before being plowed into the ground. Further, it is not self sustaining as no seed is provided. Again, it involves heavy annual outlay to plant and still more stirring of a soil that gets too much already (see the good orthodox brothers' hands go up).

My experience has shown plainly that, without constantly increasing outside assistance, such as chemicals or manure, green manuring will not maintain a soil at a given level of fertility.

Bankruptcy.

Another thing; on any ordinary soil, if chemicals and manure are depended on to provide fertility, bankruptcy will ensue inside of forty years, if the ground is cropped regularly, so we may be wise to listen to the fellow with a new plan to propose.

The German forest service, with characteristic German correctness, has devised a system whereby their forest areas are made self sustaining and produce revenue in addition. In other words, their soil is constantly becoming better and their output of timber is constantly increasing without any assistance whatever from outside sources. They have simply hit on the plan of letting nature have her way without interference.

What is possible in forestry is possible in any other branch of soil culture. The only correct way to handle any soil is to keep it on the improve constantly, while still getting crops, better and better crops, and that without ruinous expense for chemicals and manure.

This is a far cry from the tale of woe of the professor who says that as

Now or Never

Become an investor at once. Work now to insure comfort in your old age.

Manana may be all right in Mexico, but it doesn't work in The U. S. A.

As a starter buy a two cent stamp and send for our booklet "The Safe Investment of Savings."

Your relatives will get awfully tired of supporting you when you get old. Arrange now so that your old age will be a blessing; not a burden.

The John M. C. Marble Co.
Main Corridor H. W. Hellman Bldg.
Telephones: A6897, Main 592
Los Angeles, Cal.

Citrus Trees.

TRUE TO NAME

And embracing all the standard sorts, are to be had of our establishment. Bear in mind that we are the largest growers of Citrus Trees in the world, and that our stock has been awarded the gold medal at every world's fair in the world where we have shown. Our fine booklet, containing 50,000 words and over 100 illustrations, gives you all the points on Citrus Culture. Price 25 cents. Can we send you a copy?

San Dimas Citrus Nurseries
San Dimas Cal
R. M. Teague, Prop.

PIPE

Before Ordering Pipe Elsewhere Get Our Prices

80,000 ft.	½	in.	Pipe
95,000 ft.	¾	"	"
65,000 ft.	1	"	"
150,000 ft.	1¼	"	"
150,000 ft.	1½	"	"
90,000 ft.	2	"	"
30,000 ft.	2½	"	"
10,000 ft.	3	"	"
20,000 ft.	4	"	"
1,000 ft.	5	"	"
3,000 ft.	6	"	"
10,000 ft.	4	Screw	Casing
5,000 ft.	3½	"	"
2,000 ft.	3	"	"

All this pipe is guaranteed to be as good as new. We give you the same guarantee as you can get with new pipe.

For prices and general information address
Weissbaum Pipe Works 135 11th St. San Francisco

EDISON PHONOGRAPHS, VICTORS, ZONOPHONES
Records and Supplies, delivered at your nearest railroad station upon receipt of full retail price. Write for particulars and ask for catalogue. Peter Bacigalupi & Sons. 1113-15 Fillmore St. San Francisco

soon as the nitrates of Chili are gone we will have to devise mechanical or electrical or other means of getting nitrogen from the air or go hungry, but it is possible; furthermore, it is easy and has been successfully accomplished right here in California to a limited extent.

Call and Inspect.

I know that this is a rather big claim to be made seriously, but it is true, and if you're "from Missouri" we should be pleased to have you call and inspect.

As with the German forest service, the plan is to simply eliminate, so far as possible, human interference with nature. In this instance the interference takes the form of plowing mainly.

In Placer county we call the space between two rows of trees a "middle." Here we have a good supply of native grasses, including Burr clover, which grows more or less luxuriantly on any soil that has not been "cultivated to death."

The Method.

Six years ago, after years of virtuously diligent cultivation, in which I had reduced a once rich and mellow soil to a state where it could barely produce four inches of very scattering grass; where it baked like brick after each shower in the spring; where the irrigating water would seldom soak more than a foot from the ditches, which set like Portland cement, and where I could not possibly haul manure and fertilizer enough to make it appear and produce as it once had, I decided to try the plan of plowing alternate middle on alternate years with a view to reseeding the ground and, to some extent, re-establishing natural conditions.

I acted with many misgivings but felt that something had to be done. I dared not leave all the ground unplowed as that would be too hard on the trees and there would be some danger from fire even with the small amount of grass then available, so I compromised with precedent by plowing half of it, that is, every other middle.

The unplowed land was very hard but as the trees had been "hooked" (hoed) around and were carefully watered, we got through the summer without trouble.

The next year we plowed the middles left the first year, leaving the others, and so on, with rapidly increasing crops of grass, for four years. You understand that each year's grass was left to mature and go to seed, and was plowed under the next spring at the usual time. By that time, owing to the presence of the dry grass, and plenty of seed, there was a proportionately heavy crop of green grass which contributed its mite toward the total large deposit of humus and nitrogen.

During the four years the ground was necessarily plowed in the same direction, viz., across the flow of rain and irrigating water as far as possible, so that the grass covered middles would prevent wash, which they did effectually. The fifth year the direction of plowing was at right angles and all of the ground was plowed to smooth out ridges and to slightly check an almost too vigorous stand of grass.

This, the sixth year, the alternate middle system has been started again with two feet of heavy grass instead of four inches of thin grass as at first.

During all this time no chemical fertilizers have been used, and only about two two-horse loads of stable manure per acre per year, which was applied on the worst worn out spots to start the grass.

A Comparison.

Conditions six years ago and now compare as follows: Then it was almost impossible to soak the ground, now it soaks readily.

Then trees on old ground made but a limited growth, now they grow luxuriantly.

Then it was almost impossible to bring a heavy crop of fruit up to size, now it is accomplished readily and the quality is much better.

Then water from any source caused terrific baking, now baking is an unknown quantity.

The tradition that "every weed is a pump," etc., is all bugaboo. Soil that has plenty of humus, and has a good covering of green or dried grass, will retain moisture longer than any dust mulch. Until we tramped it down hard with stock and plowed it to death, our soil was ideally adapted to the retention of moisture.

Anyone trying this plan should continue at least four years to give it a fair test. He must neither pasture nor mow his grass but leave it carefully alone to go natures way.

Applying this plan to farming or gardening would simply mean using a given piece of land half of the time and allowing it to grow grass, the other half.

I see no reason why this plan will not work anywhere that grass will grow. The least that doubters can do in the matter is to try it.—Gerald Geraldson.

IRRIGATION IN FLORIDA.

Owing to shortage of crops in many orchards of Florida, irrigation is discussed more and more. In a recent Packer we note:

While the drought has had a very bad effect on the crop just packed, because of the shortage, action has been taken by the grove owners to meet the drought should another one come. Irrigation has been resorted to, and plants have been installed in all the large groves. Those in this vicinity who have studied irrigation and its benefits believe that as good a crop can be produced with irrigation and a drought as with good seasonable rains and no plant. They also contend that with an adequate irrigation plant much of the White fly pest, the red spider and other insects and infections which are limited to citrus fruit trees, will be eliminated in a measure. Many of the grove owners are fortunate enough to have a small lake or large body of water near their grove while there are those who have not this luxury who have to resort to artesian wells, which can be had at almost any point on the peninsula at various depths ranging from 200 to 400 feet. It is believed the flowing system is the best and some have this, while others have their land piped with drain tiles submerged, and keep them constantly flowing with water.

A NEW PACKAGE.

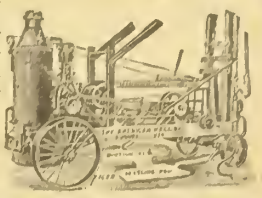
The Chicago Packer has this to say regarding orange shipping from Florida:

"Preparations are being made for shipping the coming year in barrel crates in order to avoid the high rate of freight which bulk oranges take The barrel crates that are being ordered are thirty-six inches long, partitioned to hold over 2 boxes of oranges. They will be packed loose in the grove with no wrapping or packing. This package will come under the tariff schedule the same as the cabbage crate and will hold a little over a flour barrel of oranges."

IT'S PENNY WISE

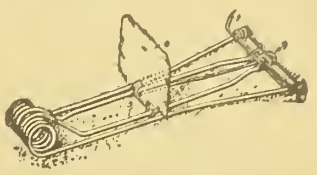
Policy to set out a good tree, costing good money, and then let the sun burn the bark or the rabbits gnaw it, when for $1 an acre you can get Yucca Tree Protectors that are practically indestructible. Write for free sample of the wrap. Yucca Manufacturing Company, 1380 Willow street, Los Angeles.

$10 a day may be earned by a man using our machinery. Some earn more. FULL LINE for prospecting for water, coal, mineral, oil, etc. Any DEPTH, any DIAMETER. PUMPS also. Free catalogue.



THE AMERICAN WELL WORKS
AURORA, ILL., U. S. A.
BRANCH OFFICES
Chicago, Ill., First National Bank Building
New York, N. Y., 2-4 Stone St.
San Francisco, Cal., 305 Market St.
New Orleans, La., J. H. Menge & Co.
R. B. Whitacre & Co., 205 Robert St., St. Paul, Minn.
Dallas, Texas Joplin, Mo.

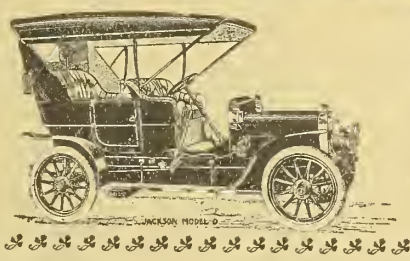
MAGABEE GOPHER TRAP



Small, simple, sure. At all dealers. If your dealer does not handle same, send 20 cents in stamps and mention your dealer's name and get sample by mail postage paid at special rates. Manufactured by
Z. A. MACABEE, LOS GATOS, CAL.

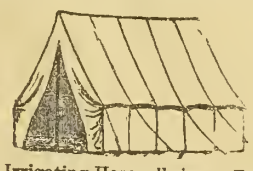
Orange Seed-Bed Trees
Sweet and Sour Stock. Plant now.
SOUTHLAND NURSERIES
F. H. DISBROW, Proprietor
R. F. D. No. 1, PASADENA, CAL.
Phones: Main, 949 Home, 2520

No Hill Too Steep FOR No Sand Too Deep
Jackson Automobiles

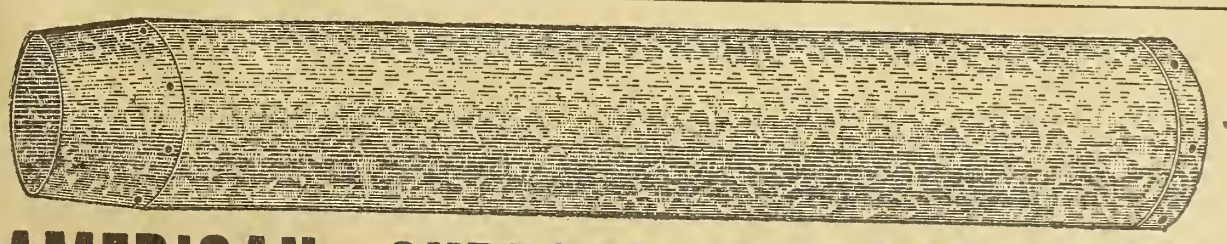


RUNABOUT, 18 H. P. - $ 900
TOURING CARS, 24 H. P., $1350 and $1650
TOURING CAR, 35 H. P., 4 cyl., $2150
GENTLEMAN'S ROADSTER, - $2150
Send for Catalogue and List of Used Cars
Agents Wanted Where Not Represented
A. W. GUMP AUTO CO.
1118 S. Main St., Los Angeles

Citrus Trees
For Season 1908
Valencia, Eureka Lemons, Thompson and Washington Navels, Grape Fruit
C. L. McFarland & Co.
Riverside, Cal.



TENTS
Fumigating and Lemon Curing Tents our Specialties
Irrigating Hose, all sizes. Prices and Samples quoted upon application. Write your wants
Wagon Covers, Hay Covers, and Canvas Covers of Every Description.
Mellus Bros. & Co
Phones—Home, F 4871; S. S, Main 3500
250 East Fifth St., Los Angeles, Cal.



AMERICAN SURFACE IRRIGATION PIPE
SAVES WATER, GRADING AND TIME
The only way to Irrigate Alfalfa. Cheaper than Flumes. This is only one of our specialties. We make Riveted Water Pipe in lengths of ten feet from single sheets. Let us prove to you that we make Pipe and Tanks right. WRITE FOR CATALOGUE.
AMERICAN STEEL PIPE & TANK COMPANY
FORMERLY TALLERDAY MANUFACTURING COMPANY
636-7 Pacific Electric Building Los Angeles, Cal

Deciduous Fruit Culture

GUMMING OF STONE FRUIT TREES.

THERE is always more or less gumming of apricots during the early summer in some districts, and if not attended to in time often kills a tree and always is an injury if neglected. Simply splitting the bark lengthwise with the trunk of the tree will relieve the trouble at once. There is no need of trouble if this is done as soon as the first gum makes its appearance. Sometimes a tree will have a dark appearance and the bark will be tight. In such cases splitting the bark as indicated will have an almost immediate effect.

What is known as sour sap is an entirely different disease and when this shows on an apricot tree it is past relief. Just what the cause is we do not know, but the remedy, if there is one, must be brought into play before there is any evidence of its need. Large areas or even a large percentage of trees in an orchard are never affected. It appears to be a spasmodic disease that is out of our control. Sometimes but one tree in an orchard will be affected and again many scattered about will be affected.

Our attention was called to a vineyard in which a number of vines appeared to have sour sap completely encircling the trunk. This was a new complaint, and the fact that this diseased sap forced its way around the trunk of the vine suggested slitting the bark as a measure of relief.

THIN YOUR FRUIT.

THE prime object of thinning is to improve the size of the fruit. Benefits of secondary importance are: More regular bearing, longer life of the tree, and no doubt larger total production in the long run. In the peach, where the fruit is borne on one-year-old wood, a strong new growth is necessary for the production of flower buds for the succeeding year's crop. In the apple, pear and some varieties of plum, the fruit is borne on fruit spurs, and strong but not over-vigorous growth and plenty of reserve food are necessary for the development of fruit buds. It is the exception rather than the rule for fruit spurs to bear every year, so we must really have two sets of fruit spurs if we expect to have the tree bear regularly. One can then see that the wanton destruction of fruit spurs as a means of thinning is a mistake. Experiments show that, on most varieties of apples, at least, thinning does induce annual bearing. It is safe to say that thinned trees will bear as many boxes of fruit in two successive years as the unthinned trees, 95 per cent of which will grade "Fancy," as compared with 50 per cent "Fancy" from the unthinned trees.

The judicious use of the pruning tools in early spring saves much hand thinning. The grower will have to rely a great deal on his own judgment as to just how far pruning will take the place of May or June thinning. The peach tree may be pruned much more severely than other fruits on account of its habit of bearing fruit. The removal of wood as a means of thinning in the peach should not in any way injure the next year's crop. The heavy pruning would rather stimulate the growth of strong fruiting wood. Even in June thinning the pruning shears are a necessary article in the thinner's outfit. Many branches may be clipped off or shortened to save the labor of hand thinning. Pruning as a means of thinning apple and pears must be exercised with more care.

Two general plans may be followed in June thinning. One is to thin to a certain distance, the other to leave a certain total amount on the tree Where the first plan is followed, the general rule is to leave a fruit every six or eight inches in the peaches or apricots, and not less than eight in apples and pears. It is a fairly satisfactory method for the experienced pruner, but unreliable for the grower, who, from lack of courage, fails to prune properly. Probably a better plan for such a grower is to thin not so much to distance as to leave a certain amount on the tree. By thinning and actually counting the remaining fruits on a few trees, the eye can soon be trained to judge what a well-thinned tree looks like. Then, of course, the question comes up as to how much a tree should bear. This will depend much on the vigor of the plant, soil conditions, and water supply, as well as the variety.

Stone fruits should be thinned before the pit hardens. Apples may be thinned later and after it is certain how heavy the crop will be.

Some thin with poles and knock off many fruit spurs and injure the trees. This is the most economical, or rather the quickest, but we believe not the most profitable in the long run.

If farmers and orchardists would pick off all imperfect fruit, it would be better for the trees and better for their pockets when fruit is marketed. If only No. 1 fruit was sold the market would never be glutted. All No. 2 apples ought to be dried or made into cider.

"LITTLE PEACHES."

We have been asked if the disease known as "Little Peaches" is now in this State. We do not think so. This is a disease that kills the trees in about the same manner that "yellows" does. The fruit will run all sizes, from full size down to as small as the thumb with large pits in all of them. It is very often the case that trees in the southern part of the State will produce small fruit along with that of full size, but this is due to improper leafing out of the trees, as far as we have been able to determine. Very often the trees will not leaf out properly all summer long and the bloom will drag along about the same way. Many of the peaches appear to be improperly fertilized in the bloom. The whole trouble seems to be that the trees grow and bloom out of season, due to uncongenial climatic conditions. Winters with occasional warm periods of weather which cause the buds to swell, followed by cold spring weather seem to be the forerunner of this unnatural development of foliage and fruit. It is demonstrated beyond a doubt that the climatic conditions of Southern California, as a whole, are not suited to the growing of large crops of first class peaches. It is true that they are very profitable some seasons, but taken one year with another they are very unsatisfactory.

The two distinguishing points between "little peaches" as known in the East and our small peaches caused by unnatural growing periods, are that in the case of the former the trees rapidly decline and die, as with the yellows, and the pits are large in both small and large fruit. In the case of the latter, our Southern California trouble, the trees overcome the weakness when favorable seasons return. The other point is, the small peaches have small pits.

Irrigation by Flooding.

PEACH TROUBLES.

There is a new theory regarding the cause of yellows in peach trees. It is claimed that evidence shows that the principle cause of yellows is due to atmospheric conditions that render the trees more susceptible to the disease, while the direct cause is due to a sort of poison that is carried from one tree to another during blooming time and does not develop till a few years later.

During the last twenty-five years, there has been trouble in the peach orchards of England that seems to be allied to the peach yellows of this country, but more like the mottled leaf of our orange trees. The leaves become white with nothing lacking apparently except the chlorophyl, yet the trees become sickly and unproductive. Heavy fertilization, however, for two or three years will overcome it.

There is a disease that is met with occasionally in this State where the peach leaves turn a golden yellow without any apparent cause. Often a branch on one side of the tree will be affected and the balance of the tree will remain healthy.

Berry growers of Santa Rosa recently held a meeting and organized an association for the pooling of blackberries of that section.

PLANT DISEASES.

IT causes much satisfaction to grape growers of Southern California that the Anaheim disease has not been so active during the past few years as it was many years ago. It is not due to any treatment that has been afforded the vines. Neither have new varieties been introduced with the object of securing immunity thereby, for the old sorts are growing luxuriantly in many sections and no sign of the disease has made its appearance for years. This is, indeed, encouraging as it shows that the virulence of the disease has spent itself in most parts at least, and this is a good sign. It not only argues that we may in time have no fear of this blighting scourge in our vineyards, but we may hope that such insiduous diseases as pear blight may some time be under better control, at least in many sections. Indeed, this is now apparent in some places at present. During the past winter it was our privilege to inspect some Bartlett pear orchards where, though they had been infected with pear blight for five or six years, and still had traces of it, the disease had made no progress and abundant crops had annually been harvested. It is a well known fact that trees making a small annual growth are not susceptible to pear blight; that trees making a rank growth are. Climatic conditions also affect the development of the disease. There is hope in the possibility of pear trees growing under these conditions developing a strain of trees that will be immune to the blight. There are some varieties of pears that are apparently immune when growing in close proximity and blooming with Bartlett pears that have been cut down in one season with the blight. The Cole Seedling, for instance, is one. This pear survived and was not even inoculated, while pears and apples all around it were dying back with the disease. It does not seem that California can produce a blight-proof Bartlett with her desert conditions and immune varieties that are now available. This is the only recognized safe method that is given for placing the walnut business on a sure basis. There is no doubt but that we would now have a comparatively immune Bartlett pear if as many seedlings had been grown from this as there have been from the walnut. Of course, the two cases are not parallel, for the immune walnut is a late blooming one while the pear must have internal resistant qualities. Several years ago this department urged this same theory.

GRAFTING APPLE ON PEAR.

Experiments have been made in Colorado with the apple grafted on the pear, and apparently with complete success. The chief advantage of grafting apple on the pear root lies only in its exemption from attack at the root by the wooly aphis or apple louse. Its greatest injury is at the root where it cannot be successfully or effectively eradicated. It would be an interesting experiment to make with pear stocks grown seeds of the old native Mexican pear. Some of these trees are said to be 300 years old and it might be found that apple grafted on these vigorous trees would be not only more thrifty and free from attacks of insects at the root, but longer lived than are our trees on the apple stock.

COUNTY OFFICIALS TO BE FIELD ASSISTANTS.

The Department of Agriculture of the State University is to have assistance from some of the experts in entomology appointed by the different counties. Mr. J. S. Hunter of San Mateo county has been made Field Assistant in mosquito studies. Mr. Earl Morris of Santa Clara county is to study the life history of the California peach root borer and its treatment, and Mr. W. H. Volck is studying the control of the potato worm in Monterey county and in Santa Cruz county is making special studies of the control measures for the woolly aphis. The honorary positions of field assistants in connection with experiment station work in entomology carry with them no pay from the university, but are a recognition on the university's part of the value of the county officials who have been asked to serve.

DRY ROT ON GRAPES.

The French experiment stations have been testing dust and liquid sprays for the control of the dry rot. In addition, removing part of the foliage and reducing the amounts of nitrogenous fertilizers were tried. In all, six powders and about one dozen liquids were used in the tests. The results showed that in seasons unfavorable to the development of the disease, there was no treatment that made any reduction of the disease over the same in the check plots, but during seasons favorable to the development, sprays were of much benefit. It was also observed that in cases where nitrogen was abundant in the soils, the disease was much worse. This was, course, due to the vines putting out abundant foliage which makes favorable conditions for fungous growth.

SUCKERING.

Whenever the spring growth commences, whether on established trees or those newly set out, shoots will put out where they are not wanted and the sooner they are attended to the better. As soon as they can be seen they should be rubbed off with the hand. A good leather or buckskin glove will facilitate the work. Many trees that have been neglected in their early days will persist in sending up suckers from the roots which come year after year. They can be effectually stopped by digging down to the point of origin and breaking them off close to the stem. A little attention at planting time will save much of this.

ADVANTAGES OF DRY AIR.

The dry atmosphere of this State is an advantage when we have to use copper fungicides. Experiments have shown that when the leaves of plants are protected from dew and rain, stronger washes may be used with increased efficiency, while when the leaves are wet a weaker solution must be used. Coast districts must use a weaker solution than is safe to use inland.

VALUABLE CATALOGUE.

The Southern California Acclimatizing Association of Santa Barbara has issued a new price list, which has a great value for the plant lover. It lists most of the well known plants introduced to California gardens, and also is complete in the lesser known plants which this concern is continually introducing from other countries. Mr. Franceschi, who founded the association, was first to introduce the Lippia repens which has become so popular in this State.

DECIDUOUS FRUIT DRYING.

Continued from page 3.

is often stacked and left for a day or two to cure in the stack. If trays are short they are often doubled up at this time two or three trays being often dumped onto one. This stacking has the double advantage of not curing too rapidly at the end and also of protecting the fruit from the night dew which is liable to darken the fruit.

Sweating.

When fully dried on the trays some of the smaller fully ripe pieces will dry much sooner than the larger and greener ones. If this difference is very great, which it may be if the fruit is ungraded before cutting, hand sorting to remove the large and under-dried pieces to other trays is often done. But where the fruit does not vary too much the entire tray is dumped with others into the sweat box and there allowed to remain four or five days. More often in the large drying yards the fruit is dumped into the bins in the curing room where, after a few days, the pile is turned or shoveled over to prevent its molding during the sweat. Failing to turn the sweating fruit often is where the novice may fail, because we have seen where its being neglected a day or so too long has ruined large quantities of fruit by molding. One must be sure also that the fruit is not sacked, until after the sweat, as discoloration, at least, and perhaps mold will follow.

Re-sulphuring.

We will not discuss re-sulphuring, which is the taking of the fruit after it has gone through the sweat and possibly been stored some time, dipping in hot salt water, sulphuring heavily, then packing. It is practiced almost universally and is the cause of much contention at the present time, many growers claiming that were it not for this the grower would have no trouble with "Ruling 76." We must say, however, that while the Cultivator leans heavily to the side of the grower in this controversy the buyer and packer is an important factor whom we must consider and that he claims his experience calls for the re-sulphuring in order to destroy any insects which may have infested the fruit between drying and shipping. It is a practice which is abused outrageously, however.

Finally.

Have the fruit fully ripe before gathering, but do not allow to get too mushy or soft. Green fruit makes unsatisfactory little dried chips which lowers the grade of the entire output.

Make clean cuts and do not mash or muss the fruit more than necessary. If nice shaped fruit is desired do not crowd too close together on the tray.

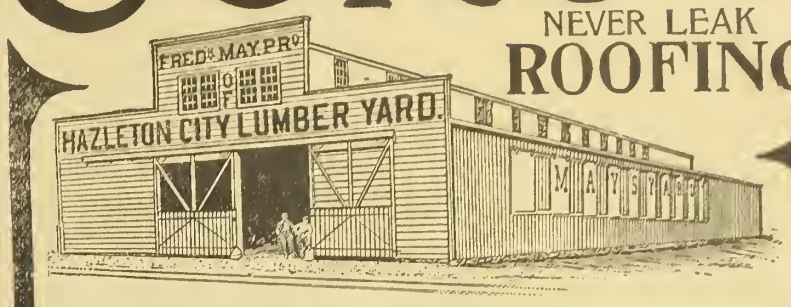
Some watch the sulphuring and do not allow the fruit to remain after the "cup" becomes filled with the fruit juice. If best prices are expected dry on racks and keep out of dust as much as possible.

Do not dry too hard, and keep the fruit with that velvety touch, which experience only can teach you.

Good openings for growers of small fruits near most every small town. Look about and see if the market is supplied with fancy home grown berries.

CONGO

NEVER LEAK ROOFING



CONGO Ready Roofing is like a government bond — the best and safest investment you can make.

It may not be the cheapest roofing you can buy at the start, but in durability, satisfaction and economy in the long run, there is nothing better.

Congo is proof against every kind of climate and weather and is almost as soft and pliable as rubber.

It is easy to lay and clean to handle.

Send for a free Sample and you'll see what a real "never leak" roof is like.

UNITED ROOFING AND M'F'G. CO.
Successors to Buchanan Foster Co.
567 WEST END TRUST BLDG., PHILADELPHIA, PA.
CHICAGO SAN FRANCISCO
BLAKE, MOFFITT & TOWNE, Los Angeles, Agents.

Placer Nurseries

We have now growing for next season's delivery a large stock of all leading varieties of trees and vines. We propagate only the best commercial sorts. Our trees and vines are the best that good care can produce and in their selection, propagation and growing we spare no labor or expense; and they are true to name. That is what you want.

Contract now the trees and vines you will want for next season's planting.

Write us.

Silva & Bergtholdt Company
Newcastle, California

TREE TANGLEFOOT

A Sticky Preparation Applied Directly to the Bark of the Trees

Will not injure trees. A band 5 inches wide and 1-16-inch thick cannot be crossed by any climbing insect pest. Remains sticky five to ten times as long as any other known substance. You can test it at slight expense, as no apparatus is required. Used by the carload in New England against the Gypsy and Brown-Tail Moths. In California it preserves prune orchards from the Canker Worm. Wherever the Gypsy or Brown-tail Moths, Tussock Moths fall or Spring Canker Worm or Web Worm appear TREE TANGLEFOOT is of great value, and should be used when the caterpillars begin to crawl while they are very young.

Price 25c per lb. Liberal discount on quantities. The only safe and effective banding preparation. Send for testimonials.

THE O. & W. THUM COMPANY
Manufacturers of Tanglefoot Fly Paper Grand Rapids, Michigan

Largest National Bank West of Denver and South of San Francisco

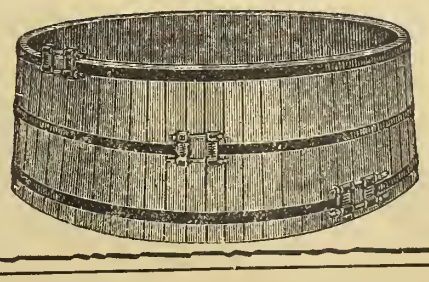
First National Bank
of Los Angeles, California

UNITED STATES DEPOSITORY FOR GOVERNMENT FUNDS

TOTAL RESOURCES, $16,000,000

ADDITIONAL ASSETS—One Million Five Hundred Thousand Dollars invested in the stock of the Los Angeles Trust Company and the Metropolitan Bank and Trust Co., and held by the officers of the First National Bank, as Trustees, in the interest of the shareholders of the Bank.

We are prepared to extend to the small depositor the same personal and careful attention that we do our largest accounts.



TANKS

Wine Tanks, Water Tanks, Stock Tanks, Cyanide Tanks. Two million gallons of wine tankage built this year. Write *now* for my prices. Lumber direct from the forest. This means low prices.

R. F. WILSON
General Manufacturing STOCKTON, CAL.

When writing advertisers, mention Cultivator.

An Income for Life

May be had by planting a grove of **Eucalyptus** trees. We are headquarters for all varieties of **Eucalyptus Seed.** Also carry a good assortment of trees in flats. Write for our 1908 seed catalogue. It describes the kinds and tells what the wood is best suited for. Don't delay. Do it now.

GERMAIN SEED COMPANY

326-328-330 S. Main St. Los Angeles, Cal.

Poultry Supplies

Best of All Kinds at Lowest Prices

West Coast Seed Co.

707 So. Spring St., Los Angeles, Cal.

Crimson Winter Rhubarb and **Berry Plants Our Specialty**

1000 choice Navel Oranges, together with a few other Citrus Trees. April and May are best months to plant Rhubarb for heavy Crops next winter. It has never been equalled as a money maker. $1.50 per dozen, $6 per 100, $40 per 1000. Pedigreed plants.

J. B Wagner

The Berry and Rhubarb Specialist **Pasadena, California**

EUCALYPTUS SEED

Eucalyptus rostrata, the Red Gum
E. corynocalyx, the Sugar Gum
E. tereticornis, the Forest Red Gum
E. globulus, the Blue Gum
E. citriodora, Lemon-Scented Gum
E. cornuta, the Yate Tree
E. polyanthema, the Red Box
E. leucoxylon, Victorian Iron Bark

and Many Other Valuable Sorts

I shall be pleased to correspond with prospective buyers and give particulars as to prices on the seeds I am offering. Trial packets of any variety 15c each, 2 for 25c, or twelve for $1.25. Also young trees of many varieties for sale. Send for circular and cultural directions.

THEODORE PAYNE

NURSERYMAN AND SEEDSMAN

Home Phone A2480

345 S. MAIN ST., LOS ANGELES

Eucalyptus Seed

We are headquarters on all varieties of this seed. Be sure and get our prices on high quality stock. 80 varieties, your selection, 15c per pkt. Or we will mail postpaid, 1 pkt. each, E. Rostrata, Globulus, Tereticornis, Rudis, Corynocalyx, Leucoxylon for 50c with Cultural Directions.

MORRIS & SNOW

555 South Main Los Angeles

Balfour, Guthrie & Co.

IMPORTERS OF

THOMAS PHOSPHATE POWDER

AND

NITRATE OF SODA

SAN FRANCISCO FRESNO LOS ANGELES

WRITE FOR PAMPHLET AND PRICES

When writing advertisers, mention Cultivator.

For the Season of 1908-09

We Shall Have to Offer

Pedigreed Fruit Trees

SEVERAL NEW FRUITS AND NUTS OF IMMENSE VALUE TO CALIFORNIA

Eucalyptus Trees

BY THE 1000 OR 100,000

NO BETTER STOCK GROWN

Please send us your name and address, and you will get all particulrrs. We are now taking contracts for ***Eucalyptus Trees*** in large quantities.

Leonard Coates Nursery Co. Inc.

Morganhill, Santa Clara Co., Cal.

Dust Spray Hydrated Lime

The Holmes Lime Co.

Mutual Savings Bank Building San Francisco

Burbank Crimson Winter Rhubarb

Plants and Seed for sale in any quantity. Warranted the genuine article. Orders filled promptly

A. L. Fratt, Ventura, Cal.

Pacific Seed Co.

C. Bagnall, Prop.

GROWERS AND IMPORTERS OF

Grass, Vegetable and Flower Seeds

All Kinds of Bulbs and Onion Sets

609 J St., Sacramento, Cal.

Send for Catalogue. Please mention Cultivator.

STRAWBERRY PLANTS

Strong one-year-old plants for August planting: Brandywines, $2.50 per M. Klondike, Lady Thompson, A-1, Excelsior and Midnight, $3.00. A full line of this season's plants later. New catalogue ready in September, giving full description of our improved strawberry plants and other small fruit.

G. H. HOPKINS & SON ***Burbank, Cal.***

When writing advertisers, mention Cultivator.

Small Fruits and Vegetables

THIS MONTH.

THIS is a good month to use judgment in the application of water. It is a month to stop "sprinkling" and irrigate. By ""sprinkling" in this connection we mean the light spraying over the surface of the ground which does not give water down to the roots, but furnishes a crust which repels and aids evaporation and loss of moisture. So don't sprinkle in the garden, or if you do, do it so thoroughly that the moisture reaches into the earth and to the roots. Then when soil is in right condition cultivate thoroughly.

Before planting seed like radish, lettuce, etc., have soil in moist condition, and the moisture deep in soil. Then after planting lay some light covering like burlap or old barley sacking over the place planted. This will prevent loss of moisture and the formation of a crust. A mulch of coarse manure will also prove excellent. Quantities of seed are lost every summer by neglecting to mulch the ground after seeding; these small seedlings are very tender. When just sprouting, they burn very quickly when they strike the hard burning crust that is over them. This is a matter of great importance, and with a little extra care one is able to have nice crisp lettuce and other vegetables in the heat of the summer, when they are greatly appreciated.

Sow casaba melons, squash, cabbage, green and lima beans, cauliflower, Atlantic Prize tomatoes for winter crops, lettuce, radishes, onions, beets and other small truck for the home garden this month.

HOW TO TELL WHEN MELONS ARE RIPE.

THERE are many signs of a ripe watermelon, the elongated ones are quite easy to tell when ripe, the round ones are, without exception, hard to tell when ripe.

A watermelon as long as it is still growing carries a bright glossy color having the appearance of a coat of varnish recently applied. As soon as it stops growing there appears a small spot at the place where most exposed to the sun, which has the appearance as if the varnish had been rubbed or worn off. When this has extended over nearly all the upper surface the melon will be found to be ripe; at the same time the melon forms a thin shell just under the skin or bark; it is thinner than one's finger nail, but rather hard, and if you try to scrape the bark off you will find your nail will run along on a smooth hard surface, apparently as smooth and hard as the top of a polished table. This shell forms first on top, gradually extends to the bottom enclosing the entire melon. When it is formed on the bottom the melon is ripe, so when the bottoms will scrape as stated above, and the melon is at the same time hard on the bottom, it is ripe; there are many other signs, but none as reliable as the above; generally if you are in doubt as to whether a melon is ripe or not, you will generally find upon cutting it, that it is green.

Musk and cantaloupe melons are never ripe until they slip the stem. The winter casaba melon does not slip the stem neither does the hybrid casaba, except the Imperial casaba, a variety recently propagated by the writer; this melon slips the stem just as does its father the Early Hackensack.

A muskmelon or a cantaloupe, during the last twenty-four hours on the vine, changes its starch to grape sugar, but if picked green is unable to do so. The casaba melons on the other hand, take several days to change their starch to sugar, and can be picked as soon as that process is started, and ripen to perfection—just as does a pear—some time afterward.

The new watermelon, the Angelino, is harder to tell than any other melon. It must be left on the vine until it looks overripe, as compared with the Chilian watermelon.—J. C. Ostergard.

HINTS ON PACKING SQUASH.

J. A. Eveleth, the well known commission man, of San Francisco, gives a few directions for properly packing summer squash for the market.

It should be packed from the top to the bottom, not from the bottom to the top, to get results. In other words, nail on the top of the box before you commence to pack, and the bottom when you are through, turning the box over with the stencil or address showing on the top. Select squash of uniform size for your first layer, and fill the box plump full, so that the bottom will spring somewhat when you nail it on. This will keep all in proper place and it will be attractive when you remove the cover. A layer of paper next to the top will keep the squash from grating against the rough wood, and in that manner assist in making it attractive. Try a box yourself and see what an improvement it is over that which has been packed at random, without any particular regard to the above-mentioned points.

So large a proportion of receipts has been of unsatisfactory quality and pack that prices have been driven to a point that is ruinous; in fact, it has been almost impossible to induce the trade to take at any price much that has been coming forward.—Brawley News.

GARDEN NOTES.

Where nitrate of soda is used it should always be covered with soil.

To raise early beets make a little trench beside each row, and scatter in a little nitrate of soda and cover it.

If you want early squashes or pie pumpkins, work into the soil around each vine a handful of hen manure.

The best crop to follow early peas is squashes. Peas add nitrogen to the soil, and this must be present in order to raise a good crop.

To raise early cabbage, begin when the plants are small, and scatter around each a little nitrate of soda, and repeat every two weeks.

If you want ripe tomatoes early, make the ground rich with fine barnyard and hen manure. When you set out the plants, cut off all the lower branches, and work into the soil around each a teaspoonful of nitrate of soda, and repeat every ten days.

On Monday morning June 15th, a solid train of 63 cars all loaded with Imperial valley cantaloupes and drawn by two Jumbo freight engines, was a sight to convince those who saw it that the world does move. Five years ago that same section was called the Colorado desert.

The Ornamental Garden

THIS MONTH.

SOW pansies and stocks for winter blooming. Sweet peas for late flowering are also sown this month. Chrysanthemums have to be watched closely from now on. All suckers should be cut off as soon as they appear, large side branches removed and only a limited number of buds left on each plant so as to throw all the strength of the plant on the few remaining buds. Green aphis and other insects will appear, but can be easily removed by the use of tobacco dust. Cut back rose bushes and keep them pretty dry, this will give them a rest and enable them to bloom heavily next winter. Eucalyptus, acacia and other ornamental stock can be sown this month.

Keep all plants well irrigated. This is a trying month, yet one of much satisfaction in the garden. Gladioli are in their glory now. Give them lots of water. Shasta daisies are giving a wonderful bloom this year. The writer recently picked over 500 long stem bloom in one day and the bed hardly showed any lack of bloom.

Rake the lawn often as the Bermuda grass is spreading to beat everything. A good raking helps to hold it back. In the fall it stops its rapid growth when fertilizer and water help the blue grass to keep even with it.

IN MY GARDEN—A SYMPHONY.

My garden is the place where the birds sing to my heart, and the flowers cradle most beautiful thoughts. On every leaf of each plant, bush or tree is written the promise which the new of the morning gives to the light of day. And this promise is, that the dewdrops shall be bridesmaids to each sunbeam; and as the sunbeam weds a rose, a daisy, a violet, or a sweet-pea, so each bridesmaid succors and strengthens and refreshes the bride.

Said a little primrose to me in the early dawn as I came to watch its unfolding: "Come with me from out the dark underground of the travail of life and open your heart to the sunrise." And as it thus spoke, the many-veined leaves of its body quivered in the joy of the ever eternally growing life.

Just then a butterfly came to visit the hollyhock, and as it greeted each blossom great exclamations of mutual joy were heard. Even the silent, wise ivy, that had grown sad with the story the winds of heaven had told of the vain strivings of men, smiled and turned the ears of its leaves to eavesdropping.

And as they all rejoiced, a humming bird flirted with a whole group of nasturtiums, and as it pierced their hearts again and again, they bared their bosoms to his eyes of love. A violet peeped from under dark leaves and looked with wide open eyes upon a merry daisy whose petals had an argument of their own with a pink geranium which had grown at its feet. A bee rose from his bed of sweet-peas, its eyes swollen from its dream in the heavy sleep 'midst honey, and bidding "Auf wiedersehn" to the tiger lily, sailed leisurely into the air.

And all of the flowers were so true, so full of promise, so rich in hope—and as I looked, and saw, and spoke to them, my heart flowered in my garden, and as I watched the full-grown rose, of its ache, grow and grow from out its shadow into the sunlight of hope—I closed not the gate, but hold it open now, and forever, and the peace of all time.—Ex.

KEEPING FRESH FLOWERS.

Very few persons understand the art of keeping flowers, and yet, by a little attention flowers may be kept fresh for three or four times as long as people expect them to stay in good condition.

The matter is simple enough. It is merely a question of temperature and moisture. Roses, for example, are grown at a high temperature in the greenhouses, and are then generally spoiled by ill treatment after they have been cut. Grown in a temperature of 65 to 75 degrees, they are placed in an icebox, where the temperature stands at about 40. Then when sold they are taken into a dining or ballroom, where the temperature is 78 or 80. Of course, they wilt in a few hours, and sometimes in a few minutes. Nothing else could be expected.

They could, however, be kept in proper condition for a week by placing them in water and standing the vase in the coolest part of the living room. Every day half an inch of stems should be cut off in order to present a fresh suction surface to the water. If this precaution is neglected the stems become clogged with a glutinous matter, something like the gum that exudes from peach and cherry trees, the water in the vase, however pure, cannot be drawn up, and the leaves and flowers wither for lack of moisture.

In cutting off the stems a knife should always be used, never a pair of scissors. The reason is plain enough. The knife makes a smooth cut, leaving the cells of the wood open and unobstructed. The scissor blades, no matter how sharp they are, always compress the woody fibers at the end of the stem and leave them so tightly pressed together that it is almost impossible for sufficient moisture to find its way through to support the leaves and blossoms.

In Golden Gate Park, San Francisco.

In the Date Garden.

TRANSPLANTING WILD FLOWERS.

There is no better time to transplant wild flowers than when they are in bloom, contrary as this is to general garden practice. Indeed, it is not easy to recognize them at any other season amid the luxuriant tangles of vegetation with which they are usually associated.

Before digging the plants desired for removal it is necessary to select a spot which may be devoted to them exclusively. Only a few species will thrive in the highly enriched and frequently worked soil of the garden bed and many species will not bear exposure to the full sunlight. Some semi-shaded spot should be chosen, preferably with an eastern or northern exposure. The north side of a rather high hedge has, in the experience of the writer, proved specially advantageous.

Most kinds will grow well among a clump of tall shrubs, but around the roots of large trees these windlings seldom thrive, and the only fertilizer that most of them will endure is thoroughly decayed vegetable compost or leaf-mold from the forest.

To transplant successfully one must set about it early in the day, so that the collecting and replanting may be completed in as short time as possible.

A large basket or box should be provided and a small spade will be better than a trowel for taking up the plants, as many have a deep and spreading root system which one must carefully preserve. It is best also to take with them a considerably quantity of the soil in which they naturally grow, as this will help to acclimate them to their new location. After lifting keep them shaded from the sun and screened from the wind.

Plant quite deeply and fairly close together, firming the earth about the roots with a gentle pressure that will not break them and settle with a copious watering. By following these directions scarce a plant of any species will fail to grow, and the wild-flower garden will soon prove one of the chief attractions of even the most park-like place.

AERMOTORS

Send for FREE Catalog

Specially Adapted to Conditions in Southern California

WILL RUN IN A WIND SO LIGHT THAT OTHER MAKES STAND STILL.
NO WIND STRONG ENOUGH TO INJURE IT.
ADJUSTMENT FOR TAKING UP WEAR OF PINION.
WITH PROPER OILING, WILL LAST A LIFETIME.
HEAVILY GALVANIZED AFTER COMPLETION.
THOUSANDS OF REFERENCES.
COST NO MORE THAN OTHERS THAT ARE NOT AS GOOD.

Tanks Towers Pumps Distillate Engines

Smith-Booth-Usher Co
Machinery and Supplies
Successors to
S. J. Smith Machinery Co. and L. Booth & Sons
212-214 S. Los Angeles St., Los Angeles
Home, Ex. 1090—Sunset, Main 1090

What MORE Could You Desire In A Savings Bank?

20,000 Depositors
Strong Directorate
Capital and Surplus Over
$900,000
Resources
$10,000,000

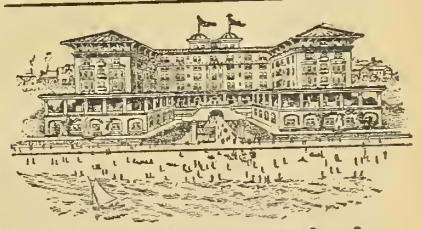
GERMAN AMERICAN SAVINGS BANK

Tallest Building in Los Angeles

SPRING & FOURTH STS.

Heart of the Business Center
Model Banking Facilities

1000 Washingtonia Robusta Palms
field grown, 2 to 3 ft, at a bargain
Armstrong Nurseries
ONTARIO, CAL.



Hotel Virginia
Long Beach
The Most Magnificent Beach Hotel in the World.
American Plan. Moderate Rates.
D. M. LINNARD

Creamery Supplies

Cream Separators — Milk Cans
Combined Churns — Milk Bottles
Babcock Testers — Brushes
Butter Moulds — Wrappers
Engines and Boilers — Milk Coolers

Pasteurizers
Milking Machines

Creamery and Dairy Supplies and Machinery of all Styles and Sizes

Send List of Goods Wanted and we will Quote Prices

O. J. WEBER COMPANY
555-57 S. Los Angeles St.
LOS ANGELES, . . CALIFORNIA

MORE MILK—MORE MEAT

I can positively testify to the merits of Lilly's Best Fly Killer. This is the first year that I have not had to fight grub in my cattle. I used it at first last summer having little faith, but the rosults quickly converted me. My cattle gave more milk, and kept in better flesh on less feed as a result, and I kept them in the stable all night.
A. F. CHAPMAN, Monohan, Wash.

For Sale by Dealers

SOUTH BEND ORCHARD CULTIVATOR

Acknowledged the best, 5 feet wide. Spring teeth if wanted. Horizontal lift. No neck weight.
AGENTS WANTED
Steel and malleable iron. Dust proof wheels.
ARNOTT & COMPANY, Los Angeles, Cal.
Write for Catalog. 112-118 S. Los Angeles St.

3 STROKE SELF FEED HAY PRESS

2 men can run it.
3 tons in one hour.
Easy draft.
Smooth bales.
Will save its cost.
Shipped on trial.
SATISFACTION GUARANTEED.

THE AUTO-FEDAN HAY PRESS CO. 414 E. 10TH ST TOPEKA, KANS.
BRANCH OFFICE, 1621 W. 12TH ST., KANSAS CITY, MO.
Ask for Catalogue No. 28
414 E. 10th St, Topeka, Kansas

Agent, John Schilling, Jr., Davies Warehouse 2nd and Central Ave., Los Angeles, Cal.

POLAND CHINAS FOR SALE

18 head of thoroughbred Poland Chinas of both sexes, some of them weigh 150 pounds. W. R. McCaslin, R.F.D., Oak Park, Sac. Co., Cal. Roosevelt Ave

The Whiting Jersey Stock Farm Company

Is making the very best strains of blood fresh from the island of Jersey a specialty.
Whiting Jersey Stock Farm Co. Heber, Imperial Co., Cal

Geo. C. Roeding, Fresno, Cal., breeder of
Thoroughbred Holstein Bulls and Heifers
Thoroughbred Berkshire Boars and Sows

John Lynch Breeder of Registered **Shorthorns**
MILK STRAIN
Box 321 Petaluma, Cal.

When writing advertisers, mention Cultivator

Live Stock and Dairy

DEVELOPING THE HEIFERS.

THE heifers of great dairy herds are as systematically developed as the fillies of the racing stables. The record breaking butter producing cow does not just happen, she is a skillfully made product. A really developed product from education, one that is of great refinement of functions and must be handled with skill, if she is kept at her best. I often envy the man that can stand by the feed box of his cows at every meal time and see that the feeding is done perfectly. A ranch with only a dairy herd to look after would be a picnic, as far as work was concerned for the owner. When orchard, vineyard and dairy all come together it gives more care, yet one makes money for the other. When the table grapes brought in five hundred dollars an acre, the cows were bringing in fifty-one dollars net year per head from butter alone. The vineyards were enriched with the stable manure. Calves and pigs raised on the skim milk were clear profit.

Training.

The cows must be made profitable by being trained butter producers, to be profitable at the present prices of feeds. It is only by trying different feeds and keeping a large number of heifers under observation, that we can come to an understanding of the general principles. We must lose sight of the individual peculiarities of each animal to grasp the principle underlying the whole matter of feeding. "Knowledge comes, but wisdom lingers." Slowly must we learn what to do and what not to do. The whole cow must be balanced against the strain of excessive milking. She must have extra good feeding quality, but in turn the food must be converted into milk and not put into body fat.

Udder.

The actual milk organs are the udder and teats, while the milk veins are blood feeders of the milk that comes. The udder of a cow is complexed and interesting as it is in its make up, but is not to be considered now. In the different breeds it has distinctive shape the same as any other characteristic of the breeds. The Durham and Ayrshire have longer udders; the Jersey's is carried neatly, nearly directly under the hips so that it often shows a large part behind the legs. The Holstein udder is a square affair with a teat at each corner spreading well forward. These are the extreme of the types for all merge one into the other in the various individuals.

Judging.

The amount of milk a full blooded cow will give is easier to guess from her udder development than in the common or mixed type of cows. Many prove to be better than they look, having more udder capacity tucked away somewhere than appearances seem to indicate. The common deficiency of the fore udder is seen in all classes of cows. Many show animals are spoiled by lack of fore udder. The heifers must be closely watched during the first lactation; if the milk flow is less than proper amount as judged from the flow of the back teats, then knead or massage the forward portions carefully after each milking for the whole period of milking.

Anthrax Cure, Milk Fever Outfits. See O. J. Weber Co., 555-557 S. Los Angeles street, Los Angeles.

Lost Udder.

The loss of half the development of the front udder is losing a quarter of the milk the cow is capable of producing. If the cow could produce twenty pounds of butter and by lack of development produces only fifteen, the loss is at once seen to be considerable. Four cows giving a good flow of milk ought to produce 1600 pounds in a year; now reduce that a quarter from lack of udder development and another first class cow will have to be secured to make up the loss. The expense of milking a cow giving 300 pounds of butterfat is as great as though she made 400 pounds. The difference in the feed consumed is hardly appreciable in the feed bills. The stable room is taken up and all the additional expense of the poorer cow is on the wrong side of the ledger. In fruit growers parlance it is close to "red ink."

Fleshy Udders.

Some cows having seemingly large udders are gay deceivers, for the udder is a fleshy mass instead of a mass of loose tissue. The udder should be rigid before the milk is drawn, after milking it is soft and has a feeling of spongy flexibility; it is soft and compressable to a slight degree rather than stiff. The teats are often not considered of much importance, yet if they are not good sized and not easy to milk there is little chance of the heifer coming to full development under hand milking. I have seen cows with teats so large that I could not close my hand around them; others again, so small that they had to be stripped with the two fingers. The small teated cow can be helped by letting her calf nurse her the first season, watching carefully until the calf begins to eat, then milking out the remainder of the milk, so that the cow will not be dry too long a period. When the teats are too large the only thing to do is to sell her to some big fisted people to use in their dairy.

Milk Veins.

These are found on the stomach of the cow and carry blood, not milk as some people suppose. The length and convolutions as well as size of these veins show the amount of blood pressure and milk forming ability of the cow. The heifer often has small ill formed milk veins. Now watch the development for size and convolutions. The heifer that receives a large amount of succulent feed develops these veins rapidly. Push her along with silage or green soiling crops.

Succulency.

Green food is safe for the heifer's development; it will bring her forward fast. Excessive grain feeding will not answer for this purpose. In the mature cow it will hold the milk to full production. When we feed a cow with poorly developed milk veins a heavy grain ration after she has put on her back all she can carry, then if still pushed inflammation occurs, and congestion of the udder often will result in a loss of part of her udder. The breeder that has no provision for silage for his heifers should not try to have them freshen in the fall. That will prove not practical, if they are to be developed into heavy producing cows. He must have them freshen in the spring and push them on green alfalfa or on sorghum or Indian corn.

Developing.

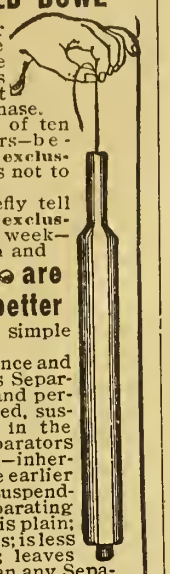
The milk veins must be developed as early as possible in the heifer, for without she has a large supply of milk making materials she cannot possibly give milk. The blood in the veins is the source of her strength and measure of her ability to convert food into blood.—M. E. Sherman.

WHAT'S THE USE.

We are annually paying tribute to the genius and foresight of European stock breeders to the extent of several million dollars. We go to Scotland for the Clydesdale horse, to France for the Percheron and the French Coach, and to England for the Shire, etc., writes the Professor of Veterinary Science, Colorado Agricultural College. This in itself is not so bad, provided we make the best use of these breeds after we get them. No country on earth has better natural conditions for making and perfecting high class breeds of live stock than this, and yet it is a fact that aside from the American trotting horse and a breed or two of pigs and chickens, we have never produced in the entire history of this couutry one single pure breed of live stock. The Yankee who enjoys the reputation the world over for his keen business instinct has in this respect gained the unenviable reputation of being the rankest kind of a sucker. We go across the water and pay thousands of dollars for pure bred sires, bring them over here, and thoughtlessly mate them with mares of every known breed without ever a thought of purity of blood or the ultimate establishing of pure breeds at home. All sorts of crosses have been made in this way and the result is that we have a heterogeneous mixture, lacking in uniformity, and a large percentage of them without merit. As a result again of this foolish practice we have a superabundance of horses without any particular qualities of excellence, which go on the market as general purpose horses and command the lowest price in every market. Out of this heterogeneous collection of nonentities there are, of course, a few surprisingly good individuals; but the males should never be used for breeding purposes, as they lack in prepotency, or power to transmit their desirable characteristics to their offspring. The mares may be profitably bred, but always with the view of grading up by successive top crossing with pure bred sires of the same breed. Five such crosses are supposed practically to obliterate the native blood, and according to some of the stud books, produce what is known as pure bred horses. In general, our farmers are quite particular about the breed and points of excellence of the horse used as sire, but the mistake has been in not persisting in using sires of one breed and of equal excellence until purity of blood, a greater degree of prepotency, and a uniform excellence of offspring are secured.

The other day I was riding on the range with an excellent stock raiser of the Western slope. I noticed a Shorthorn bull running with a herd of Hereford cows and asked for an explanation. I was informed that the Herefords were weak in one point of conformation, and in order to improve the herd a Shorthorn bull strong

EXCLUSIVE
Tubular
ADVANTAGES No. 1
THE
SUSPENDED BOWL



In buying anything for farm or home, it's the superior advantages—the exclusive features one has which the other has not that influences your purchase.

That's why nine out of ten buy Tubular Separators—because they get so many exclusive, superior advantages not to be had in any other.

We are going to briefly tell you about these Tubular exclusive features—one each week—that you may see wherein and

WHY Tubulars are so much better

The first is the light, simple suspended bowl.

After years of experience and experiment the Sharples Separator Company invented and perfected the only bottom-feed, suspended separator bowl in the country. All other Separators use the supported bowl—inherited and adopted from the earlier types of Separators. The suspended bowl has greater separating force; is absolutely safe; is plain; smooth and without angles; is less weight; has fewer parts; leaves less butter fat in milk than any Separator or process ever invented.

Write for catalogue 260 and let us tell you more about how and why exclusive Tubular advantages are money makers in your dairy.

The SHARPLES SEPARATOR CO.,
West Chester, Penna.
Toronto, Can., San Francisco, Calif., Chicago, Ill.

in this particular had been secured to get an average of the two extremes. The experience of careful breeders everywhere has been that this plan will not succeed. It is, for example, as erroneous in theory and fruitless in practice as that of crossing a mare having cycle-shaped hind legs with a horse having straight hind legs, expecting that the offspring will be an average of the two parents. This is not nature's method. Perfection is not secured by two imperfections, and all efforts in this direction will be disastrous in the extreme. The better plan is to castrate the stallion and breed the mare to as perfect a horse as can be found.

What is the use, then, after having made a good start by infusing pure blood for the first cross, of spoiling it all by changing to some other cross. Why not follow some concerted plan in the grading up operation until a reputation has been estabished for horses of real merit?

CALIFORNIA TRANSFERS OF HOLSTEINS.

The following transfers of California Holsteins were made for the week ending July 13:

COWS—Belle Midget, Blance Bates, Daisy Belle Korndyke, Fabiola of Sleepy Hollow, Florend, Kaamilla Korndyke and Peacherino, S. Herzog to Joseph Daneri, San Francisco. Kneeland Carlotta, J. C. Cochran to H. G. Gross, Eureka. Kneeland Viola, J. C. Cochran to H. G. Gross, Eureka.

BULLS—Beryl Wayne Korndyke of Riverside, Jetz Zwartuak, Romeo Aggie Acme of Riverside, Charles D. Pierce to Schleef & Hodgkins, Lathrop. Don Aginaldo, J. M. Spencer to M. L. Finch, Gardena. Riverside De Kol Korndyke, Charles D. Pierce to L. A. Hall, Modesto. Riverside De Kol Oleander, Charles D. Pierce to L. A. Hall, Modesto.

The contest between American horses and bronco ponies in the race between Evanston, Wyoming and Denver, Colorado, resulted in victory for the broncos. The distance was 507 miles. Twenty-five horses started.

Cream Separators, all sizes, all prices. O. J. Weber Co., 555-557 S. Los Angeles street, Los Angeles.

GRUBS UNDER CATTLE SKIN.

The grubs, as found in the backs of cattle from March to June, are the larvae of one of the flies which annoy cattle during July, August and September. They are a large black fly, the size of a bumble bee. They alight upon the backs of the cattle and each deposits an egg which soon hatches into a larva (grub) of very minute size, which burrows beneath the skin and there remains and develops until the following year, when, about June 1, he works his way out to the surface of the animal he has been living upon, rolls off to the earth, where, if he alights on soil that is dry and warm he can burrow in before some bird or rodent gobbles him up. He in due time takes on wings and becomes a fly. In case he alights in a mud hole or on a rock his day is done. Thus we see that the life of this grub is largely based on luck. So much for his history.

I have found from experience that when cattle are daily sprayed with the fly mixtures of various kinds during the summer and early fall months that the same will keep this particular fly away. I am also convinced that were oil of tar, mixed with any of the cheap animal or mineral oils in proportions of one pint of oil of tar to a half gallon of the oil, and sprayed on cattle once a week, it would act as a repellent to the fly that deposits the egg which causes the grub.

Now, as to getting rid of them when once lodged in the backs of cattle. There are several ways. One is to put a few drops of kerosene from a small spring bottom oil can with a small spout into the hole that will be seen in the hide of the animal. This will kill them. The passage of an awl into the hole for half an inch will also kill them. But there is an objection to both methods. The grub is left to fester and rot away, which sometimes makes a sore on the back of the animal, and if there were a large number of grubs in the back of one animal there would be some danger of septicemic poison of their blood. I therefore recommend that they be squeezed out and killed, using a sharp knife to enlarge the opening. It can be done quite rapidly, yet, of course, will take very much longer time than with either of the other mentioned methods. By killing the grub one ends the trouble, as, if allowed to develop into a fly, it may deposit eggs enough in one season to infect a whole herd. I therefore advise extermination by killing him before he is born, even though it takes a little more time to do it.—Journal of Agriculture.

To keep lice and vermin from calves or dogs, a thorough application of alcohol, turpentine, or kerosene oil will do the work. The alcohol is much to be preferred, from the fact that it is quite as destructive as any of the others, does not soil the animal, and after ten or twelve hours has entirely disappeared.

STABLE MANURES.

In a bulletin issued by the Maryland Station treating upon stable manure, we note:

The results, as a rule, favored the use of fresh manure applied directly from the stable as against rotted manure. The best results were obtained by applying the manure as long in advance of the time the crop was to use as possible. As between applying fresh and rotted manure before and after plowing, the results favored applying fresh manure as a top-dressing after plowing. In a comparison of plowing under manure in the fall and spring, the differences were slight but uniformly in favor of allowing the manure to remain on the land during the winter and plowing it down in the spring. The results favored plowing under to a depth of 7 inches as compared with a depth of 5 inches. Subsoiling in addition to deep plowing did not show sufficient advantage to warrant the extra expense involved. The benefit derived from adding commercial fertilizers to the manure was not very pronounced in case of wheat. In case of corn some benefit was derived from the use of small amounts of complete fertilizer in the row in addition to the manure. "The use of kainit with the manure seemed to exert a beneficial influence every year, and it was more marked in dry than wet seasons." Applications of straw at the rate of 2 tons per acre produced a considerable increase in yield but was not so valuable in this respect as manure. The growth of crimson clover was better on soils receiving fresh manure than on those treated with rotted manure.

It was evident from the experiments as a whole, that the amount of manure applied (10 tons per acre in a 4-year rotation) was not sufficient to maintain the productiveness of the soil, although the yields were always better where manure was used, and it was observed that in case of corn the stand was better on manured than on unmanured soil.

A strife is on between raisin growers at Selma, members of the Selma Fruit Company, and the raisin packers combine by which the combine hopes to force the Selma people to release control of the Elliott raisin seeding plant.

Wood Soled Boots and Shoes. Boots, $3.25; Shoes, $2.00. O. J. Weber Co., 555 South Los Angeles St., Los Angeles, Cal.

HOW AND WHY
De Laval
CREAM SEPARATORS
ARE SWEEPING THE FIELD

On June 1st a creamery skimming station four miles from Milton, Wis., closed its doors. Thirty-two farmers had been having their milk skimmed there. When the station closed they were compelled to buy their own separators. Thirty-one of them bought DE LAVAL machines, notwithstanding agents of eight different makes of separators were on the scene hot after the business. This is only a fair example of how the 1908 improved DE LAVAL is making a "clean sweep" of the separator business in every dairying section from the Atlantic to the Pacific.

The De Laval factory has been working every available man night and day since early in February and is now more than 2000 machines behind orders, so great has been the demand for the new and improved machines.

The 1908 DE LAVAL machines are simply so overwhelmingly superior in every way to anything else in the shape of a cream separator that it is only natural that well informed buyers everywhere will have nothing else. They are beautiful in design, perfect in construction, and everlasting in daily use. They are made in ten new styles and ten new capacities, with a size for every dairy from the smallest to the largest, and are sold at ten new prices that are just right and much the cheapest of all for the value given.

A new 1908 catalogue, constituting a separator education in itself, and any desired particulars are to be had for the mere asking.

DE LAVAL DAIRY SUPPLY CO.

108 So. Los Angeles St. LOS ANGELES
42 E. Madison Street CHICAGO
74 Cortlanot Street NEW YORK

General Offices: 101 Drumm Street, SAN FRANCISCO.

107 First Street PORTLAND, OREG.
1016 Western Ave. SEATTLE
Box 1052 VANCOUVER, B. C.

CUTTER'S
Anthrax
and
Blackleg
VACCINES

Are given the preference by 80% of California stockmen because they give better results than others do.

Write for prices, testimonials and our NEW booklet on Anthrax and Blackleg

The Cutter Laboratory
Berkeley, California

VENADERA HERD
OF REGISTERED JERSEYS

I have for sale a number of richly bred young bulls, some of them from cows that have high official yearly records.

GUY H. MILLER,
Route 3, Modesto, Cal.

Wanted FIRST-CLASS WORKING FOREMAN

For Large Dairy of Pure Bred Jerseys.
Only good experienced men need apply.

Geo. A. Smith, Corcoran, Cal.

Live Oaks Farm

Frank A. Meacham, Proprietor.

Importer and breeder of RED POLLED CATTLE, SHROPSHIRE SHEEP, RAMBOUILLET SHEEP, HORNLESS AMERICAN MERINO SHEEP. Both sexes for sale. Take electric car at Petaluma or Santa Rosa for LIVE OAKS STATION. Address all mail to

Petaluma, Sonoma Co., Cal.

Berkshires--Shorthorns

My Berkshires took every blue ribbon and Gold and Silver Medal in the female classes. Choice pigs at low prices. G. A. Murphy, Perkins, Cal.

Thoroughbred Poland China Swine
Black Minorca and Barred Rock Poultry
High Grade Stock of Best Strains.
Young Stock For Sale
M Bassett Hanford, Cal.

Hanford high schools are to make an experiment which will be watched with much interest. It is to establish a course of agriculture. A committee has been appointed to work out the details.

California Cultivator

ESTABLISHED 1889
Subscription price One Dollar per year.
Payable in Advance

Thursday, July 2, 1908

Address All Communications to
CULTIVATOR PUBLISHING CO.
115½ No. Broadway, Los Angeles.
733 Merchants Ex. Bldg., San Francisco.

Copy for Change of advertisement must be in office on Saturday preceeding date of issue. New advertising copy should reach the office not later than Tuesday to insure insertion.

CULTIVATOR PUBLISHING COMPANY
H. A. PERKINS, EDITOR AND GEN. MGR.

C. B. MESSENGER - - - - Associate Editor
F. H. THOMAS - - - Advertising Manager
H. G. HUTCHINS - - Subscription Manager

EDITORIAL CONTRIBUTORS:

J. W. MILLS - - Deciduous and Citrus
JOHN ISAAC - - - Horticulture
J. B. NEFF - Walnut Culture and Irrigation.
Mrs. M. E. SHERMAN - Live Stock and Dairy
Q. A. LOBINGIER - - Vegetable Garden
S. S. TWOMBLY - - - - - - Poultry
W. E. FOSTER - - - - - Pigeons
L. M. FALL - - - Law Queries
RALPH E. SMITH - - Plant Pathology
S. A. PEASE - Plant Diseases and Injurious Insects

Entered at the Post Office at Los Angeles, California, as Second-class matter.

Contents

IN THE WOODS OF CALIFORNIA, Cover.

AN UNEXPLORED HORTICULTURAL FIELD, 3.

DRYING OF DECIDUOUS FRUIT, 3.

WITH THE CITRUS GROWERS.—Fertilization, 5.

DECIDUOUS FRUIT CULTURE.—Gumming of Stone Fruits; Thin Your Fruit; "Little Peaches;" Peach Troubles; Plant Diseases; Grafting Apple on Pear; County Officials to be Field Assistants; Dry Rot in Grapes; Suckering; Dry Air, 6, 7.

SMALL FRUITS AND VEGETABLES.—This Month; How to Tell When Melons are Ripe; Hints on Packing Squash; Garden Notes, 8.

ORNAMENTAL GARDEN.—This Month; In My Garden; Keeping Fresh Flowers; Transplanting Wild Flowers, 9.

LIVE STOCK AND DAIRY.—Developing the Heifers; What's the Use; Grubs; Stable Manures, 10, 11.

EDITORIAL.—Fill Up Idle Corners; Co-operation Successful; Seed Men Should be Careful; Alexander Craw; Protection for Citrus Fruits; Name the Farm; Looks Are Ruined, 12.

AGRICULTURAL NOTES OF THE PACIFIC COAST.—Northern, Central, Southern, the Coast, 13.

POULTRY.—Fruit and Poultry; Interesting Egg Record; Feeding Young Chicks; Beef Scraps; Poultry Brevities; Breeding Layers, 14, 15.

CALIFORNIA FARM NAMES, 16.

RESISTANT EUCALYPTS, 17.

QUERIES.—Fertilizer for Potatoes; Tomatoes Dropping; Squirrel Pest; "During the Moon is Dark;" Thrips or Red Spider; Hymalaya Blackberry; How to Apply Manure; Apples and Fungus; The Jarrah Tree, 18, 19.

HOUSEHOLD.—Frontier Sketches; Fourth of July; Getting Acquainted With Dad; The Bungalo; Flies; Homely Hints; How Much to Use, 20, 21.

PRODUCE MARKETS.—Los Angeles Market; San Francisco Market; Citrus Markets, 22, 23.

FILL UP THE IDLE CORNERS.

When financial conditions are as they are now, and especially when a dry year reminds us of the hard times, it will be well for the farmer to ask himself the question as to wherein he can make his ranch more productive. In other words, how can the soil be made to bring forth more money at the end of the season. We know that many fruit growers with their one or two or three cows often buy every bit of the feed consumed by the stock, thinking their land too valuable for fruit growing to use any part of it for green crops. But we are sure that with the return of fertility which is used up by corn, pumpkins or some root crop, that much help may be secured from waste corners of the ranch. Every little bit helps out in a dry year.

HAS CO-OPERATION SUCCEEDED?

The approach of the end of the orange shipping season leads the growers to look back over the season and to compare with other seasons. This has perhaps not reached quite the high water mark of last year; that is, as to prices, but the greater output will probably make up in total return equivalent to that of last year.

The year 1906-07 was by far the best the orange industry of this State ever saw, and it is probable but few will ever reach as satisfactory a net return as was given to the orange growers that year. In fact, if every year were to be as profitable as last year our orange growers would have difficulty in preserving the present tariff on oranges.

But if given reasonable treatment by the country at large, it is plain the citrus industry is now on a footing from which it will never be dislodged.

This, we believe, is due more to co-operation and intelligent methods of fruit growers disposing of their own fruit than to any other one factor. Long may this great co-operative movement live and may its truth be proclaimed until it shall bring the same degree of prosperity to growers of other products in this State.

SEED MEN SHOULD BE CAREFUL.

We do not know regarding the merits of a case recently tried in the courts of Orange county, wherein a farmer was awarded $2000 damages because seed which he purchased was not true to name, but assume that the decision of the twelve men "good and true" was just.

The farmer had bought beardless barley sufficient for 250 acres of land. The harvest time showed it to be the ordinary bearded barley, which yielded less and sold for less than would have been secured for the beardless variety. The grain grower sued for $4050. The jury evidently figured that the actual damage was $2000 and so awarded.

We realize the difficulty which seedmen labor under in the number of hands which their product passes through before it is passed on to the grower, but greatest care should surely be exercised to protect an innocent purchaser. The loss the country over from impure seed, that is, seed which has objectionable weed seed mixed and from imperfect seed as well as from cases like this where substitution, either by error or otherwise is made, is something awful to contemplate.

We assume this verdict is just and in many cases sincerely hope that all seedmen will take greatest pains to correct the evil which has been most perplexing to farmers and gardeners.

ALEXANDER CRAW.

Alexander Craw is dead. One of the most genial, most pleasing of gentlemen to meet and, as well, one of the most competent and successful of men. For years he watched the interests of California fruit growers as deputy under the State Board of Horticulture at the port of San Francisco. His integrity and abilities were recognized by all and especially by the Hawaiians, who took him away at more than double the salary this State felt able to pay.

As Horticultural Commissioner of the Hawaiian Islands, his services have been invaluable to the fruit and agricultural interests of these islands and to this country as well.

A few months ago he returned to California hoping to recover failing health. He first tried Southern California then went to Madera county where he died at the home of his brother-in-law and was buried in Evergreen Cemetery, Los Angeles, on Tuesday.

FOR PROTECTION OF CITRUS FRUITS.

The citrus growers of this State are taking time to prepare for the coming tariff revision and are proposing to ask for an increase of one-half cent per pound on all citrus fruits. The Citrus Protection League is at the forefront of the movement and its efforts will be seconded by all citrus growers.

There is a hundred million of dollars invested in the citrus industry, and the power of production of a great fertile section of this State is worthy of greater protection from the inroads which have been made by Mediterranean fruit this year. An enthusiastic meeting was held in Los Angeles on Tuesday and the first steps toward this added protection were taken.

Farmers, merchants, producers, shippers and business men, who are interested in the aproaching tariff revision, a subject on which the committee on ways and means, of Congress, will give a thorough hearing next November, are invited to atend a two-day conference Thursday and Friday, July 16 and 17, at California Building, Union Square, San Francisco.

Steps will be taken at this meeting to formulate a concerted plan of action so that California may be promptly represented when the hearing is held.

NAME THE FARM.

The first list of farm names appears on another page this week. The Cultivator will be pleased to have the name of every ranch in California. Send in the name to be added to the published list. If it hasn't a name make one. Make it descriptive of the ranch or let it show the character of its products if possible. In any case let it be euphonious and attractive as possible.

Letterheads and envelopes with farm names are also desirable. A small, well-painted or gold leaf board at the entrance with the name gives added value and fixes the name on the minds of others.

LOOKS ARE RUINED,

Farms, otherwise pretty, are often ruined, so far as looks are concerned, by invitations to drink Dr. Gambrinus' sure cure for disordered stomach. Mr. Pretender's Pale Pills for Pink People, or Madam's Concoction for correcting the complexion. Then come urgent solicitations to "smoke only the bulowhango," to drink only the "peregrinating purgative pellets," to rest your hopes on the mysteries of Dr. Miserarium's Marvelous Medicamentum. Letters ten feet high, in strings a hundred yards long, dashed on by an idiot with a big brush and a paint pot, stare at one like the red eyeballs of dancing demons in Dante's Inferno. You can't escape them. Look east, they are there; look west, they are there; look up, you see them; look down, they are still with you. Neither house, nor barn, nor fence, nor tree, nor hedge is safe. The very roadway is carved with the nerve-racking, strabismus producing spectacle, until the distracted traveler is forced to shut his eyes to country scenes and shut himself up like a clam in the car.—American Farmer.

Whatever you grow let it be the best of its kind. However you pack it let it be honestly packed, as good at the bottom as at the top of sack or box. With it all let the packing be as attractive as possible.

Shop Talk

FARM BOOKS.—When space will permit, we intend printing, in another column, a selected list of books devoted to the different departments of ranching. Most of the **Cultivator** readers are on the Pacific Coast, so the list is chosen with regard to their adaptation to California conditions. We take the responsibility of recommending these books and will receive orders at the regular price to be delivered free of other expense. Any which may be desired and which do not appear in the list, we will be glad to have mentioned, and if possible, they will be obtained at the regular price.

Every rancher's library, however small, should contain one or more standard books of reference devoted to subjects of greatest interest to him. From those not supplied, we shall expect many orders.

CANDY BOOK.—We are still sending the Candy Book. To those renewing their subscription and sending us an amount to cover a full year in advance, we are mailing, on request, the book of recipes for ice cream and candy making. It contains over 300 formulas and sells regularly for 50 cents, and is proving a very attractive inducement to renew promptly. Do it today and please the family, but don't forget that payment must be for a full year in advance from the date sent.

SUBSCRIPTIONS.—We find it desirable to occasionally mention to our new readers the matter of notifying when subscriptions are to be discontinued. Old **Cultivator** subscribers do not want their files broken by their neglect to remit promptly, so it is our custom to continue all subscriptions until notified otherwise. Every paper shows the date of expiration on the address label and every one should keep posted as to how their acount stands. For instance, should the tag read 7-08 the subscription is paid to July 1, 1908. Agents visit nearly every section each year to collect renewals, but in the event of their missing any, notice will be mailed from the office, in which case we expect remittance direct. In case of any error, prompt advice should be given us so that correction can be made.

Agricultural Notes of the Pacific Coast

Northern California

Marysville ships a car of cucumbers daily now.

All Northern California will have a heavy crop of fruit.

Peaches and almonds near Live Oak will run an exceedingly heavy crop.

Vacaville has shipped nearly 200 cars of deciduous green fruits to date.

Apricot drying is in full swing in some sections of the Sacramento valley.

Santa Rosa cannery is putting up large quantities of berries and cherries.

Cloverdale viticulturists recently met and discussed matters of the industry.

Lodi will exhibit some of ner fine beries and grapes at the Alaska-Yukon Exposition.

One hundred and seventy-five tons of alfalfa were recently burned in a fire at Dixon.

State Veterinarian Keane reports that about 3,000,000 sheep have been dipped in this State.

It is estimated that the price of prunes will be much less than the short crop would indicate.

Sonoma county hay crop is lighter than usual, but with all will be a fairly good yield.

Farmers at Woodland are asking for a highway that will save a three-mile haul of the produce.

Contra Costa county pear growers are greatly exercised over the destruction wrought by the thrips.

Humboldt county still has an ox team hauling ties to the railroad, similar to the good olden times.

The rainfall for May at Nevada City aggregated 4.50 inches. This is the greatest precipitation since 1864.

United States Geological Survey is about to enter the Humboldt to test the quality of the water supply of that section.

Sebastopol producers are finding the free market of San Francisco a satisfactory place for the disposal of produce.

G. Harold Powell and his corps of helpers are in Northern California investigating apple and other fruit shipping losses.

Fruit buyers in Sutter county are offering as high as $25 per ton for cling peaches, but growers are holding for a higher price.

A century plant in Colusa county has been sending up a bloom stalk, which it is claimed, made a growth of one foot per day.

The Sonoma County Co-operative Poultry Association is appealing for 500 more members from amongst the poultrymen of that county and asserts that if it can have this increase it can effectually control the market situation.

The Butte County Citrus Association recently met and elected the following Board of Directors: J. A. Lawrence, G. W. Miller, E. W. Fogg, J. F. Fitzgerald, Alex Bartley, R. F. Powers and Wesley Dial. Miller represents Wyandotte, Fitzgerald represents Palermo, and Bartley and Dial represent Thermalito. Lawrence was elected president, Dial was named for vice-president and J. H. Anderson was elected secretary.

Central California

Santa Cruz held a dog show recently.

Sugar beets at Corcoran are making a fine showing.

Field and forest fires are already destroying much property.

The Atwater cannery will handle about 200 tons of apricots.

Bakersfield has just liberated a large colony of comys fusca.

Capitola has a plant for the manufacture of jellies and marmalade.

Fresno is taking an active part in the creation of better roads.

Turlock says that the almond trees are promising a bumper crop for this year.

Turlock acreage of sweet potatoes will be larger this year than ever in its history.

Shippers of early cherries from Santa Clara valley received magnificent returns.

Owing to dry spring Turlock strawberries are yielding lighter than formerly.

The cannery at Stockton is employing at this writing about 600 men and women putting up the fruit.

California shipped more fresh deciduous fruits to the East this season than ever before in her history.

Contract has been let for the construction of a new packing house at Watsonville. It is to be 56x170.

Turlock claims that its output of apricots will be more than ten times greater this year than ever before.

Fruit growers near San Jose have been offered $28 per green ton for prunes, and apricots sold for about $20.

It is expected California will produce this year about 500,000 tons of barley, and its value will exceed $12,500,000.

The Port Costa warehouses contain about 8787 tons of wheat, while on the same date last year they held 17,162 tons.

A boy in Visalia has shown a streak of enterprise by attempting to breed coyotes in order to secure bounty on their scalps.

Stockton warehouses are practically empty of all grain, which condition has not confronted them before in many years.

Sanger has recently acquired a new fruit company, and now has three packing houses handling green fruit and two handling dried fruits.

Bakersfield is planning for the holding of a fair this fall, and has just organized a committee to take up the preliminary work of establishing a fair association.

A car of oranges shipped from Southern California to Visalia was denied entrance because of the fact that it was claimed to be infested with yellow and red scale.

Some little contention has prevailed between three ditch companies over the waters of the Kings river. The waters are so low this season that every fellow wants "his share."

The Lindsay Gazette mentions an orchard which netted $1908 this year. May be, but we think there are some other qualifying factors which should be given to form an intelligent opinion.

Southern California

Navels are all shipped in Southern California.

Chili pepper acreage will be much smaller than last year.

A bumper apricot crop is reported from most fruit growing sections.

Imperial valley has already shipped over a thousand cars of cantaloupes.

This year's walnut crop will be the best in ten years, says the Orange County Tribune.

Gifford Pinchot will soon be in Southern California and will inspect the forest reserves.

Apricot cutting for drying will begin about the 1st or 5th of July in Southern California.

Six cattle have died as a result of dipping for Texas fever tick in Trabuca canyon recently.

The quarterly meeting of the Tri-Counties Reforestation Committee is being held in Santa Ana today.

Fullerton shipped 100 carloads less cabbages this year than last, and the prices were very unsatisfactory.

Fullerton cabbage growers netted $12.00 per ton last year for cabbages, and less than $5.00 per ton this year.

Hay fields about Fullerton have yielded an immense crop and work is just beginning on gathering grain.

The sugar factory to be erected at Santa Ana will have a length of about 300 feet and will be four stories high.

Los Alamitos sugar beets are doing exceedingly well and the warm weather has been inducing earlier ripening.

Imperial valley cantaloupes in a swell hotel in New York were put down on the menu as 65 cents for a whole and 35 cents for a half.

The San Bernardino Daily Sun says that since the warm weather began that it is easy to hear the oranges grunt as their little green hides stretch.

Santa Ana Register urges ranchers to plant the stray corners of their places to some kind of forage crop to make up for the shortage of hay this dry year.

The close of the navel orange season finds orange growers well satisfied with the returns, though at this writing Valencias are not commanding last year's prices.

Orange county acreage of celery will be shorter than anticipated, owing to many celery growers being turned to beet growing, and to the further fact that there is a shortage of plants.

The highest average received by any Redlands packing house this year for navel oranges is $1.80 per cwt for all fruit reecived. The average of all the houses of Redlands will approximate $1.60 per cwt.

The automobile surely has diverse uses as is proved by walnut growers of Orange county who have rigged up a walnut-gathering machine which takes from the ground hulls and separates waste and sacks walnuts.

Coachella valley farmers are anticipating the arrival of alfalfa seed to be introduced from the Sahara Desert. It wil be used in the paper making industry of Southern California, if it succeeds under Coachella conditions.

The Coast

The live stock show is to be held in Portland September 21 to 26.

Florence, Oregon, recently held a rhododendron carnival.

Prospects are good for a good crop of berries at Coeur D'Alene, Idaho.

Many sales of wool in Northern Idaho have ranged from 8 to 13 cents.

Farmers near Walla Walla, Washington, are short for help to market crops.

The Farmers' Union at Grangeville, Idaho, has ordered its sacks for the coming grain crop.

Ground has been broken for an immense warehouse to be built at Volmer, Idaho.

The third annual cherry fair and carnival will be held at Salem, Oregon, July 10 and 11.

The State fair grounds at Salem, Oregon, are to have an addition of a $4000 grand stand.

Dairy cattle were never so scarce as at the present time in the State of Oregon.

Pullman, Washington, plans the greatest horse show in its history this month.

Farms near Bellingham, Washington, have been overflowed, causing much damage.

Over half a million pounds of wool changed hands at Idaho in one day early in June.

A million lambs are to be handled through one stock yards of Denver.

After long continued rains Pullman, Washington, farmers are rejoicing over sunshine.

Four hundred and twenty-five thousand fruit trees have been set out in Northern Idaho in the past season.

A Pendleton, Oregon, man has lost 250 head of sheep from eating poisonous weed. It is a lupine or wild pea.

The Granite Reef dam in the Salt River Valley, Arizona, has just been completed. It is a thousand feet long.

A sale of school lands belonging to Washington State College at Brewster recently sold at auction at $30 per acre.

Colorado farmers are finding, to the surprise of many of them, that corn is proving a remarkably profitable crop for that State.

Spokane county farmers are planning for the handling of grain in bulk instead of buying it in sacks as heretofore.

Wheat crops near Weston, Oregon, have been greatly injured by the rust which has been exceptionally bad this year.

Over 880,000 sheep in Oregon have been inspected for scab. Only 7000 were found to be affected with this pest.

At a Spokane county convention of the Farmers' Union recently held at Waverly it was decided that "sacks must go" and that bulk handling of grain must be adopted.

The State veterinarian of Oregon has ordered that all horses affected with mange should be dipped. This disease is prevalent amongst hundreds of Indian horses on the forest reservation.

PER 2 BUSHEL SACK **$1.90** PER 2 BUSHEL SACK

Buy the World's Famous Egg Food No. 4

MIDLAND

IF YOU WANT EGGS
YOU WILL FEED NO OTHER.

Used by the largest and best breeders in the country. Thousands of poultrymen are using it, and it is the acknowledged standard of the world. Haphazard feeding is no longer profitable. Try Midland Food and be convinced.

Petaluma Incubators and Brooders

The acknowledged standards of perfection. All poultrymen who have used these machines have supreme confidence in their ability to hatch and breed. Hence their ever increasing popularity. Winners of the Gold Medal at the St. Louis World's Fair for the greatest hatch, with 40 different makes of incubators in competition. How's that?

St. Louis, Mo., Dec. 8th, 1904.—Petaluma Incubator Co., Petaluma, Cal: My dear Sir—The awards have been held up owing to a controversy between the Exposition officials and the national commission, but today I am able to state the award of a gold medal on your Petaluma Incubators has been confirmed. You are at liberty to make use of this in any way you see fit and in due time the diploma will be issued and the medal obtainable. Congratulating you upon this evidence of the merits of your incubators, in which there was very great competition, I beg to remain, yours very truly, J. A. Filcher, Commissioner.

And Now Comes New Reward for Merit

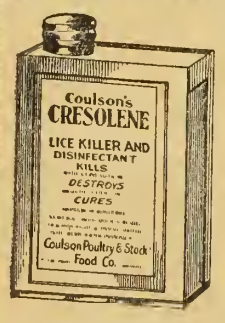
Read the following telegram received from the Lewis & Clark Exposition at Portland:
"Petaluma Incubators and Brooders just awarded Gold Medal at Lewis & Clark Exposition."

WRITE FOR CATALOGUE 47—A BEAUTY

Petaluma Incubator Co.

Main Office and Factory, Petaluma, Cal., Box F.
Los Angeles, 636 South Main Street.
San Francisco Office and Salesroom, 83 Market St.

When writing advertisers. mention Cultivator.



Coulson's Cresolene

**LICE KILLER
DISINFECTANT
AND DIP**

Dilute With Water Before Using

CRESOLENE is a powerful disinfectant, insecticide, and germicide obtained from coal tar. It is non-poisonous, and non-corrosive and will do no harm to the most delicate skin.

It mixes readily with water, forming a milky emulsion, and can be diluted from 50 to 100 times it own bulk, in accordance with the different uses to which it is put.

Thus when you purchase 1 gallon of CRESOLENE you can make up to 100 gallons of the best disinfectant for use with stock, poultry, dogs or as a general disinfectant and insecticide.

This reduces the cost to 1 1-4 cents per gallon which is cheaper than anything else on the market.

PRICES: Quart can, 50c; one-half gallon, 85c; gallon, $1.25.
Freight paid on orders of one gallon or more.
Manufactured by

Coulson Poultry and Stock Food Company
Petaluma, California
Germain Seed Co., Los Angeles, Distributing Agents for So. Cal.

Little Chicks should be fed on Excelsior Chick Food

prepared from clean, sound grains, seeds, beef scraps and charcoal in proportions to make a well balanced ration and produce strong, healthy chicks and keep them continually growing. For sale by all dealers and grocers. Take no other.

Excelsior Cereal Milling Company

242 Central Ave., Los Angeles

Black Langshans Well, we won again at Los Angeles. Two firsts, one second, one third on five birds shown. Best stock ever in show room in California. Eggs, $2.00 to $5.00 per 13, $10.00 to $20.00 per 100.

White Rocks Large and vigorous. Improve your stock with a setting or get a fine flock with an incubator lot. Eggs, $1.50 to $2.50 per 13, $8.00 to $12.00 per 100.

S. C. White Leghorns Order eggs now, we have plenty of them. Have had all winter, great big white ones. Eggs, $1.00 to $2.00 per 13, $6.00 to $10.00 per 100.

Phone East 915 **Foster's Poultry Yards, 128 W. Avenue 41, Los Angeles**

When writing advertisers, mention Cultivator.

Profit in the Poultry Yard

We solicit short articles of a practical nature from the fancier and utility breeder, giving their experience with poultry. All inquiries pertaining to feed, management, disease and its prevention will be answered through these columns.

FRUIT AND POULTRY.

FRUIT growing makes an excellent combination with poultry raising. By this combination one is able to secure two crops from the same land; the soil is improved by the poultry droppings, insects are kept in check and the soil under the trees kept loose by the hens. On the other hand, the trees furnish abundant shade, which is so essential to poultry during our California summers. Where one has a small orchard and wishes to run poultry in the same, it is a good plan to fence the entire orchard with chicken wire. By this method the fence does not interfere with the cultivating of the orchard; it prevents neighbor's hens from ranging on your land and thus the chances of outbreak of contagious diseases is diminished.

It enables us to use colony houses in the orchard. These houses may be inexpensive and of a size that renders it easy to move them. A house four by six feet with walls covered with shakes, makes a light, airy house for fifteen or twenty hens; this can be moved frequently and thus be on fresh ground at all times. The roosts should be movable, and by painting inside with crude oil two or three times a year, mites can be kept down. By using the hopper method of feeding in connection with this, colony house labor may be reduced to the lowest amount consistent with profitable returns. By this system of handling fowls, if the place is once free from contagious disesases, it can be kept free. The birds have plenty of range and exercise, consequently keep in a vigorous, healthy condition. One of the factors that causes so many failures in the poultry business is the amount of labor required to tend the fowls. By this system labor and outlay are reduced to the lowest possible figure, and meat and eggs are produced at a minimum cost.

INTERESTING EGG RECORDS.

For some years past the Hawksbury Agricultural College of New South Wales has each year been conducting competitive egg laying tests. These tests have aroused much interest not only in England and the Colonies, but in the United States, and many pens of birds have been entered from America from time to time. The number of birds in an entry have been limited to six pullets, not less than six months old nor more than twelve; no roosters were allowed with the pens. The conditions under which these birds were kept were of the simplest nature and easily duplicated on any farm or ranch. Bran entered largely into all mashes. For whole grain corn and wheat were fed. Meat was fed and an abundant supply of green food was provided. The houses were open front covered with wire. The roof and walls weather proof; ventilators were provided at the back of the house just above the floor, so fresh air passed under the hens at all times. The floor space was five and one-half by six feet for six hens and the runs seventeen by eighty-seven feet.

They were fed mash in the morning and whole grain at night. The writer speaks in praise of corn as an ingredient of poultry rations.

The tests continued twelve months, and a recent one gave results as follows for the number of eggs per hen yearly:

6	White Rocks average per hen	124 eggs
6	Brown Leghorns	178 "
6	Rhode Island Reds	176 "
96	White Leghorns	166 "
12	Buff Wyandottes	155 "
36	White Wyandottes	151 "
60	Buff Orpingtons	143 "
24	Minorcas	131 "
18	Langshans	131 "

At an average price of twenty-four cents per dozen the Brown Leghorns gave a gross return of $3.56 per hen, leaving a net return of $2.25 per hen, while the Buff Wyandottes gave a gross of $3.10 leaving a net of $1.60.

In this test the Minorcas and White Rocks fell down badly and this illustrates the point that the strain of a breed is a very important factor in selecting utility birds. If White Rocks or any other breed have been bred for egg production for several generations they will give much better account of themselves in a test of this character than birds of the same breed bred purely for show room records.

FEEDING YOUNG CHICKS.

A writer in the Western Farmer recommends the following method of feeding small chickens when confined in brooders and small yards:

First clean the floor of the brooder and cover it with cracked grain or chick food which should contain a small quantity of small chick grit, next finely cut litter is spread over this, then another layer of chick food; continue this process until the litter is five or six inches deep. Chicks a week old or less may be placed on this and not fed again until the supply is exhausted. Instead of the old plan of feeding several times a day you are compelled to feed only once in several days. After this supply is exhausted a new litter and new food is provided as before. The amount of food given and the length of time it will last depends, of course, on the number of chicks to the pen and the age of the chicks. This litter is put on the floor of the exercising apartment of the brooder or the floor of the brooder house. In this manner the chickens are compeled to dig out their own living, which exercise is most beneficial.

BEEF SCRAPS.

Beef scraps are made from the waste meat of the cattle slaughtered in the packing houses. This meat is cooked by steam and after it has been thoroughly dried with hot air, it is coarsely ground. In this condition it will keep for months in a cool place. It is a valuable addition to the mash fed poultry. A good sample contains about sixty per cent of nitrogenous food, or protein. It cost from three dollars to three dollars and fifty cents per hundred pounds. Many poultrymen who feed dry mash in hoppers feed the meat in a separate hopper allowing the hens to help themselves. I find this a very satisfactory method.

An excellent mixture for laying hens is made as follows: Bran, 60

pounds; middlings, 20; rolled barley, 20; feed meal, 12; fine beef scrap, 12; charcoal, ½ pound. This may be put in the hopper and the hens allowed to help themselves to the mixture.—S. S. T.

POULTRY BREVITIES.

Don't feed small chicks wet food.

* * *

Never allow incubator chicks to become chilled. One-half the ills of young chickens arise from this cause.

* * *

Give your buff birds plenty of shade if you want a good buff color. They fade under the influence of the hot sun.

* * *

Chicks hatched from eggs laid by stock that is immature, unhealthy or improperly cared for, are raised with difficulty.

* * *

The census of 1870 gave an average of 30 eggs per hen per annum in the United States. The census of 1900 gave an average of 70 eggs per hen. In the thirty years the average had been doubled per hen.

* * *

Roup and Fleas.

I have a small flock of Buff Orpingtons which I keep in a small yard. Three or four of the best ones are suffering with swollen eyes, and often times pus forms. Can you suggest a remedy?—H. M.

The trouble is often due to roup and again hen's fleas may cause it by burrowing into the flesh about the eyes. If it is due to roup the head of the fowl will have the offensive odor that accompanies attacks of this disease. If you find this to be the case, remove the sick birds and disinfect the feathers and treat the sick birds for roup.

If due to fleas, clean the wound and dress with an ointment of one part iodoform and sixteen parts of vaseline.

* * *

Mites.

Will you please tell me through the columns of the Cultivator what is the trouble with my chickens? They seem to be healthy, but lose their feathers and the skin is red and inflamed. I often find on the feathers a small insect resembling a mite.—E. R. J.

Probably the birds are infested with the depluming mite. This insect works at the base of the feathers causing them to fall out and leaving the skin red and inflamed. I know of no better treatment than the application of carbolated vaseline to the affected parts. Take an ounce of vaseline, add thirty drops of carbolic acid and mix thoroughly and apply as needed.

* * *

Limber-neck.

Will you kindly give me some aid in way of suggestions as to what is the matter with my Leghorns? I have one hundred White Leghorns hatched in the spring of 1907. They were well cared for as chickens and began laying in September and October, and have laid fairly well up to the present time.

But in this flock I have had several cases of a most puzzling nature. The trouble seems to be in the neck; oftentimes the bird cannot raise its head again; the neck may be turned back upon the body, but in all cases the trouble seems to be in the neck.—E. S. G.

Your birds are suffering from what is known as limber neck. It is due to disorder of the nervous system, and is usually caused by disturbances of the digestive system from severe attacks of indigestion or from worms.

Feed on dry food. See that they are well supplied with grit and charcoal. Add a teaspoonful of tincture of nux vomica to two quarts of drinking water. Give the sick bird a small piece of gum of asafoetida about the size of a small bean. Repeat the dose the next day. This will prove effective in many cases.

Judicious feeding and abundant exercise is the preventive of this trouble.

ONE OF THE ABLEST.

Speaking of Dr. S. S. Twombly joining the Cultivator staff, the Deseret Farmer published at Salt Lake City says:

The doctor was one of the best informed and ablest instructors that ever came into Utah and the "Farmer" rejoices in the success that is coming to him in his California home. When Dr. Twombly left Utah, the Agriculture College lost one of the ablest men that has ever been on its staff. The writer was a student and personal friend of Dr. Twombly and takes pleasure in congratulating him on his new position.

BREEDING LAYERS.

Michael K. Boyer, writing in the Orange Judd Farmer, gives a bit of experience with trap nest that is interesting. He states that he can attend to twenty-five trap nests in ten minutes of each hour from ten o'clock in the morning until three in the afternoon. This is less than one hour a day for the 172 hens under inspection.

He found that during January of the year the test was made he had sixty-five hens which laid in February 115, in March 165, in April 156, in May 147, in June 126, in July 132, in August 108, in September 74, in October 18, in November 26, in December 59. During eleven months these sixty-five hens laid 1126 eggs or five per cent of the possible number. The test showed that seven hens did not lay an egg, only twenty-three laid between 100 and 150 eggs. Eighty of the lot failed to reach sixty eggs in the year. One hen, the finest marked hen in the lot, laid only 13 eggs.

The second season Mr. Boyer made up a pen of hens all of which had laid more than 100 eggs the year before. As a result he got an average of 120 eggs per hen. Since that time he has continued to select his best hens by the use of trap nests, and his flock now makes a record of from 120 to 180 eggs. A few as high as 200 eggs.

The advantages of the trap nest are summed up as follows: Egg eaters are detected, hens laying badly shaped eggs are known. He knows the hens that lay the most fertile eggs and in handling the birds so frequently he is familiar with their condition, and if they are not right can use preventive measures to stop the course of disease and at the same time keep them free from parasites.

The man who sticks to one breed from year to year, through all its ups and downs, is certain in the long run to enjoy the fruits of his constancy.

GEORGE W. POPPELWELL
Successor to C. H. Robbins
Breeder of White Leghorns, Black Minorcas and Barred Plymouth Rocks. Eggs for hatching, $2 to $5 per setting. Single birds, trios and breeding pens a specialty
Yards at Ranch (10) Phone Main 1583
943 W. Fremont St., W. Stockton, Cal.

FEED YOUR PULLETS
As well as your Laying Hens, on
Coulson's Egg Food
It will bring them to maturity in health and vigor and ensure you lots of eggs in the Fall when prices are high. It can be fed moistened as a mash, or dry in hoppers. Manufactured only by
Coulson Poultry and Stock Food Company
Petaluma, Cal.
GERMAIN SEED CO., Los Angeles, Distributing Agents for Southern California
Send for our Free Book, "Poultry Feeding for Profit"

When writing advertisers, mention Cultivator.

For More Eggs Feed
Egg-More
Not a strong tonic and stimulant, but a little fed daily with good grains will keep hens healthy, make them molt early, feather out quickly, and lay lots of eggs when scarce and high. If not sold by your dealer, we will prepay freight on 25 lbs., $1.90; 50 lbs., $3.60; 100 lbs., $7.00. Send for free booklet.
West Coast Mill
705-709 Griffin Ave. (S. P. Track) Los Angeles, Cal.

Mammoth Bronze Turkeys---S. C. White Leghorns
From our large, vigorous White Leghorns, the largest eggs produced by any Leghorn breeder in the West. $1.50 for 15, $7.00 for 100 and $60 for 1000.
To make room for young stock we must dispose of a large number of this year's breeding birds. They are two years old and the pick of our flock and must be sold at once. Write us your needs. The price is right.
STUHR-WILLIAMSON POULTRY COMPANY
878 Bandini Ave. Home Phone 1490 Riverside, Cal.

Trap-Nested White Wyandottes
That won 22 ribbons out of 25 and 6 Silver Cups and a carving set and a cut glass vase. All the National White Wyandotte Club Ribbons. Second on 10 pullet pen, contest open to all breeds. Mammoth Bronze Turkeys, winners of 5 blue ribbons, all at Los Angeles County Poultry Association Show, December 7, 1907. White Wyandottes were judged by H. Berrar of San Jose, Cal., and W. W. Browning of Ogden, Utah. Hens and Pullets, $15, $20 and up.
MISSION VIEW POULTRY RANCH, MRS. C. D. HUBBARD, SAN FERNANDO, CAL.

HOMERS
Prolific Breeders
Winner of 1st pen at Breeders' Show
Satisfaction Guaranteed
C. E. Bunker
San Jacinto, Cal.

EAST SAN GABRIEL EGG RANCH
S. C. White Leghorn and Barred Rock Eggs for hatching, $1 per 13, $5 per 100. Won 12 ribbons at last Breeders Show on White Leghorns. Prize winners, $2 per 13. All hens in our breeding pens are selected, 2-years-old, and are great egg producers.
Swanson & Johnson, San Gabriel, Cal.
San Gabriel Car to Masonic Home then 2 blocks South

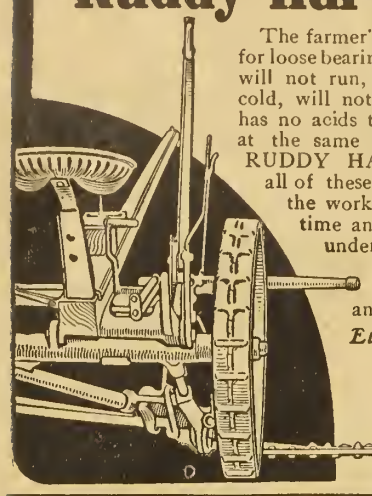
Indian Runner Ducks
Black Langshans
Stock at less than half price to make room for youngsters. Runners at 75c and $1 each. Langshans at $1 and $1.50 each.
CLYDE J. MOSS Corona, Cal.

Baldwin's White Leghorns
First prizes San Jose '06, and State Fair '07. Three 1sts and special, San Jose, '07. $50 cup best display Petaluma '07. Send for free '08 Catalogue and price list. Good breeding stock for sale cheap to make room.
Frank E. Baldwin
46 Washington Ave. - San Jose, Cal.

Now is the time to hatch **BANTAMS**
Golden Sebright, Buff Cochin, and Light Brahma Eggs, $2 per 15. Prize winners.
M. E. Dillingham Box 67, San Gabriel, Cal.

White Wyandottes Exclusively
Good, White, Typical Birds. Stock and Eggs For Sale.
W. A. SEYMOUR
470 No. Beaudry Ave. Los Angeles Cal

Ruddy Harvester Oil



The farmer's needs demand a heavy oil for loose bearings, one that will work freely, will not run, is not affected by heat or cold, will not gum or grow rancid, that has no acids to injure the bearings and is at the same time economical to use. RUDDY HARVESTER OIL answers all of these requirements and lightens the work of the horses, saving their time and strength. It works perfectly under all conditions and in any weather, and is just as good for all sorts of farm implements as for harvesting machinery. In one gallon and five gallon cans, half-barrels and barrels.

Every dealer in farm supplies carries it in stock.

STANDARD OIL COMPANY
(Incorporated)

ALFALFA — $3298.00

ONE SEASON'S EARNINGS

It will pay every Farmer who reads this "Ad" to write us especially if interested in Clover or Alfalfa growing. We can refer you to a man who made $3298.00 in Alfalfa last year.

HE WILL TELL YOU HOW IT WAS DONE

We manufacture the machine shown in the cut; it threshes, separates, hulls, and cleans ALL the seed for market. No other machine will do it. You should write us and get our Alfalfa Booklet FREE. It will give you valuable information. Mention this paper.

BIRDSELL MFG. CO., South Bend, Ind., U. S. A.

Pioneer **RUBBER SANDED ROOFING**

BEST BY EVERY TEST

Our Booklet—"Roof Talk"—together with samples of Rubber Sanded Roofing, will be sent post-paid upon request. Being absolutely rain-proof and sun-proof, Rubber Sanded Roofing is held in high favor by contractors and builders wherever it has been introduced—in Canada, Mexico and throughout the Pacific Coast States.

Let us put you in touch with our local agent in your community.

Pioneer Roll Paper Co. Department 11 Los Angeles, California

Makers of Rubber Sanded and Rubber Flexine Roofing and Refiners of Asphaltum

A NEW IMPERIAL.

An event to take place within the next few months that will prove of the utmost importance and interest to the farmers and homeseekers throughout the United States and Canada, is the opening up for settlers of the valley of the Yaqui river.

This valley lies on the eastern coast of the Gulf of Lower California, about 275 miles south of the boundary line of the United States, and is on the Yaqui river division of the Southern Pacific Railway. The soil and climatic conditions are almost identical with those of the now world famous Imperial valley.

The work of taking the water out of the Yaqui river and distributing it over the 550,000 acres of land that comprise this valley is being rapidly pushed to completion and the owners expect to be able to offer the land to small investors late in the fall or early winter.

Owing to the fact that a great many thousand dollars are needed to complete these developments, it has been decided to offer a few thousand acres in large tracts of not less than 1000 acres each, at a price that will attract both speculators and the more conservative investors. It will be possible for the next 60 days, to buy 1000 acres at $12.50 per acre, and this price will include a permanent water right entitling the owner to use such water as he may require, at the rate of 50 cents per acre foot. O. A. Vickrey & Company, 308 South Hill street, have been appointed sole selling agents. Any further information may be obtained at their offices.

DIVIDEND NOTICE.

San Francisco Savings Union. N. W. Cor. California and Montgomery streets.

For the half year endlng June 30th, 1908, a dividend has been declared at the rates per annum of four and one-quarter (4¼) per cent on term deposits and four (4) per cent on ordinary deposits, free of taxes, payable on and after Wednesday, July 1st, 1908.

Depositors are entitled to draw their dividends at any time during the succeeding half year. A dividend not drawn will be added to the deposit account, become a part thereof and earn dividend from July 1st.

LOVELL WHITE, Cashier.

DIVIDEND NOTICE.

The Savings and Loan Society. 101 Montgomery St., Corner Sutter St., San Francisco.

For the half year ending June 30, 1908, a dividend has been declared at the rate of 4 per cent per annum on all deposits, free of taxes, payable on and after Wednesday, July 1, 1908. Dividends not called for are added to and bear the same rate of interest as the principal from July 1, 1908.

WM. A. BOSTON, Cashier.

NO CHANCE.

"Do you consider marrlage a lottery?" asked the coy young widow.

"Not so you could notice it without a pair of green spectacles," replied the fussy old bachelor. "It's more on the order of a shell game."—Chicago News.

California Farm Names

A LITTLE poetry, a little sentiment, added to farm life gives a bit of spice and brightens up some the dull spots in the daily routine. There are dull days and there is dulling labor, or at least labor which we sometimes think is bringing us to be a typical "man with the hoe" or "woman with the broom." That is true in the largest city as well as on the farm. The boy fresh from the work behind the plow, or with the hoe, visits the city and the rush and whirl and attractive outward veneer looks dazzling to him and he little thinks that in many a dingy office or shop, the dull plodding work is being done with even more doggedness and determination than ever on the farm. The hard grind is always there. But the gala day appearance appeals slightly to the tired man of the office, and if he is given a day off an immediate start is made for seaside or the fields. Why? Because of their natural attractiveness to every human being.

Let us add to that attractiveness by planting more trees, keeping neater roadsides and caring for the front lawn and making our communities so that people of the city will love to drive past them.

When this beautifying is done, or while it is being done, let us dignify the place, the home, by giving it a name. It's worth it. If it isn't, make it worth it.

* * *

We have been talking of this for some time and now have a few names which have been sent in. Some have been sent in with reason for selection of name and an idea of productions of the ranch.

This is good and we hope the names will continue to come. Give us another installment for next week, or at least, by the week after, and we will have an interesting department of the paper and incidentally add a touch of sentiment to farm life that may prove of commercial value.

The following are the names sent in up to this time:

"Minnetonka," owner, Chauncey S. Sheldon, Lordsburg, California.

"Tanglewood Farm," owners, Mr. and Mrs. J. H. Goodier, Maywood Colony, Corning, California.

"Vineclad Farm," owner, Geo. D. Lee, Central Avenue, Compton, California.

"Loma de Luz Orchard," owner, O. M. Prickett, Alma, California.

"Dunwoodie," owner, James Scott, Los Banos, Merced county, California.

"Quail Hollow," owner, William Richard, Eccles, Santa Cruz county, California.

"El Guernsey Rancho," owner, E. G. Webb, Fresno, California.

"Merlin Villa," owner, Mrs. J. Lenert, Chino, California.

"Enterprise Jersey Farm and Nurseries," owners, Tribble Brothers, Elk Grove, California.

"Nuthurst," owner, J. F. Unruh, El Monte, California. Twenty acres of walnut grove.

"Greenwood Ranch," owner, C. E. Garrett, Hynes, California. Had letter heads printed, which is a very attractive idea.

"Rose Hill Bee Farm," owner, August Soderquist, Turlock, California. Thinks it a very good plan, as it aids in advertising a place and its products.

"Paramount Ranch," owner, J. H. Miller & Sons, Ritchey, California. It is a fruit and nut ranch, situated about eight miles from Ione. This year prunes made about a third of a crop, and apricots, peaches and almonds did well. Apricot drying has commenced.

"Tesoro Rancho," owner, A. S. Bradford, Placentia, Orange county, California. It has gone by this name for seventeen years.

"Central Avenue Grapery," owner, J. L. Winniger, Compton, California. This farm is situated about ten miles south of the Los Angeles court house. The name of the ranch and of the owner is in large letters on a bulletin board in front of house.

ALEXANDER CRAW VERY ILL.

This item was written by Mr. Isaac after a visit with Mr. Craw in Madera county, and was in type before his death. He was buried in Evergreen Cemetery, Los Angeles, last Tuesday.

The friends of Alexander Craw, and their names are legion, and include every fruit grower in California and every man with whom he ever came in contact, will regret to learn that he is now lying very low, with little hope of recovery, at the home of his brother-in-law, Mr. Frank Femmons, at Home Orchard, in Madera county. Mr. Craw, who has been in the employ of the Hawaiian government for the past four years, came to his home in California for his health some three months since, and stayed for some time at the sanitorium at Glennwood, in this county. He seemed to improve rapidly while here, and was soon able to remove to Home Orchard where it was hoped that the pure mountain air and peaceful surroundings would hasten his convalescence. He improved for some little time, but suffered a relapse, and it is now feared that there is little if any hope for his recovery. Mr. Craw was for many years connected with the State Board of Horticulture, and his conscientious and efficient work here attracted attention from the whole world, and his name is known in entomological circles everywhere. He was finally induced to accept a liberal offer from the Hawaiian government and severed his connection with California, only to return when failing health caused him to turn longing eyes to the State he has so long honored and loved.

COMPERE WILL BE RETAINED.

Newspaper rumors have had it that George Compere, who has been engaged in the work of searching for parasites for the State for several years past, was to be dismissed upon his return from his last trip. Mr. Compere is now in California again, having returned from China and India, bringing with him a number of beneficial insects, among them what in its native country is a most efficient parasite of the mealy bug. In regard to the newspaper reports, Mr. Jeffrey, the State Commissioner of Horticulture, states that they were without foundation, and that instead of dispensing with Compere's services it is his intention to broaden his sphere of activity and bring the California office into close touch with the entomologists of the world. During his stay in California, plans will be made with Compere to this end, and it is hoped and believed that his work will be more effective and beneficial than ever.

Resistant Eucalypts

THE Arizona Experiment Station issued recently a circular on eucalypts, which has much of interest, so that we quote largely from it:

The importance which this remarkable genus is assuming in parts of California as a producer of wood that can be turned to a variety of purposes, together with the similarity of the agricultural valleys of Southern Arizona and certain interior ones of California where the trees are grown successfully, is responsible largely for a growing interest. On account of the marvelous growth of eucalypts which enables the California planter to net handsome profits from his groves, it is only natural that their planting should be given consideration here.

If the most drouth-resistant varieties of eucalypt trees are once well established during a period of wet years, or better yet by means of moderate irrigation, there appears to be good cause to believe that they may be grown successfully with limited irrigation on lands that are of secondary value for cultural purposes at the present time on acount of limited water supply. Also waste pieces of land about the farm, borders of ditch banks, and even roadsides, might well be planted with these useful trees.

Examples are known of small groups of eucalyptus trees growing in valley lands, which are usually deep and alluvial in nature, for periods of six to ten years without irrigation. Not infrequently the underflow in these valleys is within reach of these deep-rooting trees, which undoubtedly explains in part their ability to grow under such extremely arid conditions. However, the writer would warn the practical planter not to expect too much from trees growing with a limted water supply.

In addition to the possible economic value of eucalypts, several varieties have shown themselves to be valuable additions to our list of shade and ornamental trees. As ornamentals they are evergreen, which is a desirable feature in a region with as little color as our own, and possessed of a pleasing aroma. They have thus far been found free from fungus and insect pests, and unlike deciduous trees do not cost a litter of fallen leaves each year; although some of them shed considerable bark.

Eucalypts to grow in the warmer parts of Arizona must be able to endure maximum temperatures from 108 degrees to 120 degrees F. with low humidity and intense sunlight, and also survive ten to twenty degrees of frost in winter. It will be interesting to note that almost without exception the varieties that are capable of growing under a wide range of conditions in California are the identical ones that succeed best with us. Except in sheltered situations, it remains to be seen whether any of the species can be grown with success at altitudes above 2800 to 3000 feet.

The species that have been found to withstand best the above conditions are the forest red gum, Eucalyptus tereticornis; red gum, E. rostrata; desert gum, E. rudis; red box, E. polyanthema; narow-leaved ironbark, E. creba; and manna gum, E. viminalis. According to Professor McClatchie sugar gum, Eucalyptus cornyocalyx; white gum, E. leucoxylon; and gray bark, E. hemipholia, grow successfully at Yuma and Phoenix; and there is even a possibility that blue gum, Eucalyptus globulus, will survive in the mildest situations near Yuma. With further study other species will undoubtedly be found that will resist equally well our heat, aridity and cold.

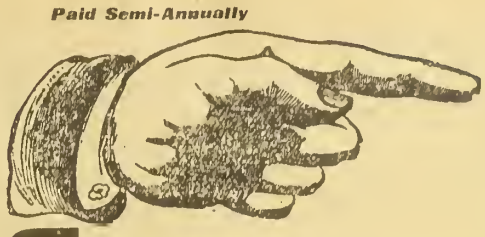
Forest red gum, Eucalyptus tereticornis, is a rapid-growing tree, and considered valuable in Australia for its lumber. When planted near together the trees become tall and erect with uniform trunks, while if scattered they are likely to grow stocky and branched. A small clump of this species is growing in the Santa Cruz valley three miles northwest of Tucson. These have never suffered any injury from our wide range of temperatures. It is stated that they have not been irrigated during the past six years. At this time they are about twelve years old and the taller ones range from fifty-five to seventy feet high with trunk diameters fourteen to seventeen inches.

Red gum, Eucalyptus rostrata, is quite similar in appearance to the last species, being nearly related botanically. Though it is thought to be less drouth-resistant than the forest red gum it is apparently equally resistant to our temperature extremes. Its growth is rapid, though somewhat variable, some trees being tall and straight, others irregular. In Australia it is considered one of the most valuable of eucalypts on account of the extreme durability of its wood. It is being much planted in parts of California at this time. Professor McClatchie recommends the red gum very highly in his bulletin on eucalypts cultivated in the United States. Good specimens of the red gum can be seen growing in Phoenix. It is said that this tree can be planted in land that is periodically inundated for a considerable time, also in slightly alkaline situations.

Desert gum, Eucalyptus rudis, has been planted more, perhaps, in Southern Arizona than any other variety. With favorable conditions it is said to be one of the most rapid growing of eucalypts, especially when young. At Tuscon it has shown itself extremely resistant to summer heat and winter cold, never having suffered any injury therefrom. It is also drouth-resistant. For ornamental planting it is one of the best. Its commonly erect habit combined with its symmetrical form and dark green foliage, makes it a desirable tree for shade or avenue planting. There are two forms of the species, a weeping one and an erect oval-leaved one, the latter of which is the more desirable. Specimens of this tree growing under rather unfavorable circumstances on the University campus at five years of age average twenty to twenty-two feet in height and five and one-half to six and one-half inches in diameter. The desert gum, especially when newly set, is subject to a chorosis or yellowing of the leaves which eventually kills the tree. The disease is known locally as "frizzling" from the abnormal brush-like development of the young limbs. The affected plants should be replaced early by healthy ones.

Red box, Eucalyptus polyanthema, is another species equally resistant to heat, cold and arid conditions. It is of a more or less erect habit, usually with a single stem, though not

Paid Semi-Annually



7%

Assured Profit.

We offer you Cane Sugar Lands in Mexico. Perfect title. Give 50-year contract to cultivate for you, guaranteeing 7%, paid semi-annually, until crop profit exceeds this amount. Offer these lands for cash or on easy terms.

A Life Income from Land

Sugar Plantations produce the greatest continuous yield of any known crop. Tropical Mexico stands today unmatched in soil, climate, water. We own over 9000 acres in the heart of the best section—near Tampico. You become a land-owning profit-sharer in this project. We do all the work for you.

Sugar Plantations the Most Profitable Crop in All the World

One Acre Should Produce $203.52 Annually
Five Acres Should Produce $1017.60 Annually
Ten Acres Should Produce $2035.20 Annually

GOOD LIVE AGENTS WANTED

Free Trip to Property Communities or syndicates buying 50 acres or more, may send representative to property at our expense

Tampico Sugar Company

References: Citizen National Bank

Los Angeles California

501 Union Trust Building

A Splendid Ranch Bargain

44 acres black loam mixed with lime rock gravel, in the head of the Nipomo Valley, rich warm friable soil that is hard to beat anywbere. Has 6-room hard-finished house, very convenient, large barn, good out buildings, about 5 acres orchard, apples, almonds, apricots, figs, pears, peaches, plums, prunes, quince, nectarines. Also grapes, currants, gooseberries, blackberries, loganberries, raspberries and dewberries. All these fruits do fine, and there would be big money in extensive planting of currants and gooseberries, as they do exceptionally well, and the market is first class. The place is 2 miles from Nipomo on splendid road, and is a grand bny at $4750.00.

We also have a fine buy in a completely equipped and well stocked 15-acre poultry ranch at $3500.00, including everything on the place, even the house furnisbings.

Curtis & Wiley San Luis Obispo, Cal.

Yaqui River Valley Lands

$12.50 PER ACRE

Alfalfa, wheat, corn, beans, sugar cane, oranges, lemons, limes, and other semi-tropical crops and fruits grown on these lands, rich alluvial and silt deposits.

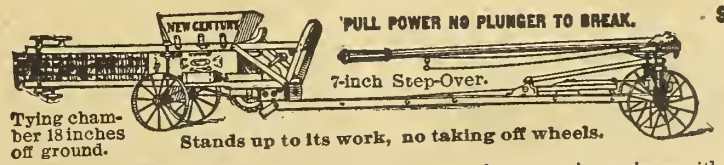
The Finest Irrigation System in the West

An abundance of water at 50 cents per acre foot. Terms offered during the next ninety days are extremely easy. For information write

WM. H. CANNON & CO., Ventura, Cal.

Rebuilt New Century Hay Press

WITH OUR IMPROVEMENTS IT IS THE STRONGEST PRESS ON EARTH. ALL IRON AND STEEL.



Tying chamber 18 inches off ground.

Stands up to its work, no taking off wheels.

We have rebuilt these presses and have taken advantage of two years' experience with all kinds of hay and can recommend and guarantee the press as it stands. These presses are 100 per cent better than the press as received from the factory and have our personal guarantee for the season. Sold on easy payments. A special bargain in a rebuilt second-hand press.

We carry the Pacific Implement Co.'s line of Buggies and Wagons and will be pleased to send Catalogue and prices.

CAPITO CARRIAGE CO., 12th and Main Sts., Los Angeles, Cal.

Tanks Tanks

Wine Tank

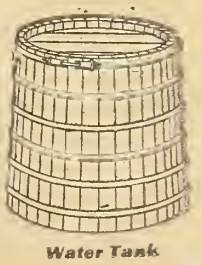
WINDELER'S PLANING MILL AND COOPERAGE

GEO. WINDELER, Prop

Water Tanks, Wine Tanks made from carefnlly selected stock by careful and experienced workmen. "Tanks that are well made last a long time." It will pay you to get my prices before bnying.

Geo. Windeler

144-154 Berry St. San Francisco, Cal.



Water Tank

Get OUR Roofing Samples and Prices FIRST

We are the largest manufacturers of Roofing Materials and can give you the most for your money. We have many valuable suggestions for the man who thinks of building or repairing.

J-M ASBESTOS ROOFING

is permanently durable, because it is made of **asbestos**—an indestructible mineral. That is why it does not require coating or painting to preserve it. No assessments for repairs every year or two.

ASBESTOSIDE

is the most durable siding material known. Keeps out the heat in summer and the cold in winter. Gives an attractive appearance without the expense of painting.

Write Us for Catalog 39 and Samples

H. W. Johns-Manville Co.
203 East 5th St., Los Angeles, Cal.

Don't Buy a Windmill

Without getting our proposition. Write today for full information.

Arnott & Company, Inc.
112-118 S. Los Angeles St.
Los Angeles, Cal.

IF you cannot come to the city, just write and tell us what you want. We purchase anything. No extra charge for services.

Columbia Commercial Company
405 East Second St. LOS ANGELES, CAL.

EMERSON DISC PLOWS

Plow your land now—no need to wait until the rain softens it. The Emerson Disc Plow will plow it, and you will get larger crops next year.

Some Disc Plows are better than others—the Emerson is the best. Let us tell you why it is the best. Write us for information.

Newell Mathews Co.
Los Angeles and Market Streets.
LOS ANGELES, CAL.

When writing advertisers, mention Cultivator.

always symmetrical in its development. Its silvery-gray round leaves render it a conspicuous plant in a landscape, contrasting nicely with trees having dark green foliage. On this acount it should be used considerably for ornamental purposes. A fine lot of young trees of the red box two years after planting may be seen on the west line of the University grounds, also on the Station farm at Phoenix. Those at the University average fifteen feet in height and three inches in diameter at the base. The red box is not so desirable for shade as the desert gum ,on account of its less dense leaf canopy. There are probably few localities in Southern Arizona having altitudes below 3000 feet where with sufficient, though scanty, water supply these two species may not be grown.

Narrow-leaved iron-bark, Eucalyptus crebra, also endures nicely the climatic conditions at Tucson. The trunk is ordinarily straight and of uniform diameter, and with the willow-like leaves and pendulous branches gives to the tree a graceful appearance. The narrow-leaved iron-bark is not known well enough yet, however, to be highly recommended. It is also subject to the chlorotic condition already noted for Eucalyptus rudis.

Manna gum, Eucalyptus viminalis, is growing successfully at Yuma and Phoenix. It is a very rapid grower, and in Australia becomes one of the largest of eucalypts. It was formerly much planted in California, but because its wood is of very secondary value, even for fuel, it has been largely superseded by the red gum. It is said to be of some value as an ornamental.

With reference to eucalypts for particular localities, the writer would suggest for altitudes up to 3000 feet, as on the upper Gila, desert gum, Eucalyptus rudis; forest red gum, Eucalyptus tereticornis; narrow-leaf Eucalyptus rostrata; for the Salt River and Colorado River valleys desert gum, Eucalyptus rudis; red gum, Eucalyptus rostrata; red box, Eucalyptus polyanthema; forest red gum, Eucadyptus tereicornis; narrow-leaf iron-bark, Eucalyptus crebra; and manna gum, Eucalyptus viminális.

The most favorable time to set out eucalypts is from the middle of February to the first of April, according to locality. They may be planted from four to ten feet apart, depending upon the water supply. The closer they are planted together the greater will be their tendency to produce straight timber.

California Mutual Live Stock Insurance Assn., 712-713 Delta Bldg., 426 South Spring St.
Los Angeles, Cal., Aug. 8, 1908.

Tuttle's Elixir Co.

Gentlemen:

I had occasion to use your elixir on one of my horses last winter, and I was very much pleased with the effect produced. The animal had fallen and bruised her leg severely, and considerable fever had set in. The elixir was applied a few times, and she recovered very quickly and completely.

I consider it the best remedy I ever used for bruises and cuts and for any other use where a liniment would be required.

Yours very truly,
M. L. Wright,
President & Gen'l Manager.

Let up keep up our end—especially the odds and ends.

Man's best traits are seen when he becomes a farmer.

Queries and Replies

Questions to be answered in this department should be received at this office one week before reply is expected. Write plainly on one side of the paper and sign full name and address. Unsigned communications receive no attention.—Ed.

Fertilizer for Potatoes.

Please advise me, under queries and replies, what would be the best fertilizer and the cheapest, to use before second crop of potatoes; would any green fertilizer do; if so, how would leaves do? I have only a small piece of ground, and want to get best results I can with least expenditure.—F. M. A., Ontario.

If you mean for this year's crop, only commercial fertilizer rich in potash would give best results; or possibly, well rotted stable manure. If you mean for next year's crop, sow green manure crop this fall; plow under in February or March. Leaves are all right for humus, but will yield little fertility, or probably none for this year's crop.

Tomatoes Dropping.

I saw a question concerning tomatoes shedding the bloom, and I have had a little experience. Had fine vines with here and there a tomato dropping bloom, just as described in the question. A friend said to trim off all the main stalks but three or four, and then prune off all the limbs—suckers, he called them, not leaves nor main head, but the limbs— with a sharp knife. I tried some of mine and now they are getting full of tomatoes that are growing very fast.—J. T. G., Orange.

Trank you. Let J. V. B. of Ripon try it.

Squirrel Pest.

I am very desirious of securing your influence for a concerted movement by the whole State against the ground squirrels. I find it is useless for a man to try to keep his own place clean if his neighbors do not poison or otherwise kill the squirrels on their holdings. I have been poisoning and bi-sulphiding my place for years, yet this year the squirrels have dug up two plantings of corn. There are more squirrels on my place than ever before. Without concerted effort there will never be much progress made toward extermination. My idea is to get a law passed that will appoint three days at intervals of four days as poisoning days and upon these three days the entire State must be poisoned, those neglecting to spread poison on the three days set apart as poisoning days to be heavily fined, giving the informer half of fine. The State or counties might furnish the poison. The government could furnish the poison at less cost than the payment of bounties. The object of all poisoning the same days is to prevent squirrels moving from poison. It might be well to have a second season of poisoning after an interval of six weeks. I think that a general discussion of the matter might lead to the extermination of this pest. The squirrels destroy more than all other pests.—J. S., Watsonville.

Squirrels are surely a perplexity. We question whether the above outlined law could be passed, but some more concerted action should be taken than ever has been done yet.

Tomatoes Dropping.

Will you kindly state in your paper the reason for tomatoes dropping blossoms with short piece of stem attached? There seems to be a joint in the stem which breaks off.—J. V. B., Ripon.

I have always had this trouble in California with tomatoes if the season was cool, as it has been this year. There is nothing I know of that can be done to remedy it. When the weather gets warmer the fruit will set perfectly. While the tomato plant will endure continued low temperature and appear in a thrifty condition, it will not set the fruit until there is warmer weather.—Q. A. L.

"During the Moon is Dark."

Kindlly tell me through the "Cultivator" why my Minnesota Burbank potatoes do not make potatoes at all, but only thrive as to their leaves and stems. Many roots of them are more than one foot long and they are sprouting on the surface of the ground. I planted them in the middle part of March and irrigated once on May 20th. I did not find any wrong for the seeds when I planted. Is that true that the potatoes are only planted during the moon is dark? Tell me why, if it is true, and oblige. —C. Toyoshima.

Without knowing more as to the character of the soil I could not answer this question satisfactorily. From the description it would seem as if they were planted in soil very rich in nitrogen and lacking potash. I trust our Japanese friend will take no stock in that deep rooted superstition among many people of the Eastern States, that every failure in the potato crop is due to the seed being planted in the "light of the moon." The moon has nothing to do with the conditions that secure a good crop of potatoes—or anything else. The natural laws that govern these things are found in proper soil and weather conditions.—Q. A. L.

Thrips or Red Spiders.

Will you please answer in your valuable paper the folowing question: How can I get rid of a very small, slender mite light in color, which is destroying my onion crop. They seem to eat off the very thin outer skin of the leaves which stops the growth of the plant and makes it look sick. Please answer next week.—I. M. P.

Also same question by C. A. Toms, Turlock.

Either thrips or red spider will cause damage to the onion crop similar to that named in these inquiries. As the red spider seldom gets in its destructive work except under a high temperature, and we have had an unusually cool season, I am inclined to pronounce it the work of thrips. It is a jumping insect and extremely active and varying in color from whitish yellow to dark brown and in size from hardly perceptible to the naked eye to the size of the largest aphis (green fly.) I know of no practical remedy for the open field. Sometimes they suddenly disappear from no apparent cause and the plants recover and mature a good crop. I had a marked instance of this a few years ago when manager of the Barbour ranch. About two acres were attacked when the crop was nearly half grown and I considered the case hopeless, but they disappeared suddenly and the plants soon recovered and assumed their normal growth and matured a fine crop. Under glass thrips will succumb to tobacco, especially by fumigation, but not nearly so readily as green fly.—Q. A. L.

Himalaya Blackberry.

Regarding the blackberry of which we recently had an illustration, Luther Burbank writes us as follows:

The berry described and pictured

Warranted to Give Satisfaction.

Gombault's Caustic Balsam

Has Imitators But No Competitors.

A Safe, Speedy and Positive Cure for

Curb, Splint, Sweeny, Capped Hock, Strained Tendons, Founder, Wind Puffs, and all lameness from Spavin, Ringbone and other bony tumors. Cures all skin diseases or Parasites, Thrush, Diphtheria. Removes all Bunches from Horses or Cattle.

As a Human Remedy for Rheumatism, Sprains, Sore Throat, etc., it is invaluable. Every bottle of Caustic Balsam sold is Warranted to give satisfaction. Price $1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars, testimonials, etc. Address

The Lawrence-Williams Co., Cleveland, O.

on page 672 of your June 18 issue is not the evergreen, but is my Himalaya introduced fifteen years ago. New names make great confusion. —Luther Burbank, Santa Rosa, June 27, 1908.

Bee Paper.

Is there a bee paper published in this State?—A. S., Turlock.

Not one at this time, though many have been started.

How to Apply Manure.

I would like to ask Mr. J. W. Mills if one does not lose much of the value of manure if he cultivates, harrows or discs and does not turn it with a plow into the bottom of an eight-inch furrow. Scientific men tell us the sun burns up much of the value of manure if it is left on top of the soil or in the first three inches.—Wm. Crook, Covina.

We are not so sure that much of the value of manure is lost when left to dry on the surface. We are taught that such is the case and come to take it for granted that very much is lost in that way. The only element that can get away through the atmosphere is nitrogen, and that is usually considered only possible by fermentation in the case of stable manure. There are two methods advocated by recognized authorities for the proper and economic handling of this product. One is to keep it moist enough to prevent fermentation and the other is to dry it thoroughly to prevent fermentation. Manure that smells to heaven will lose much ammonia and will not stop losing it till after the odor ceases. It is our opinion that it is better to spread manure out as fast as it accumulates rather than allow it to remain in piles where it will surely lose a lot if not kept well wet down. If you have facilities to do this, we would advise you to pile it and keep it wet till scattered. Disking or cultivating it in will give results. Plowing it under is perhaps the best, but we would cultivate it in rather than not use it at all or miss the chance of getting it at a low figure. Perhaps you have noticed that droppings in a pasture make the grass grow best in those particular places even though the manure lies there all summer long on top of the ground.—J. W. M.

Apples, Fungus and Cow Peas.

I have three apple trees of the Early Harvest variety that for the last few years don't leaf out right and each year seem to be getting a little worse. At this time there are many of the twigs without a leaf on. I also notice on the exposed part of the roots around the body of the tree and also where limbs have been sawed off there is a substance resembling mold. Could you give me the cause and remedy through your valuable paper? Are cow peas a summer crop? How should they be put in for hay, amount of seed required, how often should they be watered for the best results; at what stage should they be cut? What yield could be expected; how is the feeding quality compared with other hay; ought they to do well in the Coachella valley?—Wm. H. O., Covina.

The action of your apple tree is due to climatic conditions over which you have no control. Your tree will have to grin and bear it till a favorable winter gives it a chance to get back into good habits. Your trees cannot distinguish between the seasons.

The mouldy growth that you notice on the stumps of your trees is a fungus that is feeding on the dead wood. It may penetrate to the live wood and kill the tree. This often happens. Wash it thoroughly with blue stone water and it will kill the growth at the surface or as deep as the wash will penetrate. The fungus penetrates clear into the heart of the tree and what you see is the fruiting parts.

Cow peas are a summer crop and do well in the Coachella valley. Plant them now, about forty pounds per acre and give them water enough to keep them growing. They make good feed and should yield from one to two tons of hay per acre. They rank with clover and alfalfa in feeding qualities.—J. W. M.

THE JARRAH TREE.

As was rightly stated by your correspondent in June 18th issue, the Jarrah, (Eucalyptus maginata) is not adapted to California conditions; while we can grow many semi-tropical trees, ours is nowhere a tropical climate. Cool nights and dry air in the summer are not in any sense "tropical" conditions. But this is what the Jarrah wants, so it is well to discard it. I was shown samples of the wood many years ago by the curator of the Museum of State Mining Bureau, at which time the adaptiveness of the tree was tested, and then found not to assimilate with other species, which find so congenial a home in California.

It is well that the question was raised, because, with the renewed interest in eucalyptus planting many false prophets will arise who will offer advise, and recommend varieties which experienced men like Mr. Dodson and others could at once say were useless, commercially.—Leonard Coates, Morganhill.

A SUNFLOWER.

Mrs. A. B. Hamel, of Moosa, sends a sunflower head to this office which was raised on land which had neither irrigation nor fetrilization, which shows that Moosa land grows big things.

NEW NAME—OLD FIRM.

The Los Angeles Vehicle & Implement Company whose advertisement appears in this issue is not a new firm, but a new name for an old and reliable house. This firm is a continuation of the retail business of L. M. Davenport, and, while the name has been changed, yet the business methods will be upon the same broad and liberal lines as heretofore. In their store will be found everything for the rancher and farmer. Mr. Davenport's long experience in the implement and vehicle business in California has placed him in a position to know the goods best adapted for soil and climatic conditions of this State, and whether your needs be large or small it will be to your advantage to write or call at their store, 110-112 North Los Angeles Street, Los Angeles, Cal.

Classified Liners

Rates 1½ cents per word per issue. No ad accepted for less than 25 cents. Our classified columns are the clearing house for the readers of the Cultivator. Here you can insert an ad for the small sum of 1½ cents per word per issue, and be sure that it will be read by thousands.

FARM LANDS FOR SALE.

FOR SALE OR EXCHANGE FOR ORANGE or Los Angeles Co. walnut land. Improved or unimproved 140-acre mountain fruit ranch; 20 acres apples and peaches; 15 acres grapes; 2 acres berries; 10 acres drained bottom land; 20 acres hay or corn land. Balance in timber. 10 living springs. 7-room house, 2 barns; 1 mile to school. Postoffice and station. Price, $15,000. WILLIAM RICHARD, Eccles., Santa Cruz Co., Cal.

FOR SALE—1 TO 10-ACRE TRACTS ON CAR line, between Riverside and new cement works; good for chicken ranches, alfalfa or gardening; will sell on easy terms; plenty of water on each tract. C. C. POND & N. R. BELL, Riverside, Cal.

FOR SALE—TWENTY AND FORTY acres, level, good land. Fine for chickens, berries, etc. $30 per acre. Very easy terms. No irrigation required. WM. MANTZ, Santa Maria, Cal.

FARMERS' BOOKS

Order Through the Cultivator

FEEDS AND FEEDING.—By Prof. W. A. Henry. Is a thorough, accurate and reliable handbook for students and stockman, giving most practical and useful knowledge on plant growth and animal nutrition, feeding stuffs, feeding animals and every detail pertaining to this important subject, indispensable to every owner of live stock. 658 pages. 6x9 inches.
Cloth $1.00

AMERICAN GRAPE GROWING AND WINE MAKING.—By George Hussmann of California. With contributions from well known grape growers, giving wide range of experience. The author of this book is a recognized authority on the subject. Illustrated. 269 pages. 5x7 inches.
Cloth $1.50

STANDARD OF PERFECTION.—By the American Poultry Association and used as the standard for judging all shows. The thing for dealers in fancy stock.
Cloth $1.50

PERFECTED POULTRY OF AMERICA.—This is the most recent publication, and is one of the finest poultry books ever issued. It contains full page illustrations of all breeds and varieties of poultry, turkeys and water-fowl. On many of its pages are represented the feathers from each section of the fowl. Gives the information necessary for the selecting of the best specimen in your flock.
Cloth $2.50

A. B. C. AND X. Y. Z. OF BEE CULTURE.—By A. J. and E. R. Root, the leading authority on Bee Culture Its reputation is known to all Beekeepers. 536 pages.
Cloth $1.50

CAMPBELL'S SOIL CULTURE MANURE.—By H. W. Campbell. The originator of the "Campbell System of Dry Farming." A complete guide to scientific agriculture as adapted to the semi-arid regions. Of great value to all Western ranches. 320 pages.
..... $2.50

Cultivator Publishing Company

THE ENGINE QUESTION.

It is no longer a question of whether or not the farmer needs an engine—he has already been assured of the many advantages of having a good engine for almost any kind of work. But there seems to be a growing tendency on the part of some of the manufacturers to make engines to sell rather than to give good service. This naturally puts the farmer on his guard, but most of them are dealing with the old reliable concern—the International Harvester Company of America.

The principles were carefully worked out and tested before manufacture began. The record of service of the engines at work has abundantly established their correctness, as well as the excellence of materials and workmanship.

One of the greatest things that has been accomplished is dependability, a positive response of the engine whenever called upon.

Smooth, even running and generation of full rating of power are other features that are next in importance to dependable starting. Then comes the simpliicty and ease of control for which these engines are noted. And lastly, economy. The engines are adapted to the use of gas, gasoline or denatured alcohol for fuel. Well posted power men agree that whatever the fuel, the minimum is consumed for the power delivered.

The engines are made in several styles and range in size from 1 to 25-horse power. A letter direct to the International Harvester Company of America will secure catalogue and information you desire promptly.

MACHINERY.

FOR SALE—AT HALF ACTUAL VALUE No. 7 U. S. Cream Separator, good as new. One No. 9 machine new, to close out. K. B. Norswing, 5833 S. Main St., Los Angeles.

FOR SALE—6-H. P. INTERNATIONAL gasoline engine in good running order. Will sell cheap. N. W. cor MAIN and BRUNO STS., Los Angeles Cal.

FOR SALE—40-H. P. FAIRBANKS-MORSE distillate engine guaranteed the same as new at a snap. Also pump and other equipment. BAILIE & BRANDT CO., 943 N. Main St., Los Angeles, Cal.

POULTRY

KILLAMITE KILLS THEM—BEST INSECT powder made for fowls or plants. 50c for 2½ lb. sifting can, express prepaid by us if your dealer hasn't it. Regular 10c can free, postage paid, for 10 addresses of poultry keepers. WEST COAST MILL, 818 San Fernando St., Los Angeles, Cal.

FOR SALE OR EXCHANGE—(FOR BLACK Minorca chickens, turkeys or geese): Thoroughbred Belgian hares, does $1.50, bucks $2.00; thoroughbred Giant Runts, $2.00 each; Black Minorcas eggs, $1.25 per setting. L. F. STERNSMANN, Wrights, Cal.

BUFF ORPINGTONS—WOULD YOU LIKE the very best at the price of common stock? Sullivan's COMMONWEALTH STRAIN you may have at HALF PRICE FOR THE BALANCE OF THE SEASON. Write us and learn the reason; get record and illustrated catalogue FREE.—MR. & MRS. W. S. SULLIVAN, Agnew, Santa Clara Co., Cal.

FOR SALE—STOCK AND EGGS OF THE following standard bred poultry: Black and White Orpingtons, Brown and White Leghorns. J. J. Verkouteren, Route 2, Hanford, California.

INDIAN RUNNER DUCKS—DUCKLINGS 3 months old 50c; breeding stock 75c and $1.00 each. CLYDE J. MOSS, Corona, Cal.

EGGS FOR HATCHING.

ORPINGTONS, BUFF AND BLACK, THE winners of the lion's share of honors at the Los Angeles County and Breeders' shows this year. The birds that win in the keenest competition and lay eggs all the year. Birds that pay as they go. Handsome catalogue free. Guaranteed fertile eggs in any quantity. Proven breeding stock very reasonable. Write today. Orpington Reservation. ROSS & TATE, Altadena, Cal.

EGGS FROM MY PRIZE WINNING BARred Rocks; won all firsts, all seconds but one, and all specials on Barred Rocks at L. A. C. P. A. Show, 1907. Eggs from best pens, $3 per 15; $12.50 per 100. Stock for sale. CHAS. E. SMITH, Gardena, Cal. San Pedro Interurban car to Smith's Crossing.

MISCELLANEOUS.

SAVE MONEY BY USING OUR SELFcleaning Curry Comb, sample 50c, and our Harness Dressing that keeps harness looking like new, sample can 10c. Send us your dealer's name. Agents wanted. CHARLES BRYANT, Shreve Building, San Francisco, Cal.

RANEY HOME CANNER—SAVE YOUR fruit and vegetables by canning at home with the time tried and old reliable Raney Canner. Free book, Fruit Growers' Supply Depot, E. G. MENDENHALL, Box "M," Kinmundy, Illinois.

ALL ABOUT IMPERIAL VALLEY—BRAWley News, Brawley, California, trial subscription three months, 25 cents.

WANTED—MALE HELP.

NINETEEN JOBS GOING AT PRESENT—Electricity, plumbing, bricklaying taught in few months; tuition back after two months; advanced students paid wages. Free catalogue. UNION TRADE SCHOOL & CONTRACTING CO., 120-126 E 9th St., Los Angeles, Cal.

CATTLE.

FOR SALE—TWO YOUNG JERSEY BULLS—For particulars address DR. C. S. LANE, Santa Barbara, Cal.

DOGS.

SABLE AND WHITE COLLIE PUPPIES—Sires, Brandane Wishaw Squire and Glen Fana Bounder, litter brother to Aufield Model. Dams, Ormskirk Gloriana and Prewidio Nellie. $10 to $25; 2 to 8 months. GLENALPINE KENNELS, Grandville, Cal.

TREES.

FOR SALE—1,500 EUREKA LEMON TREES and 1,000 Washington navel orange trees, true to name. Also street and ornamental trees. Clean, healthy stock only offered. GEO. B. WARNER, SANTA ANA, CAL.

FOR SALE—ORANGE SEED BED STOCK, fine fibrous roots; have about 30,000 left. JOHN M. CARSE, 121 North Wilson Ave., Alhambra, Cal.

PIPE.

FOR SALE—PIPE—WE HAVE 25,000 FEET good 2-inch for 9c per foot; 1000 feet good 10-inch O. D. screw casing for 75c per foot. 100 feet good 15-inch stove pipe casing for 90c per foot. All other sizes and fittings cheap. All sizes boilers and engines, etc. A. CANNADY & Co., 1029 N. Alameda St., Los Angeles, Cal.

SWEET POTATOES.

TWENTY THOUSAND SWEET POTATO plants for sale, the yellow variety at $1.50 per thousand. F. O. B. Chatsworth. D. C. MATSON, Chatsworth, Cal.

TEA.

SPECIAL NOTICE TO TEA DRINKERS—Why not drink the best. Kanawalla Ceylon Tea is the finest flavored tea grown. 5-lb. caddy, $2.50; 10-lb., $4.50, prepaid. Write for samples, F. W. SPARR, 114 E. Market St., Los Angeles.

COLT TRADE MARK Carbide Feed Acetylene Generators

Approved by the National Board of Fire Underwriters. Adopted by the United States Government for Light House Establishments and other engineering purposes. Guaranteed by the largest Acetylene Generator Manufacturers in the world. Main Office, New York City. Write for 44-page catalogue containing full particulars. Address

Fowler Shankland
PACIFIC COAST DISTRIBUTOR
204 Severance Building, Los Angeles, California

Plan to Visit
Yosemite Valley
This Season
It Is a Quick, Comfortable Trip
—VIA—
YOSEMITE VALLEY RAILROAD

An ideal outing in the Sierras amid the grandeurs of Yosemite. Cost reduced to popular prices. Ample hotel and boarding-camp accommodations. Write for descriptive folder.

For Tickets and Connections see
Southern Pacific or Santa Fe
OR ADDRESS
H. H. VINCENT, General Agent
553 South Spring St., Los Angeles, Cal.

Yosemite Transportation Company

Operating Stages of Merced Canyon Route. El Portal to Yosemite Valley.

D. K. STODDARD, Manager
El Portal, California

Dividend Notice

The German Savings and Loan Society

526 California Street, San Francisco

For the half year ending June 30, 1908, a dividend has been declared at the rate of four (4) per cent per annum on all deposits, free of taxes, payable on and after Wednesday, July 1, 1908. Dividends not called for are added to and bear the same rate of interest as the principal from July 1, 1908.

GEORGE TOURNY, SECRETARY

Your Eastern Trip

SOUTHERN PACIFIC

May be arranged so that you may travel by way of

New Orleans and the Sunset Route
San Francisco and the Ogden Route
Portland and the Shasta Route

Enjoying the balmy air of the South or the cool and bracing air of the North.

Personally conducted excursions every day from Los Angeles via all routes without change to principal eastern points.

City Ticket Office:
600 S. Spring St., cor. Sixth
Southern Pacific

Household Department

FRONTIER SKETCHES.

THE first Fourth of July celebration in Colorado was pulled off in 1859 at a place called Mountain City which was the original mining camp of the Pike's Peak region, but which was subquently absorbed by the growing together of Central City and Black Hawk in Gilpin county. The event of the day was the oration of Green Russell who knew more about panning dirt than propoundlng history and this is what he said:

"Feller Citizens: Had I the outgushing eloquence of a Apollo, the chain lightning tongue of a Mercury, the winnin' grace an' lnnocent unconsarn of a Venus standin' ln quiet rumination on her adamatic base, I in me, you have entrusted it to my care. Can I do it justice? (Cries of "Tackle it anyhow, Green.') Go back with me, to th first original origin of this day. The soil of this now extensively discovered country had never yet felt the passionate kiss of a white man's foot. At the base of Plymouth Rock a band of injuns was camped. They arose one mornin' as had been their custom for years, an' prepared for the usual duties of the day. A warrior who had gone to the water's edge to wash his dusky face an' no less dusky hands suddenly disturbed the peaceful echoes with the startlin' cry: 'Sail, ho!'

"'Whereaway?" shouted the chief, in great agitation' .Thereaway,' he

FOURTH OF JULY.

We greet today our nation's birth,
When stars came down to shine on earth;
They are shining high at noon today
O'er our broad land with undimmed ray.

First they shone 'mid the clouds of night,
When patriots won dear Freedom's fight;
Erst they were brave and only few,
Sweet as the breath of morn's pure dew.

When morn oped wide the gates of heaven,
And darkness was by Glory riven,
Came streams of white and crimson bars,
Companions for the golden stars.

Now as great suns they shine afar;
How splendld is each growing star!
Shining from azure depths sublime.
Down o'er the ocean depths of time.

Long as the years shall live and die
New stars will come down from the sky;
Then climb aloft in flag of blue,
Which waves so proudly over you.

No! ne'er shall our bright stars grow dim,
That steadfast put their trust ln Him
Who sends them from His radiant throne,
As watch and warders o'er His own.

—Edwin Sleggins.

oould not sufficiently accord my thanks to the wisely discriminating committee of honored citizens who selected me as the oratorlcal luminary of this conspicuous occasion. (Applause.) Hence I will repress my gratitude and proceed to my theme. The subjeck around which I shall try to twine the laurel wreaths of eloquence on this conspicuous occasion is one which would rouse the fires of paterotlsm in the quiverless breast of a marble statute and cause its unsullya cold and silent lips to move in a burst of paterotic fervor. (Applause.)

"The day We Celebrate, Gentlemen my tongue falters w'en I contemplate the bottomless immensity of the theme and realize that, with the undylng confidencc you have ever reposed responded, polnting out over the breast of the discontented waves. Far out at sea a sail was discovered. Nearer and nearer it drew, risin' an' fallin' on the impatient waves, an' as it neared the shore the natives beheld with awe a lordly man in kingly dress lookin' through a telescope. I tell you, gentlemen, that man was Columbus, and he was at that moment engaged in discovering America. The natives drew back in timid alarm as the vessel approached an ground her prow into the sandy shore and a moment later Columbus stepped ashore an' claimed thls ge-lorious land an' planted in the sacred soil the great flag of freedom an' liberty, a counterpart of which is now afloatin' over us, thanks to the paterotic spirit of the boys who have contributed their overhalls and shirts (Wild applause.) That, feller citizens was the Fourth day of July an' ever since that day has been one of rejoicin over that fortunate discovery. Oh feller citizens—"

"Beggin' the speaker's pardon," said old man Gregory, who had gone down in the audience where he could better hear the judge, "but aren't you a little mixed in yer dates? We do not celybrate the diskivery of America today, but the birth of the immortal Washington. We are here—" "I will not permit myself to be interrupted. I know w'at I'm takin' about, an' if you are gropin' in blind ignorance, you should endeavor to suppress the fact an' set still an' try to learn somethin'." "I tell you, sir," replied Gregory, "we celebrate the birth o' George Washington an' not the landin' o' Columbus an' the Pilgrim fathers. I know fur my father fit under Washington." Just then Green Russell peeled off his coat and everybody fit so that the celebration broke up in a rough house. —Field and Farm.

GETTING ACQUAINTED WITH DAD.

I use' to think my papa was an awful solemn man,
An' when he was at home I never sung or yelled or ran
Buhcause I didn't dast to! An' buhcause when he'd come in
He's tired from talkin' business to the folks where he is been.
I use' to call him "father;" I don't half to any more
Buncause we've got acquainted like we never was buhfore,
An' him an' me, we understand each other an' are glad,
An' he don't care a little bit if I should call him "Dad!"

He stayed at home one day las' week, an' took me for a walk,
An' for a little while, why, I was 'most afraid to talk,
But pretty soon he ast me if I knowed what kind o' bird
Was singin' 'way up yonder, when its song was all we heard—
An' I told him it was a lark, an' then he told me why
It likes to sing, an' sing, an' sing away up in th' sky.
I was surprised, buhcause I never thought my papa knew
Th' leastest thing about th' birds, like other people do.

An' nen, why, purty soon he found a willow tree, an' made
A whistle for me, an' showed me how it could be played
By just a cuttin' little holes, till it was like a fife—
I never been surprised so much before in all my life.
An' he told me lots of thing' an' showed me how to see
Which way is north, by lookin' for th' moss upon a tree,
An' how a daddy long legs finds your cows 'at's ruuning loose,
An' how grasshoppers will set up an' spit tobacco juice!

An' lots o' other things! Why, say, you never could have guessed
My papa'd ever been a boy like me an' all th' rest.
He re-lly was, though, for I ast him if he'd been a boy
An' he said somepin 'bout th' days o' sunshine and o' joy,
An' he said he was a boy one time an' now was one again,
'At boys could still be boys, although they growed up to be men.
So him and me, we understand each other, an' I'm glad,
An' he don't care a little bit, if I should call him "Dad!"

—Chicago Evening Post.

ECONOMY.

Small Gilbert—Papa, didn't I hear you tell mamma we would have to economize? Papa—Yes, my son. Small Gilbert—Well, you might begin by getting me a pony; then I shouldn't wear out so many shoes.—Chicago News.

THE BUNGALOW.

There's one word I hear
  Wherever I go;
'Tis a queer importation,
  The word bungalow.

All over the land,
  The North and the South
The bungalow theme is
  In every one's mouth.

The master and mistress,
  The groom and the maid
Are studying plans
  To see how they're made.

One kind's built of plaster,
  Another of logs,
But all are constructed
  With queer little jogs.

There is one room in front—
  Half a dozen combined;
The others are fastened
  Somewhere on behind.

But then, after all,
  The most room is outside,
Where porches are broad
  And mosquitoes abide.

It's the funniest thing—
  Whatever I do,
I've just got to have
  A bungalow, too!

—E. Irving Farrington in Woman's Home Companion.

FLIES CAUSE EPIDEMICS.

The history of recurrent epidemics of contagious diseases, both in Chicago and throughout the country, is the history of unusual prevalence of the insect pest, the greatest of which is the summer fly pest.

The typhoid epidemic which ravaged Chicago in 1902, and which caused a death roll of 402 persons within three months, was directly traceable to insanitary conditions and the transmission of disease through the fly pest.

Chicago health officials of the health departments and physcians and surgeons after exhaustive experiments have declared that flies are the greatest common carriers of contagious diseases and the most deadly agents of infection. They have declared from time to time that at all cost flies and insects must be kept from foodstuffs, milk, and from living rooms in homes where there are cildren. Infectious children's diseases and the child mortality rate are caused almost wholly by the prevalence of flies in the home, it is said, and either direct infection or indirect infection through contaminated foods with which they have been allowed to come in contact.

The results of experiments by government surgeons and army physicians and other medical experts afford ample backing to the statement that of all summer dangers the fly pest is the greatest, and against which the least precautions are taken .

Convey Many Diseases.

The most common mode of infection by insects in our part of the world is undoubtedly by the indirect method, the infection of foodstuffs by insects which have come in contact with infected material. Cholera, typhoid fever, tuberculosis and perhaps dysentery are the diseases which are probably most often conveyed in this way. Most important for us is the connection between flies and typhoid fever and probably dysentery. The common house fly is the insect chiefly to be dreaded, for it has a far wider range of activity than has any crawling insect, and its presence is not regarded as a disgrace to a well-conducted household or institution, as is the presence of other insects. The conclusions are almost too obvious to need statement. Rapid disposal of all infectious material and scrupulous care in the extermination of all insects, especially the common housefly, should be among the most ordinary rules of household and institutional hygiene.—Chicago Tribune.

HOMELY HINTS.

A little of the outer part of orange or lemon peel, grated over a cake before the icing is put on, will flavor the cake all through.

If pies are allowed to remain in the pans, in which they were baked until cold, the under crust will be much more crisp than if put on plates when taken from the oven.

Never put a pan or paper over a cake while baking, as it is almost sure to cause the cake to "fall." If the oven is too hot, place a vessel of cold water therein. This will cause the temperature in the oven to fall several degrees.

Butter should never be melted before being added to cake mixture, as it will spoil the cake every time. In cold weather it may be softened a little, however. Always rub the butter and sugar together until a cream is formed, using for the purpose a cake mixer or wooden paddle.

Sponge cake and all others made with cream instead of butter require the addition of salt, no matter whether it is mentioned in the recipe or not. Remember to add salt to all cake mixtures in which butter is not an ingredient. A half teaspoonful of salt to a quart of batter is about right. The salt contained in butter is usually sufficient.

In cake baking, always use the best brand of baking powder. Cheap baking powders are worthless. If a good brand cannot be procured, a very satisfactory powder may be made by simply mixing soda and cream of tartar together in the proportion of one part of soda to two of cream of tartar. Take one-fourth pound of baking soda and one-half of pure cream of tartar, sift together several times and place in air-tight cans for use.

To make delicious, crisp cookies, take a quantity of pie crust made in the usual manner, add to it some brown sugar moistened with a little cold coffee, a generous sprinkling of ground cinnamon, a little soda or baking powder and enough flour to enable you to knead well, though the dough should not be too stiff. Roll out in a sheet about one-fourth of an inch thick, cut with a cooky cutter and bake in a rather hot oven. In making pie crust, if boiling water is used instead of cold for moistening the ingredients, the crust will be more crisp and a little less shortening required.

Someone who has tried it says that charcoal will heal an ingrowing toe nail when less simple remedies have no effect. Burn the head of a match and powder the charred part, pressing it down around the nail.

The white of an egg beaten up with a little sugar and the juice of an orange is a pleasant drink for an invalid.

Medicine which would injure the teeth may be taken through a bit of macaroni with perfect safety.

A mop wrung as dry as possible out of warm water with a spoonful of ammonia in it, will clean the sick room floor better than anything else. Sweeping should not be tolerated.

A fever patient can be made cool and comfortable by frequent sponging off with soda water.

Consumptive night sweats may be arrested by sponging the body nightly in salt water.

One in a faint should be laid flat on his back, his clothing loosened and then be let alone till consciousness returns.

For a corn or bunion paint over every day with the following solution: Collodion, one-half ounce; sodium borate, one-half dram; extract cannabis, one-half scruple.

An air cushion or hot water bag, partly filled with air placed under pillows in the go-cart, will prevent the jarring of the baby's spine of which the doctors complain in the use of go-carts.

Always iron embroidery on the wrong side so as to bring out the pattern.

A tablespoonful of kerosene in starch will keep it from sticking.

If you scorch an article badly when ironing, moisten it with lemon juice, rub in some salt and lay it in the sunshine. If it is only a slight scorch the sunshine alone will remove it.

If possible, sprinkle the clothes the night before ironing day. The dampness will be evenly distributed and they will iron easily next day.

Black goods will not look shiny and the white starch will not show on it if it is ironed on the wrong side.

To make an article very stiff add a teaspoonful of powdered borax to the cold starch.

To bleach handkerchiefs after washing, let them soak over night in water in which a bit of cream of tartar has been dissolved.

A cup of water drunk before meals will relieve nausea and dyspepsia.

HOW MUCH TO USE.

Below we give an answer to every "how much" question that can arise on baking day. Housekeepers should preserve the list:

One cup of sugar will sweeten one quart of any mixture to be served chilled or frozen.

One teaspoonful of extract will flavor one quart of custard or pudding.

One tablespoonful of extract will flavor one quart of mixture to be frozen.

One level teaspoon of salt wil season one quart of soup, sauce or vegetables.

The ordinary French dressing, made with three teaspoons oil, one and one-half tablespoons of vinegar, one-fourth level teaspoon salt, one-eighth level teaspoon pepper, will moisten one pint of salad.

One teaspoon of water or milk should be allowed for each egg in an omelet.

Allow four eggs to each quart of milk in making cup custards.

Allow from four to six eggs to each quart of milk in making a custard to be turned from the mold.

Rice will absorb three times its measure of water and a larger quantity of milk or stock.

One ounce of butter and one-half ounce of flour are used to thicken one cup of liquid in making a sauce.

Allow two level teaspoons of baking powder to each cup of flour when no eggs are used.

HOME, SWEET HOME.

The wife of a naval officer attached to the Academy at Annapolis has in her employ an Irish servant, who recently gave evidence of nostalgia.

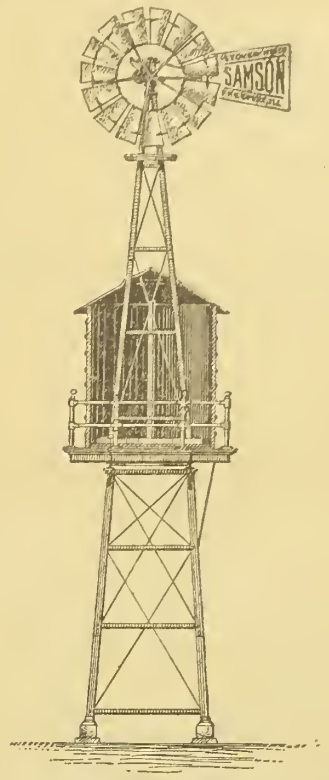
"You ought to be contented and not pine for your old home, Bridget," said the lady of the house. "You are earning good wages, your work is light, every one is kind to you, and you have lots of friends here."

"Yis, mum," sadly replied Bridget; "but it's not the place where I be that makes me so homesick; it is the place where I don't be."

Gridley is shipping large quantities of berries.

SAMSON WIND MILLS

Have double gears, removable bearings and center lift, which double the life of the mill. They will last longer, pump more water and give better satisfaction than any other WIND MILL.



This is an up-to-date Sub-structure, Tank and Wind Mill outfit complete; substantial, economical and attractive. We build all kinds. Write us or our general agents for full information and prices, description &c., before purchasing.

The STOVER MFG. CO.
FREEPORT - ILLINOIS
30 California Avenue
CRANE CO., LOS ANGELES and SAN FRANCISCO
General Agents for California

Irrigating Hose

12 oz. Canvas Coated or Plain. Good for several seasons.

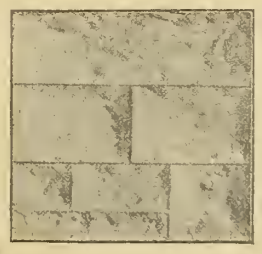
1¼ Inch
2½ "
4 "
6 "
9 "
13 Inch

Galvanized or Brass Couplings.
Prices on Application

Tents, Stack Covers, Picking Bags

The Wm. H. Hoegee Co.
INC.
138-140-142 So. Main St., Los Angeles
BOTH PHONE EXCHANGES 87

BROKEN ASHLAR ROCK FACE



Special molds to fit any machine or job made to order in three days. Living prices.

A. F. George
811 So. Spring
Los Angeles

The Produce Markets

Los Angeles Markets

LOS ANGELES, July 1, 1808.

Butter stands at last week's quotations with considerable weakness manifested. On Tuesday the highest bids made on 'change were a full ten cents under quotations. It is predicted that by Friday or Saturday there will be decided decline.

Wholesale quotations now are:

Creamery ex per roll..........52½
Firsts..........50
Dairy..........25
Cooking..........21
"Butterine"..........15@20
Eas' n extras..........50

Cheese.

Southern California..........15
Northern fresh..........13½@14
Longhorn..........16½
Eastern singles..........15½
Cheddars..........17
Imported Swiss..........28@30
Swiss..........18½
Oregon..........18
Limburger..........18

Eggs and Poultry.

Eggs have lost a cent during the week and at that the market is not strong. The receipts are not heavy, but the consumption is light owing to the warm weather so that cold storage is the principal consumer.

The wholesale trade are asking:

Eggs local candled..........22
Eggs case count..........19@19½
Firsts fresh..........22
Eastern fresh..........20@21

Wholesale prices..

Hens per lb..........10@12
Young roosters per lb..........17
Fryers..........17@20
Broilers per lb..........15@18
Roasters..........16
Old Roosters..........7
Turkeys..........16@18
Geese..........11@13
Ducks..........10@12
Squabs..........1.50@1.75

Live Stock.

The following quotations are f. o. b., Los Angeles, on all stock.

Hogs from 175 to 200 pounds..6¼ @6½
Prime steers..........4¼
Heifers..........3½@3¾
Calves per lb..........4½
Sheep ewes per head..........3.75@4.00
Lambs per head..........3.00@3.25
Wethers..........4.00@4.50

Potatoes.

Wholesale prices are:

Burbanks..........1.25@1.50
Sweet potatoes per bx new crop 2.00
White Rose new..........1.40@1.50
Lompoc..........1.50@1.60

Onions.

Bermudas per 100..........1.60@1.75
Bermuda per crate..........1.00@1.10
Silverskins new..........1.25
Crystal wax per crate..........1.25@1.50
Northern Red..........1.15
Garlic..........7

Vegetables.

The following are commission house prices; deduct freight and commission to secure farm prices.

Artichoke per box..........50
Asparagus per lb..........8@9
Asparagus green per box....2.00@2.25
Beets per doz..........30@40
Bell peppers per lb..........8@12
Beans limas per lb..........7
Beans string..........1
Cabbage sack..........40@50
Cabbage red per lb..........2
Celery per doz green hothouse..1.25
Corn per box..........40
Chili peppers per lb..........7@8
Cucumbers per doz..........30@50
Cauliflower per doz..........60
Carrots per doz..........35
Egg plant lb..........5@6
Green onions doz bunches..........20@30
Horseradish..........12½
Lettuce per crate..........60@85
Mint per box..........40
Okra..........9
Peas sugar per lb..........3@4
Parsley..........30
Parsnips..........35@40
Rhubarb per box..........50@1.00
Rhubarb northern..........1.50
Radishes per doz..........15@20
New summer squash per box..........15
Summer squash per box..........15
Salsify..........15@20
Spinach per doz..........15@17½
Turnips doz bunches..........30@40
Tomatoes per crate..........75@1.25

Citrus Fruits.

Navels fy off bloom..........2.00
Navels ch..........1.50@1.75
Valencias..........3.00
Grapefruit seedless..........2.75@3.00
Grapefruit seedlings..........1.75@2.00
2.25
Lemons choice..........1.75
Limes 15-lb box..........75

Fresh Fruits.

Wholesale prices on the market are:

Red Astrachans new..........85
Astrachans packed bx..........1.75
Crab Apples..........75
Apricots per lug bx..........35@50
Cantaloupe standard..........1.60@1.75
Cantaloupes ponies..........1.40
Cherries..........80@90
Cherries per lb..........8@9
Royal Annes..........85@90
Currants per box..........75@85
Dewberries..........4
Figs per lb..........5@10
Grapes Thompson seedless..1.00@1.15
Pears per lb..........5
Plums Burbanks per box....1.00@1.25
Plums Clymans..........1.00
Plums Kelsey..........1.50
Plums Tragedy..........1.00
Plum peach..........1.00
Peaches per lug box..........1.25
Raspberries..........4@5
Strawberries..........1@1½
Extra fancy..........10
Blackberries..........2@3
Loganberries..........2½@3
Goseberries..........8@12
Watermelons per lb..........1¾@2

Dried Fruits.

It now appears that apricots will rule low. One dealer said on the market Tuesday that he believed good dried 'cots would not command over 5 or 6 cents. The output is predicted to be over a thousand cars.

Notwithstanding the reported shortage of prunes, the market remains flat. "Nothing doing" is the report with all dried fruit dealers.

Wholesale prices are:

Apricots..........7@9
Evap apples fy per lb..........7¼
Figs loose white..........5
Figs blk..........4
Peaches..........10
Pears..........12½
Nectarines..........14
Prunes..........4@4½

Beans Dried.

Wholesale prices:

Limas per ctl..........5.50
Pink No 1..........3.80@3.90
Lady Washington..........4.50@4.75
Small white..........4.75@5.00
Black Eyes..........3.80@4.00
Garvanzas..........4.80@5.00
Lentils..........9@10
Bayou..........3.90@4.00

Nuts.

Almonds per lb..........15@16
Pecans polished..........16@17
Peanuts Virginia..........8½
Peanuts California..........8½
Walnuts No 1 SS..........14

Honey.

Wholesale quotations:

Extracted Water White..........7@7½
Extracted white..........7
Comb W W..........16
Comb white..........15

Hay.

Price paid to producers f. o. b. Los Angeles are as follows:

Barley No 1..........13.00@15.00
Barley No 2..........12.00@14.00
Alfalfa northern per ton....12.00@13.00
Alfalfa local..........12.50@14.00
Plain oat No 1..........15.00@17.00
Wheat No 1..........13.00@15.00
Wheat No 2..........12.00@14.00

Grain.

Wholesale selling price f. o. b., Los Angeles.

Wheat new per ctl..........1.90
Wheat in 100-lb sacks..........1.95
Kaffir corn..........1.80
Barley..........1.55
Corn Eastern sacked..........1.90
White oats..........1.90

Feed Stuff.

Selling price F. O. B. Los Angeles as follows:

Cracked corn..........1.95
Shorts..........1.80
Bran..........1.65
Oil cake meal..........2.50
Feed meal..........2.00
Rolled barley..........1.70

BUSINESS DAIRYING.

"It has been proven by repeated experiments, and by the most up-to-date dairymen all over the country, that dairying improves a farm more than any line of farming.

It costs less to produce a ton of butter than it does to produce a ton of wheat. A ton of wheat takes $7.00 worth of fertility from the soil. A ton of butter takes 50 cents worth of fertility from the soil. Wheat is worth $20.00 per ton, and butter over $400.00 per ton."

The above is the opening of a neat little illustrated booklet issued by the Sharples Separator Co. of West Chester, Pa. Dairymen will find it well worth ... for

San Francisco Markets

SAN FRANCISCO, June 30, 1908.

Butter.

Butter strengthened the last of last week, but has again sagged to a half cent under last week. It is now firm in tone.

California extras per lb..........22½
California firsts..........22
California seconds..........21
Fresh pasking stock..........20½
Fresh packing stock No 2..........20½

Cheese.

California young American fy....13½
Firsts..........13
California flats fy..........11
Firsts..........10½
Young America fy..........14½
Eastern fy..........16
Oregon fancy..........11½

Eggs and Poultry.

Eggs are one cent under last week's quotations and very firm at that quotation with receipts moderate. Wholesale prices are:

Fresh ranch eggs..........21
Eggs firsts per doz..........20½
Eggs second per doz..........18
Eggs thirds..........17½
Eastern seconds..........17

Hens per doz..........5.00@6.50
Hens extra..........6.50@7.50
Young roosters..........7.50@8.50
Old roosters..........3.50@4.50
Fryers per doz..........6.00@7.00
Broilers per doz..........3.00@4.00
Geese per pair..........1.75@2.00
Goslings per pair..........2.00@2.50
Ducks young..........4.00@5.00
Turkeys per lb..........14@16
Pigeons..........1.35@1.50

Live Stock.

San Francisco prices gross weight:

Steers No 1..........3¾
Do second quality..........3¼@3½
No 1 cows and heifers..........3@3¼
Hogs 80 to 200 lbs..........6
Hogs 200 to 300 lbs..........5½@5¾
Calves per lb..........3½@4½
Lambs spring..........4¾@5
Wethers No 1..........4
Ewes No 1..........3½

Potatoes.

Wholesale market quotations:

Oregon Burbanks..........90@1.15
New potatoes per ctl..........75@1.50
Early Rose new..........80@1.00

Vegetables.

Wholesale quotations:

Asparagus per lb..........2@6
Bell peppers..........6@8
Celery per doz..........35@50
Cucumbers per box..........65@85
Chili peppers per lb..........6@10
Corn per sk..........3.00@3.50
Egg plant per lb..........6@7
Green peas per lb..........3½@4
Lima beans..........6@7
Squash per box..........50@85
Onions green per box..........50@60
Okra per box..........2.00
Rhubarb per box..........60@75
Tomatoes per box..........75@1.00
String beans..........2@6
Wax beans..........2@5
Garlic new..........4@5

Onions.

Eastern red..........90@1.10
Bermudas per crate..........50@65
Australian Brown..........3.00@3.50
Red..........60@70
Silverskins..........1.00@1.10

Citrus Fruits.

Navels..........1.00@2.00
Navels ch..........1.90@2.10
Valencias fancy..........1.50@3.50
Grapefruit seedless..........3.50@4.00
Grapefruit seedlings..........1.75@2.25
Tangerines..........1.50@2.00
Lemons..........3.50@3.75
Limes..........4.00@5.00

Fresh Fruits.

New green per box..........50@1.00
Apricots per box..........25@50
Blackberries per chest..........2.50@3.50
Cherries white per drawer..........35@60
Cherries Royal Annes..........50@65
Cherries Black..........50@65
Cherries bulk..........5@6
Currants per chest..........5.50@7.50
Figs per crate..........25@60
Grapes per crate..........1.00@1.25
Gooseberries per chest..........1.00
Gooseberries per lb..........3@7
Loganberries per crate..........75
Melons specials..........50@65
Melons ponies..........1.00@1.25
Melons st..........1.25@1.50
Pears green per box..........40@75
Plums per box cherry..........30@50
Plums Clymans..........15@40
Plums Tragedy..........25@75
Peaches per box..........35@50
Aligator pears per doz..........7.00@9.00
Raspberries per crate..........1.50@1.75
Raspberries per chest..........3.50@7.00
Strawberries per chest..........3.00@6.00
Longworths per chest..........7.00@8.00
Watermelons per lb..........1½@2

Dried Fruits.

1908 prunes being contracted for a 4 cents for Sinta Claras at 3¾c for outsides.

New crop contracts for future delivery, 25-lb. lots—Apricots, per lb. Standards, 6½@6¾c; choice, 6¾@7c.; fancy, 8@8½c.

Peaches—Standards, 5½@5¾c; choic 5¾@6c; fancy, 6½@7c.

Apples (evap.)..........5@
Apricots per lb st..........6¼@6½
Apricots choice..........6¼@6¾
Apricots fy..........7¾@8½
Figs white..........2¼@3½
Nectarines..........10@1
Plums pitted..........12@1
Peaches st..........5¼@5½
Peaches ch..........5½@5¾
Peaches fy..........6¼@6¾
Pears..........5½@
Prunes 4-size bag basis..........2¾@3½

Raisins—1907 crop, f. o. b.: Cluster and Layers, 20-lb. bxs—Imperial Clusters, 6-crown, $2; Dehesa Clusters, 5 crown, $1.75; Fancy Clusters, 4-crown $1.40; London Layers, 3-crown, $1.10 do, 2-crown, $1.05. Seeded, 25-lb. bxs—Fancy bulk, per lb., 5½@6c; Choic bulk, 5½@6c. Loose Muscatels, 50-lb bxs—Standard, 4-crown, 4c; do, 3 crown, 3¾c; do, 2-crown, 3½c; Seedless, 3¾c. Seedless Sultanas—Unbleached, 4¼@4½c. Thompson Seedless—Unbleached, 4½@4¾c. Drie grapes, 3c.

Nuts.

Walnuts S S No 1 new crop..........13½
Walnuts No 2..........10½
Almonds nonp..........11½@1
Almonds IXL..........10@10½
Ne Plus Ultra..........10@10½

Beans Dried.

Limas..........5.00@5.1
Pink..........3.25@3.4
Small white..........4.50@4.6
Large white..........4.40@4.5
Lady Washington..........3.45@3.5
Black eyes..........3.40@3.6
Red kidneys..........2.75@3.0
Garvanzas..........2.25@2.7
Bayo..........3.25@3.4
Horse beans..........2.25@2.4

Hops.

Hops per lb..........3½@6
Hops old fancy..........1½@

Honey.

Clear white comb..........16@1
Amber..........12@1
Extracted w c..........7@7
Beeswax No 1 per lb..........28@
Beeswax No 2 per lb..........25@

Hay.

Shipments of hay for the week just ending show a considerable increase over the report of last week, 3860 to in comparison with 3150. Because of these heavy arrivals and the continued dullness in trade, the market has weakened materially. Yesterday with arrivals of about 1800 tons the market was badly demoralized and all receivers work strenuously to dispose of their consignments. Many sales were made at low prices and it was generally conceded that with this break but little hope could be had of healthy state of affairs here for a long time to come. Hay is offering from every side with buyers exceedingly reluctant to pay the asking price. Although the crop is none too large yet the demand here is excedingely limited and it is now generally conceded that prices will have to range on a more moderate basis throughout the remainder of the harvest season.

Aside from local trade being very quiet we find that shipments from San Francisco are exceedingly light. The market has enjoyed the bulk of the trade with the Hawaiian Islands, but now because of lower prices in Seattle, large quantities of grain hay are being shipped to Honlulu from that Port. For many years timothy alone was handled in the northern market but now grain hay is becoming quite a factor there.

Choice wheat hay..........15.00@16.
Good wheat hay..........13.00@14.
Other grades same..........11.00@12.
Wheat and oat..........11.00@15.
Tame oat..........11.00@15.
Wild oat..........10.00@13.
Stock hay..........8.00 to 10.
Alfalfa..........9.00@12
Straw, per bale..........50@

Grain.

Wheat No 1..........1.62½@1
Barley No 1..........1.27½@1.3
Barley new..........1.27½1
Corn small yellow..........1.72½@1.7
Oats white..........1.45@1
Oats gray..........1.50@1

Feed Stuff.

Bran per ton..........31.00@32
Feed cornmeal per ton..........39.00@40
Cracked corn per ton..........40.00@41
Rolled barley per ton..........28.0029
Oil cake meal per ton..........36.25@38
Cocoanut cake per to..........26.00@27
Middlings..........34.00@35

Citrus Market

LOS ANGELES, July 1, 1908.

alencias are going forward in mod-te quantity and are being received y fairly well.

emons are firm and meeting good nand.

pments.

itrus shipments to date aggregate 58 cars, of which 3386 were lemons. same date last season 24,429, of ich 2528 were lemons.

NEW YORK, June 26.—Three cars lencias, two St. Michaels, two na-s, one sweet and one mixed sold. rket is unchanged. Weather clear,

NAVELS—	Avg.
ndard Or County	1.40
wk S A Ft Ex	2.10
lly-Ho S B Ft Ex	2.65
VALENCIAS—	
hard Nat Or Co	3.70
andard Nat O Co	2.30
gnum Bonum J A Maddock	3.85
s D M Ft Ex	3.90
rrot S A Ft Ex	3.00
ariposa Cal C U	3.50
MERITERRANEAN SWEETS—	
ger S B Ft Ex	2.70
oral S B Ft Ex	2.30
ST. MICHAELS—	
l Mission C C Chapman	1.80
rrot S A Ft Ex	2.70
lden Eagle C C Chapman	1.75

CLEVELAND, June 26.—Weather rm. Market steady on lemons, ak on oranges. Two cars sold. even cars on track.

ST. MICHAELS—	
oral S B Ft Ex Colton	2.25
LEMONS—	
ail S T Ft Ex La Manda	3.75
non S T Ft Ex La Manda	3.40
ir Beauty S T Ft Ex La Manda	2.90

CINCINNATI, June 26.—Weather arm. Market steady. Six cars sold. hree cars on track.

SEEDLINGS—	
reyhound S A Ft Ex N Pom	2.65
ST. MICHAELS—	
olunteer S A Ft Ex N Pom	2.65
LEMONS—	
oldfinch S S Ft Ex El Modeno	2.40
ational E Peycke	2.35
essinas	2.85

ST. LOUIS, June 26.—Weather fav-able. Market firm on good fruit. even cars sold. Nine on track.

NAVELS—	
ankee Doodle High Ft Ex	3.05
SWEETS—	
agle High Ft Ex	3.10
loral S B Ft Ex Colt	3.35
ankee Doodle Hig Ft Ex	1.85
RUBY BLOODS—	
ankee Doodle High Ft Ex	1.75
VALENCIAS—	
ger S B Ft Ex Colt	3.70
loral S B Ft Ex Colt	3.50
ancho S B Ft Ex Colt	2.95
ST. MICHAELS—	
agle High Ft Ex	3.25
ankee Doodle High Ft Ex	2.75
LEMONS —	
xcellent C F As Santa Paula	3.30
reyhound S A Ft Ex San Dim	3.40
ridal Veil P & McKevitt	3.80
obster Cal Cit U	1.05
unside S P C F A Santa Paula	2.50
uck S A Ft Ex San Di	3.10
hite Cross P & McKev	3.20
agle High Ft Ex	2.90

NEW YORK, June 29.—Nine cars of alencias, three of sweets, two of na-els, one of St. Michaels and two of edlings were sold. Market is un-hanged. Weather is hot and cloudy.

NAVELS—	
arrot San Antonio Ft Ex	2.90
awk San Ant Ft Ex	2.30
VALENCIAS—	
urora fy o r E Peycke Co	3.75
limax exc o r Peycke Co	3.25
ountain Lion fy Speich &Co	2.85
hittier Semi-Tropic Ft Ex	3.75
ico Semi-Tropic Ft Ex	2.55
is Duarte-Mon Ft Ex	3.85
ed & Blue Label o r T C C F Ex	3.20
Whittier fy A C Denman Sons	3.90
Whittier ch A C Denman Sons	3.55
Independent fy Grs Ft Co	3.65
Independent ch Grs Ft Co	3.60
Independent ch Grs Ft Co	3.00
Orchard o r Nat O Co	3.55
Standard st Nat O Co	2.75
MEDITERRANEAN SWEETS—	
Puritan San Ber Ft Ex	3.00
Dan Patch o r San Ber Ft Ex	2.65
Pony San Ber Ft Ex	1.80
Whittier fy A CDenman Sons	3.30
ST. MICHAELS—	
La Mesa Riv Ft Ex	2.95
GRAPEFRUIT—	
Whittier fy seedless	3.85

PHILADELPHIA, June 29.—Four cars of Valencias, one of seedling, one of mixed and two of lemons were sold and nine cars are on track. Weather is warm. Market is easier.

VALENCIAS—	
Forget-me-not T C C Ft Ex Por	3.21
Blue Flag ex fy Spence Ft Co	3.45
Niagara fy o r Ste Ft Co	3.30
Defender xc Alt Ft Co	3.27
Foothill fy Limoneira Co	3.10
Lighthouse st Cal Cit U	2.05
MEDITERRANEAN SWEETS—	
Lighthouse st Cal Cit U	1.48
BUDDED—	
Red Globe Riv Ft Ex Riv	2.11
LEMONS—	
Golden Riv Ft Ex Riv	1.53
Queen Bee Queen Col F E Cor	1.70
Royal Queen Colony Ft Ex Cor	1.39
Old Baldy xfv Cal Cit U	1.61
Lighthouse st C CU	1.39

CINCINNATI, June 29.—Weather is hot and muggy. Six cars were sold and five on track.

NAVELS—	
Duck San Ant Ft Ex San Dim	2.00
LEMONS—	
Commercial A H Ft Ex Prenda	2.35
Plain Ends Cal Cit U	1.00
Sardonyx ch Cal Cit U	1.25
El Toro Cal Cit U	1.15

BOSTON, June 29.—Eight cars were sold and thirty are on track. Weather is hot and muggy. Market easier.

NAVELS—	
Black Hawk off bloom A H Ft Ex	2.00
Puritan San Ber F E Rialto	3.20
ST. MICHAELS—	
Volunteer San Ant F E N Pom	2.70
Rey Semi-Tropic Ft Ex Fer	2.40
Tunnel Semi-Tropic F E Fer	2.20
Arrowhead San Ber Ft Ex	2.70
VALENCIAS—	
Mountain Lion fy Speich & Co	4.05
Producers fy Red O P Co	3.85
Aloha ch Red O P Co	3.60
MERITERRANEAN SWEETS—	
Rey Semi-Tropic Ft Ex Fer	3.00
Tunnel Semi-Tropic F Ex Fer	3.80
Aloha ch Red O Pack Co	2.45

ST. LOUIS, June 29.—Weather stormy. Eight cars were sold and fourteen are on track.

NAVELS—	
Pan American o r Cov F E	2.00
Sunset Brand Sunset Ft Ex Or	2.40
ST. MICHAELS—	
Yankee Doodle High Ft Ex	2.15
Or. Run (half boxes) Sun Ft Ex	1.45
GRAPEFRUIT—	
Orchard Run Sunset Ft Ex	1.80
BUDDED SEEDLINGS—	
Yankee Doodle, High Ft Ex	1.80
LEMONS—	
Our Pride High Ft Ex	1.70
La Paloma Riv Ft Ex	2.25
Greyhound San Ant F Ex San D	3.30
Bridal Veil o r P & McKev	3.45
Coyote O K Ft Ex	3.00
Pride of California Riv Ft Ex Riv	1.60
Duck San Ant Ft Ex San Dim	2.40
White Cross P & McKev	2.50
Pride of California (half boxes)	.75

PITTSBURG, June 29.—Eleven cars sold and fifteen are on the track. Weather is warm. Market is firm on good stock.

NAVELS—	
Crusader o r C J Shepherd	2.50
Red Globe Riv Ft Ex Riv	2.15
VALENCIAS—	
Violet D M Ft Ex Duarte	3.70
Jasmine Duarte-Mon Ft Ex Dua	2.75
Oaklcaf T C C Ft Ex Porter	2.70
Full Value T C C Ft Ex Porter	2.10
Blue Jay O K Ft Ex	2.65
Owl O K Ft Ex	2.80
MEDITERRANEAN SWEETS—	
Coyote O K Ft Ex	2.35
Blue Jay O K Ft Ex	2.00
Orchid fy Atland Ft Co	2.70
Golden Scepter o r Rialto O Co	2.80
Highlander ex fy H F G Assn	1.90
Cactus ex c H F G Assn	1.60
ST. MICHAELS—	
Blue Globe Riv Ft Ex	2.90
Red Globe Riv Ft Ex Riv	2.50
LEMONS—	
Lakeside	2.60
La Colina	2.70
Sunside S P Ft Ex Santa Papla	2.30
Blue Jay O K Ft Ex	2.10

CLEVELAND, June 29.—Six cars were sold and ten are on track. Weather is hot and muggy. Market is firm on good fruit.

VALENCIAS—	
Blue Globe Riv Ft Ex Riv	3.60
Red Globe Riv Ft Ex Riv	3.25
MEDITERRANEAN SWEETS—	
Rancho San Ber Ft Ex Colt	1.60
California Orange Riv Ft Ex Riv	2.00
Red Globe Riv Ft Ex Riv	2.05
ST. MICHAELS—	
Blue Globe Riv Ft Ex Riv	3.35
Setter Riv Ft Ex Riv	2.55
Palm Tree Riv Ft Ex Riv	1.90
Blue Globe Riv Ft Ex Riv	1.35
Blue Globe Riv Ft Ex Riv	2.80
Red Globe Riv Ft Ex Riv	2.40
LEMONS—	
Pride of Corona Q C F E Cor	3.35
Corona Beauty Q C Ft Ex Cor	3.05
Pet San Ant Ft Ex San Dim	3.50
Greyhound San Ant F E San Di	3.30
Duck San Ant F E San Dim	2.65

A farmer at Santa Ana has been awarded $2000 damages because of having purchased seed which he asserts was to be beardless barley, which proved on harvesting to be nothing more or less than the common bearded barley.

Tulare county Valencias are all gathered.

A FEW POINTS ON PUMPING PLANTS.

One of the essential points on a pumping plant is to have the best possible power to drive your pump. It is now an established fact that the gas engine is the most economical and satisfactory power within the means of the farmer today.

The next point is to choose your gas engine. In doing this one should look to simplicity and durability rather than cheapness. Put an expert on almost any gas engine and he can make it run. The average farmer has not the time to become an expert gas engineer; he is too busy being an expert farmer; therefore wants a gas engine that can easily be understood and which will practically run itself. To fill these conditions a gas engine must first have few working parts and, second, these parts must be easy to get at and their reasons for existence must be apparent to any man of ordinary intelligence. Then last, but not least, a gas engine must be easy to start.

From time to time mention has been made in these columns of the Stover gas engine, which is handled by Livingston & Lee. This firm has been handling the "Stover" on this coast for a number of years and have gradually pushed it to the front until now it is acknowledged as a factor in the gas engine community; in other words, it is a standard engine. They consider themselves in a position to demonstrate that the "Stover" has all the above mentioned qualities as durability, reliability and simplicity. They have a sample engine actually pumping water under a lift and are ready to prove to you that the engine is running on California distillate. If you are interested in gas engines, we feel sure that a call on Livingston & Lee, 354 South Los Angeles Street, will be to your advantage.

Yolo county is endeavoring to bring about an extensive construction of Macadam roads.

The Oldest Savings Bank in California

FOUNDED IN 1857

The Savings and Loan Society

101 Montgomery St., Cor. Sutter St., San Francisco

CAPITAL FULLY PAID $1,000,000.00

Exclusively a Savings Bank whose policy is for ***Conservatism*** and ***Safety,*** the result of ***50 years experience.***

Deposits may be made and withdrawn by mail.

San Francisco Savings Union

Founded June 18, 1862 Northwest Cor. California and Montgomery Sts., San Francisco

Conducts a Savings Bank Business Exclusively

Capital Paid Up, $1,000,000.00. Surplus, $1,163,281.00.

Total Assets, $29,946,358.00.

E. B. POND, President.

W. C. B. de FREMERY AND C. O. G. MILLER, ... Vice-Presidents.

LOVELL WHITE, Cashier. . . . . R. M. WELCH, Asst. Cashier.

DIRECTORS: John F. Merrill, Wm. A. Magee, W. C. B. de Fremery, H. C. Breeden, Jacob Barth, Fred H. Beaver, Wakefield Baker, C. O. G. Miller, E. B. Pond.

Every facility afforded for opening accounts and making deposits and withdrawals by mail. Correspondence invited.

Home Made Ice Cream and Candy

Appeals to Everyone in the Family

Has been going since the very day of publication. Full of all that is known about Home Made Ice Cream and Candy. Nearly Three Hundred Formulas.

Make 60 cent Chocolates for 15 cents

Taffies Nut Candies Butterscotch Everything

A 50c Book **You Get It Free With the Cultivator** For 1 Year's Subscription

Paid in advance. For old or new names who pay for the coming year. Enclose a $1.00 bill and ask for the "Candy Book." Address

Cultivator Pub. Co., Los Angeles, Cal.

DON'T BUY GASOLINE ENGINES UNTIL YOU INVESTIGATE "THE MASTER WORKMAN," a two-cylinder gasoline, kerosene or alcohol engine, superior to any one-cylinder engine; revolutionizing power. Its weight and bulk are half that of single cylinder engines, with greater durability. Costs Less to Buy—Less to Run. Quickly, easily started. Vibration practically overcome. Cheaply mounted on any wagon. It is a combination portable, stationary or traction engine. SEND FOR CATALOGUE. **THE TEMPLE PUMP CO., Mfrs., Meagher and 15th Sts., Chicago.** THIS IS OUR FIFTY-FIFTH YEAR.

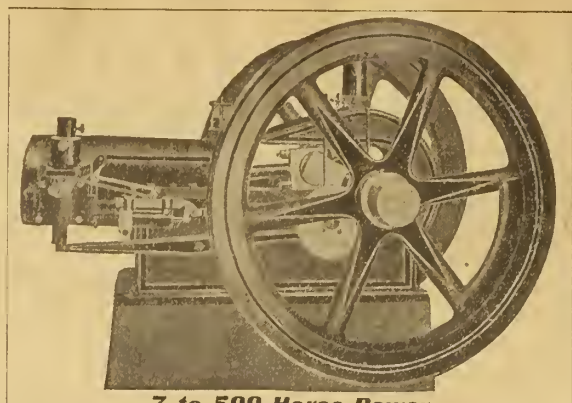
For Mehring Foot-Power Milking Machines see O. J. Weber Co., 555-557 S. Los Angeles St., Los Angeles, Cal.

The Popular Western

Built In the West Best For the West

FACTORY AT YOUR DOOR

LONGEST LIFE LEAST FUEL FEWEST PARTS ALWAYS GOES



7 to 500 Horse Power

Irrigation Plants Designed Constructed Installed

U. S. GOVERNMENT TEST

35 H.P. Western Engine Been Run 2 Years

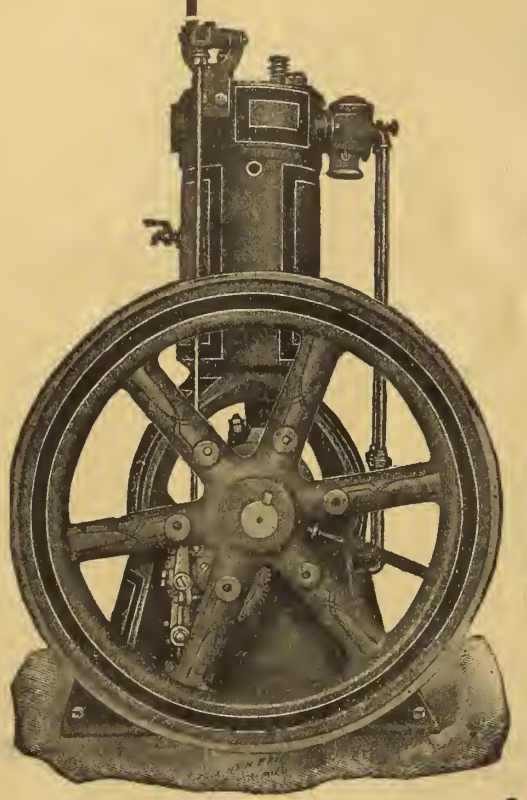
RAN 87 DAYS DAY AND NIGHT

With One 20-Minute Stop to Lace a Belt
Send for the Copy of Test

Western Gas Engine Co.

Works and Office:
908 to 932 No. Main St. Los Angeles, Cal.
Send for Catalogue.

That Small Engine You Have Wanted So Long



For a few weeks we will make special low prices on all our small engines.

HORIZONTAL AND VERTICAL
BE SURE AND SEE US

Norton Engine and Power Co.

201-3 No. Los Angeles St., Los Angeles, Cal.

THE Latest Deep Well Turbine Pump

Guaranteed to deliver from 100 gallons per minute upwards, depending on the diameter and capacity of well, from a depth of 50 to 300 feet below the surface. Can be either belt driven or direct connected to electric motor as occasion requires.

Write for Catalogue 46B.

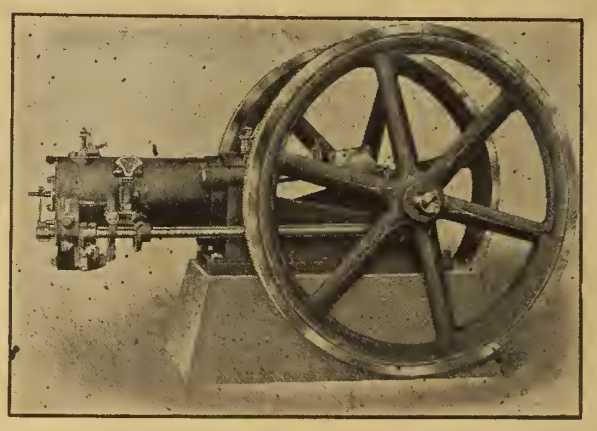
A deep well pump that ha no valves or plungers to wea or get out of order, no gear consequently no noise or breal ing of teeth.

Compact, durable, alway primed and ready to operate constant flow, hence increase capacity of well.

This type of pump is fast tak ing the place of Vertical Steam Deep well Plunger and Prope lor Pumps.

Byron Jackson Iron Works

Main Office and Works:
Carlton Station
West Berkeley, Cal



THE DOAK GAS ENGINES

Stationary, Portable Hoisting and Marin

All sizes from 3 to 50 H. P. ca ried in stock at all times. you want the best, the mo reliable, the most economic and the simplest engine in th market, **write for our la test catalogue before yo buy.** Take broad gauge loc train and get off at Oak Stree Station.

Doak Gas Engine Co

Business Office: Rooms 86-87-8 Bacon Building, Oakland

Sales Office and Factory: 4th an Madison Streets, Oakland

All Soils Alike to Wood Pipe

The heaviest adobe, the most corrosive alkali, the lightest sand; all alike where Wood Pipe is used.

It Resists Them All

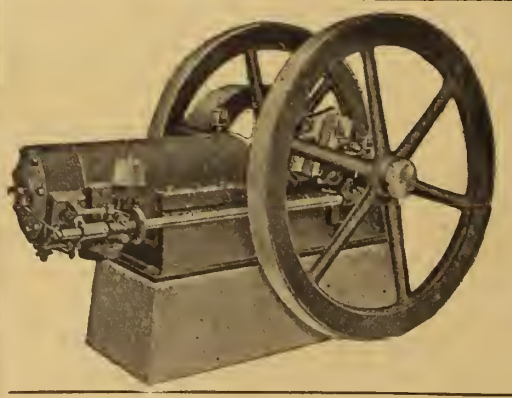
Wood Saturated. Air Excluded—Can't Rot. Metal in Bulk, Galvanized, Asphalted—Can't Rust. High factor of Safety in Binding—Can't Leak.

Prices, specifications, hydraulic data and general information gladly furnished upon request.

Continuous Stave Pipe. Machine Banded Stave Pipe

NATIONAL WOOD PIPE COMPANY 404 Equitable Savings Bank Building LOS ANGELES, CAL.

318 Market Street, SAN FRANCISCO
Northern Office, OLYMPIA, WASH.
Dooly Block, SALT LAKE



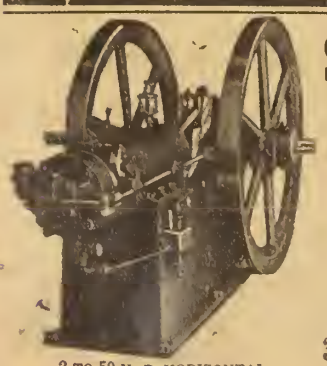
HERCULES DISTILLATE ENGINE

Heavy, Strong and Simple in Construction

The Right Engine at the Right Price

Horizontal and Vertical; All Sizes. Bu direct from the manufacturer and sav agent's commission. Send for our new Catalogue C.

The Hercules Gas Engine Works
Alameda, Cal.



2 TO 50 H. P. HORIZONTAL

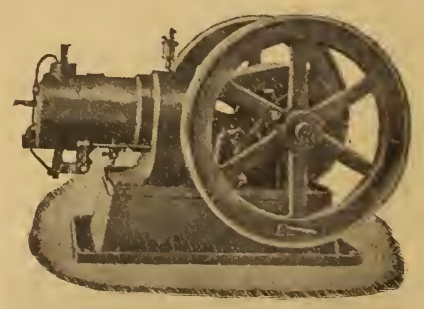
STOVER GAS ENGINES

The simplest and the best. We have had long experience installing pumping plants. We know our business. See us before you buy. 2 to 50 H. P.

LIVINGSTON & LEE

352 So. Los Angeles St., Los Angeles, Cal.

Olds Gasoline Distillate Engines



For all purposes, Stationary, Portable and Spray ing. All sizes from 2 to 100 H. P. Simple, dur able, warranted, are giving fine satisfaction t purchasers on the Coast. Prices and circular mailed on application to

The Compressed Air Machinery Company

Dealers in all kinds of machinery

34 to 40 Jessie St., San Francisco, Cal.

SEND FOR BULLETIN NO. 1

When writing advertisers, mention Cultivator.

LIBRARY
OF THE
UNIVERSITY OF ILLINOIS.

California Cultivator

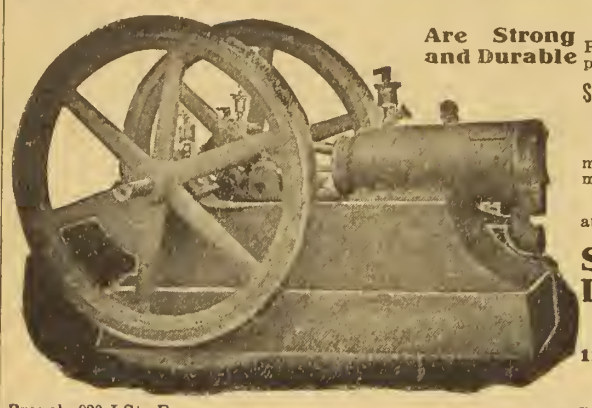
Published Weekly — One Dollar a Year

Los Angeles — July 9, 1908 — San Francisco

A Familiar Sight in the Summer Time

The Destruction of Our Forests by Fire

Samson Gasoline and Distillate Engines



Are Strong and Durable

Fully Guaranteed in every Particular. We make complete Irrigation Outfits.

Samson Centrifugal Pumps
Are the Best.

Enlargement of our factory makes it possible for us to make prompt delivery.

Send for our new catalogue and estimates.

Samson Iron Works

Office and Factory:
1100 to 1198 Aurora St.
Stockton, Cal.

Branch: 920 J St., Fresno

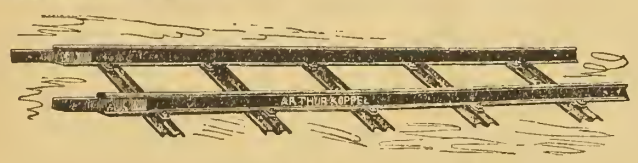
553 S. Los Angeles St. Los Angeles

A Railway on the Ranch

Saves Much of the Hard Labor

The equipping of the ranch with a ***Portable Railway*** is a very ***Profitable Investment*** and ***not*** very expensive.

Our booklet S. F. 60 gives several suggestions for applying it to the Dairy and Ranch.



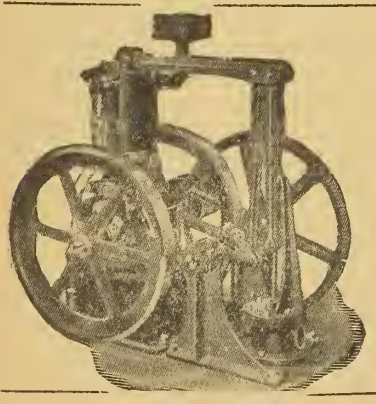
Works at Koppel, Penn.

ARTHUR KOPPEL CO.

212 So. Los Angeles St.
Los Angeles, Cal.

Chronicle Building
San Francisco, Cal

Eastern Offices:
Pittsburg
New York
Chicago
Boston



A Handy Little Engine

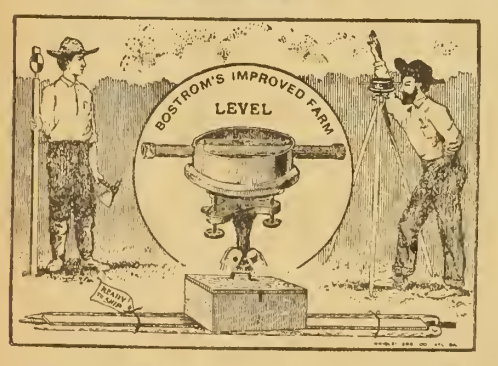
Just the thing to run the feed cutter, the pump, the churn, the grinder, or anything on the ranch. It's well named

The Little Wonder

Write or call on

Wm. Gregory

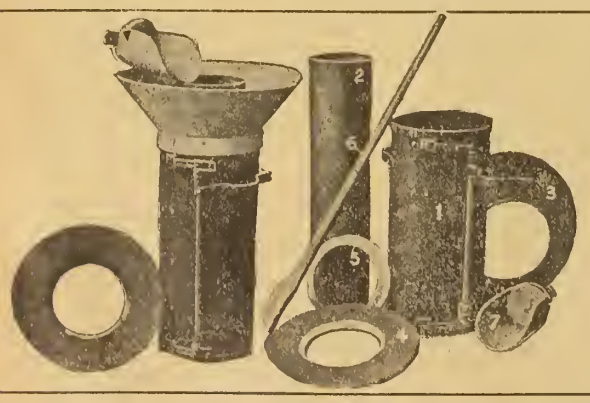
602 No. Main St. Los Angeles, Cal.



BOSTROM'S IMPROVED FARM LEVEL

Used for irrigation and drainage work. Cheapest and best level yet invented for farm use. Has the latest patented improvements in simplicity and usefulness. Can be operated by any one. Price including telescope tripod and target rod $12.50.

PALACE HARDWARE COMPANY
581 Market Street, San Francisco
Coast Agents. Send for Circular



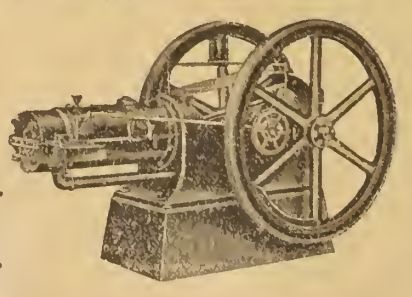
CEMENT PIPE TOOLS

Do you want to make money? Here is your chance. Get a set or two of our pipe tools, make up a stock of pipe and do contracting of installing irrigating systems. Your neighbors are wanting something to save water and labor. Here it is. Write for our Brown Book. It contains much information for those interested in irrigation.

KELLAR & THOMASON
COVINA, CALIFORNIA

Commercial Gas Engines

Are what all engines should be:
Simply Perfect and Perfectly Simple

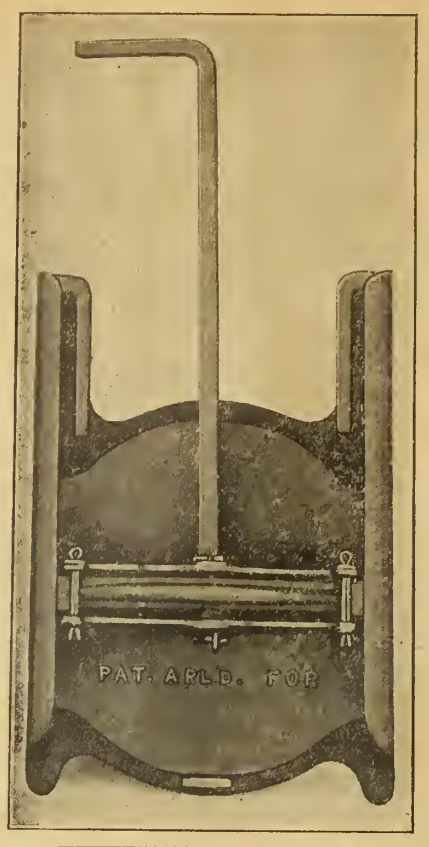


Modern in every detail. An inspection will convince you.
Write for Bulletin No. 12

Commercial Engine Co.

953-955 N. Main St.
Los Angeles, Cal.

When writing advertisers, mention Cultivator.

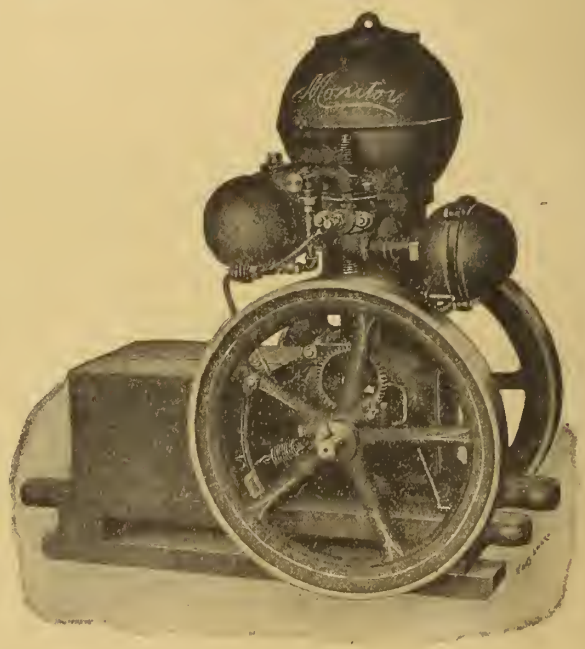


Pomona Pressure Gates

A Great Aid in Irrigation

These gates are made similar to the ordinary slide gates except that there is a locking device interposed to lock the cover in any desired position or to press the two faces together to make a WATER TIGHT joint, from either direction when closed. The parts are very simple, only a tapering screw with a split tapering nut socket. By turning the handle to the right tightens, and to the left loosens the cover or it may be removed entirely.

Pomona Mfg. Co.
Pomona, Cal.



MONITOR ENGINES

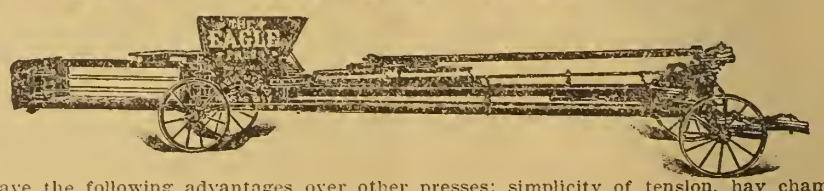
Economy and Simplicity

Far in advance of competitive engines. Don't fail to personally inspect this engine before buying. Popular priced. Handsome illustrated booklet on request.

Arnott & Company, Inc.

112-114-116-118 South Los Angeles St. LOS ANGELES, CAL.

EAGLE HAY PRESSES



Have the following advantages over other presses; simplicity of tension, hay chamber being 9½ inches larger at bottom than hopper making it the easiest press to feed on the market. Has steel channels and parts are strongest and simplest of any press made. Over 600 in use south of Fresno and not a secondhand press on the market. Write for descriptive catalogue, or call

Los Angeles Vehicle & Implement Co.

Successor to L. M. Davenport
110-112 No. Los Angeles St., Los Angeles

RUBBER SANDED ROOFING

Requires no paint; easy to put on—and stays on; Rain-proof and Sun-proof.

We want you to know Rubber Sanded Roofing. That is why we wrote "Roof Talk," a 24-page Booklet about Roofs and Roofing, illustrated from cover to cover. Let us send you a copy of "Roof Talk"—together with Samples of Rubber Sanded Roofing, and put you in touch with our local agent in your community.

Pioneer Roll Paper Co. Department 11 Los Angeles, California

Makers of Rubber Sanded and Rubber Flexine Roofing and Refiners of Asphaltum

California Cultivator

Vol. XXXI—No. 2 Los Angeles, California, Thursday, July 9, 1908 Subscription $1 a Year

Alexander Craw

A Tribute by JOHN ISAAC of Sacramento.

WHILE other men have been more widely known, no other was more genuinely respected, and his loss will come as a severe blow to hundreds with whom he was brought into contact in our State and in Honolulu, where duty called him during the latter years of his life. He was a man of most loveable disposition, deeply conscientious and scrupuously honest. For many years he served with the State Board of Horticulture as Chief Quarantine officer, and later as Deputy State Horticultural Commissioner, and during this time he held a prominent position, not only before his own State, but before the whole world, and in all matters connected with his favorite science, Mr. Craw's word was accepted without question. He stood first among all men in our State as authority on all matters concerning horticulture and entomology, and his opinion was sought and accepted by the highest authorities on earth. His reputation for truth and thoroughness was not confined to his own small circle, but extended to all sections and when the Hawaiian Islands needed a reliable man to protect their horticultural interests Mr. Craw was naturally the man selected. Yet, with his innate modesty, it was long before he would accept the tempting offer held out to him to transfer his labor from his loved State to the islands, but after much importuning on the part of the growers of the islands he consented and entered on his new field of labor in which he continued until the hand of death marked him for a victim.

Alexander Craw was born in Ayrshire, Scotland, fifty-seven years ago. In his boyhood he was apprenticed to a gardener and florist. With characteristic energy, he took up his work determined to master its every detail. It was in this practical school that his attention was first turned to that field in which he was ultimately to hold so brilliant a place—entomology. His employers son recognized that in the young man they had a character of more than ordinary worth, and rapidly advanced him, until he became manager of a large branch of their business and, as such, traveled extensively over Europe and the British Islands. His excessive labors added to the strenuous efforts he brought to play, undermined his health and he was advised by his physicians to make a change. In accordance with this, he set sail for California crossing the Isthmus, and arriving in San Francisco in 1873. He went to San Diego, where he was engaged by Mr. Asher for some time, after which he accepted an offer from the Wolffskill orchard, which stood on the present site of the Arcade Depot, at Los Angeles, to take charge of that historical and valuable property, and it was there that he was when he recived the appointment, in spite of his own protests, as State Horticultural Officer.

From the time of acceptance of the management of the Wolffskill orchard until after his removal to the Hawaiian Islands he retained his residence in Los Angeles which, to the time of his death he regarded as his home, and his last wish was that his remains should be brought here for interment, which was done. He leaves a devoted wife and four sons, to mourn his loss beside the host of acquaintances he had made in the course of his long residence among us, for no one knew Alexander Craw but to love him, and his loss is not confined to his immediate family but extends to the State.

There was something almost feminine in the swetness of his character, and he would at any time much rather suffer a wrong than inflict one.

Varieties of Grapes for California

J. W. MILLS Writes of Varieties Which He Has Observed Have Done Well in This State

THERE ARE many hundreds of varieties of grapes growing on this coast and in California, all of recognized good quality in their places. There are a number of comparatively recent introduction, from five to twenty years back, that are of special interest.

The two earliest grapes known are Luglienga and Persian No. 21. We do not know which is the first to ripen in the desert regions, they being about even near the coast. The name Luglienga is descriptive, meaning "July Grape." It is a favorite in Italy and in Piedmont is called "Bona in Ca," meaning good to grow on the house. In Germany it is called "Seidentraub," meaning silk grape, so called from the soft silky feeling it imparts to the mouth when being eaten. It is amber in color, turning yellow when overripe. It was a most delicious grape when grown at the old Pomona Experiment Station and ripened about a month earlier than Thompson's Seedless. This grape has remained unpopular in most parts of California because it is a very shy bearer. At the Pomona Station it is considered a failure on acount of this, producing barely enough fruit to furnish samples. The station sent cuttings of this grape to Indio some three or four years ago where they are now in full bearing. These vines last year produced a crate to the vine and sold for better than $4.50 per crate. At Indio they were pruned short. This grape has not been tested under refrigeration and it is still an open question if they will come out of it in good shape. Some varieties of white grapes come out discolored. We were told by one of the best authorities on marketing of grapes that Luglienga had the appearance of being one of those that would not stand refrigeration. For local market it has not been excelled. It has gone through the mail from Brawley to New York and arrived as half cured raisins.

Persian No. 21 is about as early as Luglienga and may be earlier. This point is not positively determined yet by the station. A red Persian grape called Paykanee Razukee is very early and a strong grower. It is not far behind the two mentioned above but is liable to be a poor color in the desert regions even though it proves to be a good bearer. It is not prolific in the Pomona valley, and is subject to coulure.

Trenthem Black is a grape grown by Mr. E. D. Sturtevant of Hollywood and is of exceedingly fine flavor and one of the early sorts. Purple Damascus is a variety that is a practical failure in the Pomona valley some seasons and at other times produces a fair crop. It is too well known to need a description. It is one of the purple grapes that mature well in the desert country and develops a fairly good color. It has proven itself a good shipper, having brought the highest returns of any variety shipped out of the Imperial valley last year. It is a long pruner and should be grown on a trellis. When pruned short in the Imperial valley, it is slightly affected with coulure on the inside of the vines, but where it is exposed to the open it sets a good bunch.

The above grapes all ripen early and down to the Thompson Seedless period which is about the first of September from Riverside toward the sea. In the Imperial valley and Coachella valley they are ripe in May and June.

Thompson Seedless is one of the most prolific when grown under ideal conditions. It is wonderfully prolific on the medium heavy soils of the Sacramento and San Joaquin valleys and on the desert lands of the south where there is some clay mixed with the sandy soils. There is a pink variety of Thompson Seedless introduced into this State by the Agricultural Department of the State University, some years ago. It was thought at the time that it would quickly supplant the regular variety as a shiping grape, but the latter sems to hold its own.

Muscatello fino is a black grape with a very strong musky flavor and very sweet. It is one of the most popular grapes for the home vineyard. It will not produce well if pruned short but is very prolific when pruned long. It may be pruned half long with good results.

Pizzutello de Roma is a popular grape where known, for arbors and is of good flavor. It has long cresent shaped berries on a long loose bunch, making a very attractive appearance. The fruit is greenish yellow, tender and crisp. It is not prolific but a regular bearer in our light and dry soils.

Chavooshee is a Persian grape of great promise

Continued on page 31.

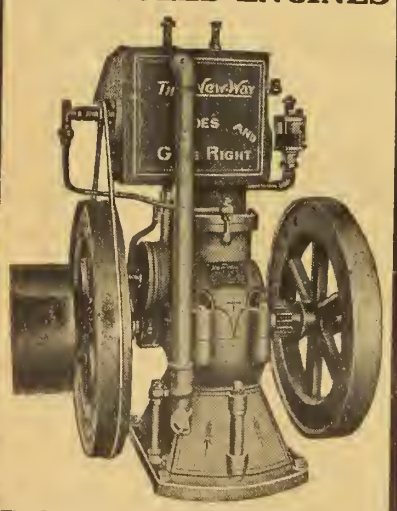
HEIDER

2, 3, 4 and 5-Horse Eveners
For SULKY, GANG and DISC PLOWS
Ask Your Dealer for "Heider" Eveners, or Write Us
HEIDER MFG. CO.,
Mfrs. of all kinds of Eveners, Ladders, Etc.
Dept. 3. CARROLL, IOWA.

Irrigating Hose

12oz. Canvas Coated or Plain. Good for several seasons.
1¼ Inch
2½ "
4 "
6 "
9 "
13 Inch
Galvanized or Brass Couplings.
Prices on Application
Tents, Stack Covers, Picking Bags
The Wm. H. Hoegee Co.
INC.
138-140-142 So. Main St., Los Angeles
BOTH PHONE EXCHANGES 87

THE NEW WAY AIR COOLED ENGINES



The first and only SUCCESSFUL AIR COOLED Gasoline engine manufactured
BENSHAW-BUCKLEY & CO.
Distributers for California Nevada and Arizona
San Francisco 219-221 Spear St. *Los Angeles* 335-337 E. Third

THE "BOSS"
Tree Protecter

Made of Yucca Palm
Is cheap, durable and quickly put on the tree. It prevents Rabbits from destroying your trees. A sure protection against frost, sun-burn, grasshoppers or dry winds. Can be easily removed; will last for years.
Send for samples.

Prices

12 inch long,	$ 9.00	per 1000
14 inch long,	10.00	per 1000
16 inch long,	11.50	per 1000
18 inch long,	12.50	per 1000
24 inch long,	15.00	per 1000
30 inch long,	17.00	per 1000

Agents Wanted Everywhere
YUCCA MANUFACTURING COMPANY
1380 Willow Street Los Angeles, Cal.

When writing advertisers, mention Cultivator.

With the Citrus Growers

GUM DISEASE.

THE Cultivator has had much recently on Gum Disease, but the perplexing nature of the disease causes many questions to appear as to cause and remedy. So we give the following which was written by Judge A. F. Call of Corona. It is being circulated by the California Fruit Growers' Exchange:

"I am in receipt of a letter from Mr. Kendall, concerning the gum disease, and, as I have made a close study of this question, both in Florida and California, I thought perhaps you might wish to give our growers the benefit of my observations. I found on coming to California, early last year, that I had twelve hundred lemon trees out of three thousand, more or less affected with gum, and four hundred orange trees out of sixteen thousand affected with so-called scab. After treatment for one year, all the gummed lemon trees, with the exception of four, have either fully recovered, or are well on their way to recovery. and now of a deep green color, well set with fruit, and all of the scabbed orange trees are showing marked improvement and on the way to recovery. I have made it a point to investigate these troubles in nearly every colony in California and several districts in Florida and believe that I know the cause and a cure for this trouble and am satisfied that if drainage conditions will permit, these troubles can be prevented and trees that are not entirely gone can be cured.

"I came to the conclusion that this trouble was not a disease but was simply a mechanical proposition, and to demonstrate this, I inoculated several healthy trees by inserting chunks of gum under the bark, with the result that no tree was affected. On the other hand any injury to the bark will cause the gum to exude. This may be caused in a variety of ways. In some instances I found a small root encircling the trunk of the tree just above the crown roots, which had become imbedded in the bark and caused a stoppage of the flow of sap. I other cases, I found that hard ground had buried some pebbles in the bark, with the same result. In other cases I found that hot manure around the trunk of the tree deteriorated the bark. In other cases, standing water around the trunk of the tree had injured the life of the bark, but by far the most common cause, and in fact perhaps ninety per cent. of all the cases, is caused by earth around the trunk of the trees above the crown roots. As I look at it, the reason of this accumulation of earth affecting the bark is, that the bark, which nature intended to be above the ground, is more tender than the bark on the root, which nature intended to be below ground, and becomes easily affected, when deprived of air and in contact with the earth, especially wet earth.

Same on Both.

"The gum disease of the lemon trees and the scab disease of the orange trees is substantially the same trouble, and comes from the same cause and that is an injury to or deterioration of the bark of the tree which impedes the downward flow of sap. I believe an examination will show a darkened or deteriorated condition of the bark somewhere on the trunk of the tree below the point where the gum is exuding.

"The treatment should commence with the removal of the cause and that is by removing the earth down to the crown roots and giving the tree proper drainage. This should be done very carefully, as there is danger that the hoe or shovel of the workman will bruise or cut the trunk or crown roots and thus cause additional trouble. When the earth has been removed, that portion of the trunk, which has been covered with earth, should be whitewashed, to prevent injury caused by sudden exposure to the air and sun. The next thing to do is to split the bark to permit the escape of the surplus sap, to prevent its accumulation and consequent destruction of the bark. This should be done by making a narrow furrow from one-sixteenth to one-eighth of an inch in width from the limbs to the ground. About four of these furows are usually sufficient at about equal distances apart.

"It is a great mistake to make several short gashes around the bud, as is frequently done, for this brings the surplus sap all to one point and causes a greater injury. It is also a mistake to remove the bark, as is frequently done, which is supposed to be affected, for this causes a big wound, which it takes a long time to cure, and my experience has shown that the largest part of the bark, which appears to be affected, will recover when the cause is removed and the surplus sap permitted to escape. After this is done, all the affected portions and furrows through the bark should be thoroughly covered with neatsfoot oil. There is a double advantage in the application of this oil. One is that it has a softening effect on the bark and aids in restoring its sap carrying power. The other is that it prevents the gum from sticking to and hardening on the bark and facilitates the removal of the gum, which will flow from the furrows.

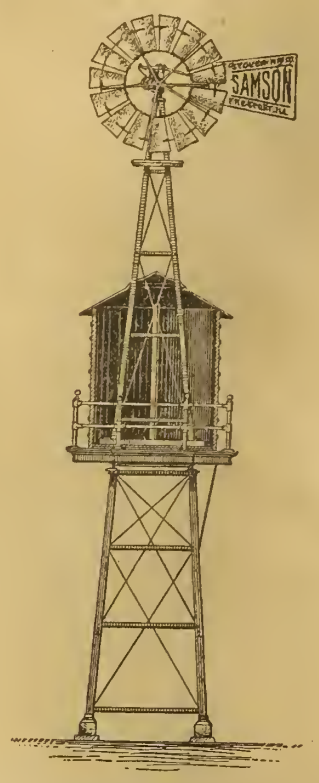
Watchfulness.

"After the trees have been treated they should be carefully watched and two or three weeks after the first treatment, they should be gone over again, and gum removed from the furrows, with a second application of the oil, and this watchfulness and care should be continued until the gum has commenced to form.

"It will be found that at the end of the year, all the trees not badly affected will have recovered and those which have been affected over considerable area will show some affection just above the old scars, owing to the injury of the bark still existing, with not enough new growth to carry all the sap. Most of the trees carrying a large amount of sap may have been so badly affected, that there is not sufficient amount of bark left to cary so much. When this condition is found, or, in fact, wherever the tree is more than half girdled or more than half of the bark is seriously affected or dead, the top should be cut back in proportion to the injured bark. That is, if one-half of the bark has been destroyed, one-half of the top should be removed. If only a strip two inches wide of good bark remains, but a very small top should be left.

"Last year I had one tree with a trunk about six inches in diameter, that only had left a strip of bark one inch in width. I cut the top of this tree severely. Now that strip is three

SAMSON WIND MILLS
Have double gears, removable bearings and center lift, which double the life of the mill. They will last longer, pump more water and give better satisfaction than any other WIND MILL.



This is an up-to-date Sub-structure, Tank and Wind Mill outfit complete; substantial, economical and attractive. We build all kinds. Write us or our general agents for full information and prices, description &c., before purchasing.

The STOVER MFG. CO.
FREEPORT - ILLINOIS
30 California Avenue
CRANE CO., LOS ANGELES and SAN FRANCISCO
General Agents for California

Gold Medal
Citrus Trees
Are fully described in our treatise of Citrus Culture, which is a trifle the best thing of its kind ever published. Contains about 50,000 words and 100 illustrations telling about oranges and lemons from the seed bed to the bearing orchard. Price 25 cents. Remember we are the largest producers of Citrus Trees in the world and stand ready to serve you with the finest nursery stock that can be grown. Correspondence invited.
San Dimas Citrus Nurseries
San Dimas, Cal
R. M. Teague, Prop.

PIPE Before Ordering Pipe Elsewhere Get Our Prices

80,000 ft.	½ in.	Pipe
95,000 ft.	¾ "	"
65,000 ft.	1 "	"
150,000 ft.	1¼ "	"
150,000 ft.	1½ "	"
90,000 ft.	2 "	"
30,000 ft.	2½ "	"
10,000 ft.	3 "	"
20,000 ft.	4 "	"
1,000 ft.	5 "	"
3,000 ft.	6 "	"
10,000 ft.	4	Screw Casing
5,000 ft.	3½ "	"
2,000 ft.	3 "	"

All this pipe is guaranteed to be as good as new. We give you the same guarantee as you can get with new pipe.
For prices and general information address
Weissbaum Pipe Works 135 11th St. San Francisco

EDISON PHONOGRAPHS, VICTORS, ZONOPHONES
Records and Supplies, delivered at your nearest railroad station upon receipt of full retail price. Write for particulars and ask for catalogue. Peter Bacigalupi & Sons, 1113-15 Fillmore St. San Francisco

inches in width, the top has grown vigorously, the tree is full of fruit.

Stitch in Time.

"I believe that any one having a grove showing gum should not wait for it to develop, but should prevent it by carefully removing all the earth to the crown roots, and most growers will be astonished to find how deep their trees are in the ground. This is partly caused by original deep setting, partially by plowing the earth to the trunk of the tree and leaving it there, and partially by sediment carried from the upper end of the grove to the lower and there stopped by a dike or head ditch.

"After the earth has been removed, it is important to prevent a basin for water being formed and therefore the excavation should not extend more than a foot from the trunk of the tree. The trees that are very deep should be boxed with a box about two feet square, extending above the ground. The trees that are not so deep should be filled with loose sand or gravel, as this will permit some aeration and will not cause the disease that a hard or wet earth will cause.

"In making the furrows in the trees, I had a little tool made which is much better than a knife, by taking a thin bladed blacksmith's knife and having the blacksmith bend it in the middle to a sharp angle and then sharpen it. It will cut a furrow about one-sixteenth of an inch wide and avoid the danger of gashing or haggling the tree, which might be done by a careless workman with a knife."

THE AVOCADO OR ALLIGATOR PEAR.

This remarkable fruit comes to us primarily from Mexico or Central America. Indeed, it is quite within the limits of legitimate speculation to assume that its original home may have been the lost continent of Atlantis; that it has come to us by way of Yucatan or Guatemala, and that in Atlantis it was brought to such a high state of perfection that after thousands of years of comparative neglect it still retains qualities of wonderful interest.

In the opinion of very many people the Avocado is the best of all fruits. I know of none whose votaries are more enthusiastic. It makes the best of all salads, as it stands midway in its composition between fruits and nuts, embracing many of the attractive qualities of both. There seems to be a fascination in its flavor which lingers on the palate, and to those who know its taste, the price, like that of champagne, is a secondary consideration. Hence we find fruits imported from Mexico, Hawaii and other countries selling at $3 and more per dozen wholesale and the demand constantly growing.

It is hardly probable that here in California we can ever produce fruit quite equal in size to the largest from the tropics, but there are smaller and hardier varietiees which are no whit inferior but rather better in flavor and richness which have been found to do well. These are from local or Mexican seeds whose ancestors for many generations have grown in a climate much like our own. In Southern California there are perhaps a hundred trees old enough to bear. Of these about ten produce abundant and regular crops. Fortunately they are so located as to indicate that there is a considerable area adapted to Avocado. Of these first class trees one or two grow at Hollywood, two or three in Los Angeles, one at Monrovia, one at Santa Ana, and I have two or three. One of those at Hollywood is probably the most prolific, but the size of the crop and the amount received for it I hardly dare to put in print, lest I appear foolish to the uninitiated.

It is from these trees that we must establish our groves. Probably the safest plan is to plant in orchard seedling trees, direct from the can or pot in which they are started, and bud over those which prove unsatisfactory, for many have found the Avocado, like its near relative the Camphor, rather cranky about transplanting when balled, though it buds readily enough.

As there is an uncommonly great variation in the time of blooming and also in the period required for the fruit of different types of trees to come to maturity, an orchard may be obtained by selection which will bear continuously. This is, of course, very desirable to the consumer and material to the market grower, as there is plenty of demand at all times.

To conclude with just a word of prophecy or query rather: The next "craze" will be about the Avocado?"—C. P. Taft, at Whittier Institute.

THE DESTRUCTIVE PEST IN ITALY.

The cultivation of olive oil which constitutes an important industry of Italy, is suffering severely from the ravages of a virulent pest—the keiroun or oil worm. In the northern parts of the country the oil yield has been in great demand owing to its low acidity and almost complete lack of smell. Up-to-date methods of gathering and grinding the olives together with improved preserving processes are being adopted with the result that increased demands for the product from various parts of the world have arisen, but the poorness of the crops has considerably depreciated the supply with the result that prices have increased. Outside of Italy the greatest bulk is purchased by Great Britain, but for the past few years exporters have been draining their reserves and as these are now very low the oil promises to become a luxury unless some expeditious means of combating the havoc wrought by the oil worm can be discovered.

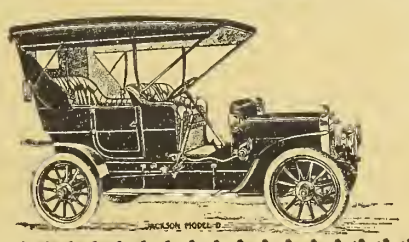
The government has granted a subvention for investigating the disease and the discovery of an efficient remedy. The oil worm when in the fly stage infests the young fruit and inflicts widespread injury. Fairly satisfactory results have been secured by the utilization of a dachicida or larva-killer invented by Mr. de Cillis. This is a solution composed of molasses 65 parts, honey 31 parts, glycerine and arseniate of soda each two parts. This is mixed with water in the proportion of one part to nine parts of water and sprayed on the trees by means of a hand pump, the application being made from four to six times during the season. That it is efficacious to a certain degree is borne out by experiment, for areas so treated have shown only from ten to twenty per cent of olives attacked, while in adjoining districts not so sprayed the damage has aggregated as much as 80 per cent of the crop. The remedy, however, is not of an exterminating nature, especially in those places where the trees grow to a height of 60 feet. In order to bring about the complete extermination of the pest it is urged that the government should pass a measure ordaining the collection of the crop by the end of March at latest. By such means the fly would be starved out of existence. Observation has shown that the pest always attains alarming proportions after a plentiful crop when harvesting is perforcedly delayed, the fruit remaining on some of the trees as late as May or June, when in other districts the fruit is just commencing to form. As a result the fly forsakes the older trees for the young, tender fruit, while the mild weather which prevails at that period favors its rapid multiplication. By legislating the harvesting of a crop not later than March, when other trees are only just sending forth the blossoms, the fly, unable to obtain any subsistence during the interregnum, would be starved to death.—Scientific American.

Genasco
Ready Roofing
is not only waterproof, but stays waterproof. Made of Trinidad Lake Asphalt.
Ask your dealer for Genasco. Write for Book 35 and samples.
THE BARBER ASPHALT PAVING COMPANY
Largest producers of asphalt, and largest manufacturers of ready roofing in the world.
PHILADELPHIA
New York San Francisco Chicago

Orange Seed Bed Stock
FOR SALE
Fine Fibrous Roots. Have about 30,000 left.
John M. Carse
Tel. Home 40. 121 No. Wilson Ave., Alhambra, Cal.

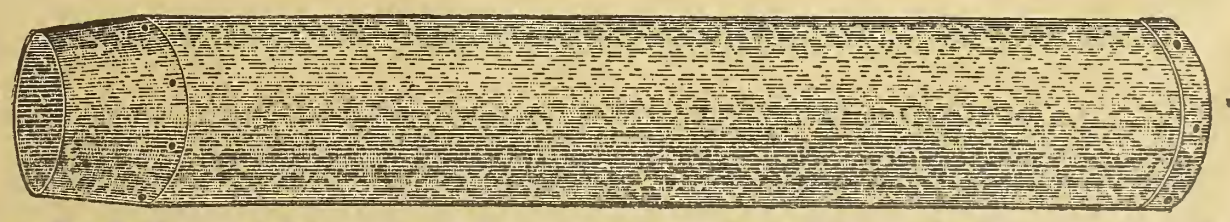
Orange Seed Bed Stock
Fine, Large, Healthy Stock For Sale Cheap. Call on or address
T. J. Locke, 27 Union Avenue, Alhambra, Cal.
P O. Box 168. Home Phone Black 177

Orange Seed-Bed Trees
Sweet and Sour Stock. Plant now.
SOUTHLAND NURSERIES
F. H. DISBROW, Proprietor
R. F. D. No. 1, PASADENA, CAL.
Phones: Main, 949 Home, 2520

No Hill Too Steep FOR No Sand Too Deep
Jackson Automobiles

RUNABOUT, 18 H. P. - $ 900
TOURING CARS, 24 H. P., $1350 and $1650
TOURING CAR, 35 H. P., 4 cyl., $2150
GENTLEMAN'S ROADSTER, - $2150
Send for Catalogue and List of Used Cars
Agents Wanted Where Not Represented
A. W. GUMP AUTO CO.
1118 S. Main St., Los Angeles

Citrus Trees
For Season 1908
Valencia, Eureka Lemons, Thompson and Washington Navels, Grape Fruit
C. L. McFarland & Co.
Riverside, Cal.

TENTS
Fumigating and Lemon Curing Tents our Specialties
Irrigating Hose, all sizes. Prices and Samples quoted upon application. Write your wants
Wagon Covers, Hay Covers, and Canvas Covers of Every Description.
Mellus Bros. & Co
Phones—Home, F 4871; S. S., Main 3500
250 East Fifth St., Los Angeles, Cal.


AMERICAN SURFACE IRRIGATION PIPE
SAVES WATER, GRADING AND TIME
The only way to Irrigate Alfalfa. Cheaper than Flumes. This is only one of our specialties. We make Riveted Water Pipe in lengths of ten feet from single sheets. Let us prove to you that we make Pipe and Tanks right. WRITE FOR CATALOGUE.
AMERICAN STEEL PIPE & TANK COMPANY
FORMERLY TALLERDAY MANUFACTURING COMPANY
636-7 Pacific Electric Building Los Angeles, Cal

Deciduous Fruit Culture

TABLE GRAPES ON RESISTANTS.

A Cutivator representative recently amongst the vineyards near Martinez found some little concern regarding condition of the grape vines, which have been grafted on resistant stock. They have grafted large growing heavy vines on the slower growing roots, which has caused the trouble which some ascribe to some unnamed disease. Charles Baumgardt one of the oldest and largest growers there, however, informed the Cultivator representative that it is neither a disease nor an insect, but gives his belief in the following interview.

* * *

The resistant vine is too light for such large growing vines as Tokays and Cornichons. They form too heavy a trunk for so slight a root. They require a large amount of sap and draw too heavily upon the root which causes its ultimate death.

The people who are not acquainted with the resistant stock think it is taken with some disease and do not realize that the root is unable to bear the burden placed upon it. Heavy fertilization will help to prolong the life of the root.

The resistant stock is good for wine grapes, especially for the Zinfandels, as they do not grow such stocky vines.

Wine grapes grow best on the hillside or high land, and when grown under these conditions have a larger content of sugar, than if grown on the lower and richer soil.

The table grapes, however, have grown larger and better grapes, of better keeping quality, on the lower land. Table grapes, in my opinion, are always best grown on their own stock.

On the question of plowing, Mr. Baumgardt is decidedly opposed to deep plowing. It cuts the feeders from the vines and causes damage, which is sometimes ascribed to phylloxera. Shallow plowing for vineyards is best, and should not be too close to the vines. Plow less and cultivate more.

Vines often die from neglect, as many farmers allow their hogs to die from not giving them proper conditions. Let the farmer who has sickly-looking vineyards reform his cultivation and general care of the vineyard and give to it his best and most intelligent attention.

Mr. Baumgardt has cared for his vineyard for about 22 years and has taken much money for it, and it is today one of the best of commercial vineyards.

PRUNE DROP.

Regarding the prune drop, which has been so extensive this year as to be almost a disaster, the San Jose Times says:

The point has been reached now when it can be definitely stated that the prune crop will be very light. Young fruit fell from the trees in large quantities and thus what promised at the budding period to be a bountiful harvest has dwindled away. Fruit growers themselves are unable to determine just what has caused the young prunes to drop from the trees. All kinds of theories are advanced, but the most plausible seems to be that the sudden climatic changes are responsible for the prune crop shortage. Thrips can not be charged with all the damage, or even with a tenth of it. While thrips did some damage, the extent of their ravages this season is very limited. Fungi have not been numerous this season, and they can not be blamed for the almost unprecedented dropping of prunes from the trees.

A condition which is taxing the brains and energies of the scientific men of California confronts the prune growers of this and other sections of the State. All over California, where the prune is grown in commercial quantities conditions similar to those in Santa Clara valley are found. The young fruit will drop from the trees, and as yet no successful preventive has been discovered. Experiments are being carried on in an effort to overcome this serious drawback to one of the greatest branches of the fruit industry of this State.

POWELL TO WORK IN THE NORTH.

G. Harold Powell, to whom the citrus fruit industry of Southern California owes so much for his investigation into the cause and prevention of decay in oranges in shipment, will carry on a series of investigations along similar lines in relation to deciduous fruits, and for this purpose has established quarters in Sacramento, where in connection with Prof. Steubemrauch, he will work during the shipping season this summer. A meeting was recently held with the fruit shippers in Sacramento and arrangements made for carrying on the work, such funds as may be necessary to this end being guaranteed. If. Mr. Powell accomplishes half as much in preventing the decay of deciduous fruits in shipment as he has with citrus fruits, his labors wil be of inestimable value to the State. Some experiments on a small scale with grapes were made at the end of the last shipping season, and these gave good promise and encouraged the growers to further efforts this season, and it has been in response to the demand of the deciduous fruit shippers that Mr. Powell has widened his work in this State.

SUBTERRANEAN FRUIT PESTS.

Aerial insects, those which work above ground and in the open, are of comparatively easy control. We can reach them with sprays or poisons or caustic washes, and while it requires much trouble and considerable expense to control them, we can, if we please, hold them in check. Subterranean pests, however, are quite another matter. These are those which burrow beneath the ground and are safely out of reach of ordinary applications. In this group are the dreaded phyloxera of the grape, the wooly aphis of the apple, cut worms and the myriads of smaller pests which have been so far beyond our reach, and which have carried on their destructive work in spite of all our efforts to check them. The Cooper Research Laboratory of Berkhamstead, England, one of the largest and most reliable institutions of its kind in the world, claims to have discovered a preparation which will penetrate the soil and destroy subterranean pests as readily as sprays or gases will destroy aerial forms. This substance is in the form of a powder and is dusted over the surface and covered. It has been named "Apterite," and writing of it Professor Walter E. Collinge says: "Apterite is quite distinct from, and a great advance upon any of the so-called insecticides, for the active principle works upward and downward." If apterite will do even a part of what is claimed for it, it will prove one of the greatest boons the orchardists and agriculturists have ever had, for it is the underground pests which do the greatest damage at the present time.—San Jose Times.

CORRECTIONS OF NAMES.

In the "Cultivator" for June 4th there appeared a very interesting article giving both the scientific names and common names of our better known insects.

I want to call attention to a few corrections, however, that should be made. The Association of Economic Entomolgists has a committee which has been at work for several years securing all the uniform names for our common insects. This committee has from year to year prepared lists which have been submitted to the leading entomologists of the country for their consideration and approval. Such names as were unanimously approved were then submitted to the National Association of Economic Entomologists, and when unanimously supported by that body were finally recommended for exclusive use in all publications. A great proportion of our California insects have not yet come under the scrutiny of this committee. Thirteen of the names given in the article referred to, however, are of insects that have been officially christened, and eleven of these are incorrectly given in the article mentioned. The corrections are as follows:

Instead of cottony cushion scale read Cottony cushion-scale.

Instead of San Jose scale read San José scale.

Instead of Red scale read Orange scale.

Instead of Pear slug read Pear-slug.

Instead of Variegated cut worm read Variegated cutworm.

Instead of Codling moth read Codling-moth.

Instead of Hessian fly read Hessian-fly.

Instead of Bean weevil read Bean-weevil.

Instead of Pea weevil read Pea-weevil.

Instead of Plant lice read Grape-phylloxera.

Instead of Imported Chinese ladybird read Imported Asiastic ladybird.

These are only small matters, but since they have received practically uninanimous sanction of Eastern entomologists, they are worthy of our attention.

I might suggest also in reference to the scientific names, that naturalists are generallly now adopting Roman rather than the so-called English method of pronunciation, as given in that paper. This would agree with the present teaching of our high schools and universities.—C. W. Woodworth, Berkeley.

WALNUT GATHERING MACHINE.

The labor of gathering walnuts has been a material factor in the net profits of the crop and it is probable it will remain, but we note in the Orange County Tribune that a machine is now invented which will gather and hull the nuts. It is claimed that two men and the machine will gather as many nuts as 100 men in the old way.

The paper says:

This machine consists of a two-cylinder gasoline engine taken from an old automobile. The engine is hung between four wheels low to the ground, so as to get under the low branched trees. This truck, which the engine propels, carries the walnut picking apparatus. There is a large exhaust blower, producing about eighteen ounces to the inch pressure, working as a suction pump at the front. The intake divides into eight tributaries, each four inches in diameter. These suck up all the walnuts which come in their path, picking clean a swath six feet wide at about a four-mile an hour clip. The temporary derangement of one tributary will not interfere with the others.

The nuts, leaves and twigs thus sucked up are dumped into a large tank and the exit force of the blower separates the debris and bad nuts from the good ones and blows the waste material out on the ground behind the machine. The good nuts go to the huller, where they are completely hulled and the hulls blown away and sent through a long tube to a sack which when it receives a certain weight is closed and sewed automatically.

It requires but two men to run this automobile nut gatherer and it will pick more than a thousand acres in fifty days cleaner than men can do it. The machine does the work of 100 men, who would cost $9000 for the season, as against $550 for the new machine. Thus $8450 per 1000 acres is saved. The machine cost about $3000 to build.

GOOD FRUITS FOR CANNING.

According to Canner E. A. Francis of Hanford, the best varieties of fruit and vegetables to plant, given in their canning value, are:

Apricots—Blenheim, Royal, Moorpark.

Blackberries—Lawton, Early Crandal.

Cherries, black—Black Tartarian, Black Republican.

Cherries, white—Royal Anne, Centennial, Governor Wood.

Grapes—Muscat.

Peaches, free—Muir, Lovell, Early Crawford, Foster, Mary's Choice, Salway.

Peaches, cling—Phillips, Tuscan, Sellers, Lemon, Orange, Levi, California, Nichols.

Peaches, white cling—Heath, McKevitt, Winters.

Pears—Bartlett.

Plums—Egg, Washington, Green Gage, Gold Drop, Jefferson, Burbank, Silver Prune.

Raspberries—Red Cuthbert and Red Antwerp.

Strawberries — Longworth, Dollar, Linda.

Tomatoes—Stone.

Beans—Kentucky Wonder.

ENTOMOLOGICAL FIELD WORK.

From a letter from Prof. C. W. Woodworth, of the State University we learn that the entomological work in Southern California, which had to be suspended on account of shortage of funds until the beginning of the fiscal year was resumed the first of July under better conditions. The professor has succeeded in making arrangements whereby Prof. H. J. Quayle will devote his entire time to field work in Southern California with headquarters at Whittier.

In addition to this it is probable that Mr. Ralph Benton, Instructor in Bee Keeping, will spend his summer vacation at Whittier in the study of bee diseases.

VARIETIES OF GRAPES.

Continued from page 27.

we think, for the desert country, and will be tested at the date farm at Indio. It has large loose bunches of large amber colored berries. It can be packed as easily as Thompsons if handled properly. It bears as well, if not better, than any of the Persian varieties in the Pomona valley. We do not recommend any of the Persian varieties for any section except the desert country. It has been demonstrated that some varieties of the Persians produce well there and if half of them do, they are a great acquisition for they are, as a rule, very fine in quality and some of them exceedingly handsome. The last named is such and a black variety, the name of which is perhaps Askree (there is some confusion of the Persian names) is particularly handsome. Askree (?) is jet black, long and cresent shaped, set closely on the bunch. The bloom on the fruit of this variety looks like dead black velvet. The fruit is very sweet and crisp and crackies when being eaten. The bunches are uniform in size and shape.

Gross Colman is one of the best varieties for forcing under glass for out of season fruit. It has not been as good as many other varieties for vineyard culture in Southern California. It makes a fine show but the leaves sunburn badly when the vines lack sufficient moisture, which condition is quite common in unirrigated vineyards.

The following varieties are ripe in the last period and are good to eat from the first of November to New Years.

Persian No. 26 is a large white grape that hangs on the vines until the frost destroys the foliage. It is a shy bearer and cannot be recommended except for trial in the desert regions. It is a long pruner.

Golden Queen and Black Corinth are the two most prolific grapes on our light sandy soil. The quality of the former is good about the first of November. The fruit resembles the Muscat very much except that the bunches are more slender. These two varieties are good keepers. Laid on straw on trays and placed under the house, they kept till they shriveled up and were agreeable to eat at all times. Golden Queen is the best grape of the two. Both are long pruners. Black Corinth is not the black dried currant of commerce as grown in its native country. As grown at Pomona it is full of seeds.

Almeria is our latest grape and is perhaps the poorest in quality of any. It is a poor producer and will not bear at all if pruned in the ordinary way. When allowed plenty of long canes it does its best.

Cipro Nero is our latest colored grape and is very fine in quality; in fact, cannot be excelled by any of our earlier varieties. It does not mature till November, and heavy dews will crack the skin, consequently cannot be planted for shipping with any guarantee of saving the crop. It should be pruned either short or half long. Unlike most grapes it will not succeed on a trellis in the south, the vines refusing to make a satisfactory growth even on high stake.

Chassalas Rose is a small early pink grape that is very good for the home vineyard, but is not fit for commercial purposes, being soft and poor in color.

Olivette de Cadanet is an excellent grape, resembling Malaga somewhat, except that it makes a more symmetrical bunch and retains its fine qualities much longer after maturing. While it is a midsummer grape it will hang on the vine till New Years in the Cucamonga district where the winds cover the bunches with sand. This grape produces well when pruned short, but will do better if pruned half long.

Verdal is one of the most delicious grapes, ripening late in the fall and when the heavy dews gather on the fruit it glistens like silver balls. The vine is a vigorous upright grower and very prolific. It is a short pruner. Napoleon is similar to Verdal, but ripens a little later and is not so delicate in flavor. It is a vigorous upright grower and comes into good bearing the second year in the coast valleys. It is a short pruner.

Cinsaut is a very fine black grape resembling Black Malvoisie. It will not retain its good quality after maturing and soon is with little flavor. It is a splendid grape in its season, though. It is especially suited to dry situations where it is too dry for the most of the other varieties to mature fruit.

Black Morocco is a standard late grape and when grown where the second settings mature, brings fancy prices for the winter trade. This is possible along some of the southern exposures of the Southern California mountains, some growers selling most of their crop at five cents per pound.

Purple Cornichon is the best all round late shipping grape for California. It is strictly a table grape and fine for decorating, having handsome shape and bloom. It is very tough and will ship long distances and will not crack when rained on. It is a half long pruner. It does best on heavy land with a reddish subsoil.

PRUNING WALNUT TREES.

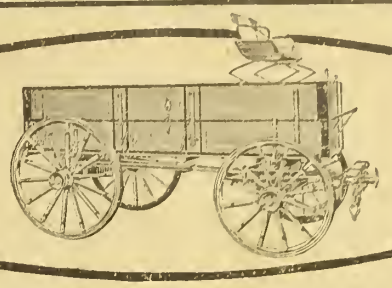
Judge Shanley has been engaged for several weeks past in pruning his walnut orchard on Lemon street, his purpose being to impart a greater degree of vitality to his trees. Instead of cutting back the trees and grafting to climinate blight, he thins out the foliage, believing thereby to save his trees from the shock of the cutting-back operation. Finding his trees too abundantly foliaged, he has taken out much of the inner growth, and hopes next year to witness the beneficient results of the process. He cuts out limbs irrespective of the nuts upon them, one limb taken out containing upward of fifty fine nuts. The idea is original with the Judge, and he is of opinion he is ahead of the cutting back and grafting method adopted by other growers. He has found little blight on his orchard this season, and thinks that if the disease fails to make an appearance soon, the hulls will be so thick the blight will not be able to penetrate to the nut. This new method of combating blight will be watched with interest by walnut growers throughout the valley—Anaheim Gazette.

PACIFIC COAST NURSERYMEN.

The Pacific Coast Association of Nurserymen has just issued its "Proceedings of the Fifth Annual" held last July at Salem. It has a fund of information for nurserymen. C. A. Tonnessen, of Tacoma, is secretary. Tannessen, of Tacoma, is secretary. The next meeting is at North Yakima, Wash., July, 8th.

Walla Walla valley will employ over a thousand pickers of cherries.

THREE HIGH CLASS FARM WAGONS



A FARM wagon has much hard work to do. It must haul heavy loads, travel over rough roads and be out in all kinds of weather. When you buy a farm wagon you want to get many years' service from it.

You will not be disappointed if you buy any one of the three wagons described below.

The 63-Year-Old Weber

The King of all farm wagons. Only the very best and most thoroughly seasoned wood is used; ironed to make a wagon that lasts a lifetime. Light running, convenient and a wagon of fine appearance.

The Popular Columbus

Built in a factory where most exacting conditions are enforced. Air seasoned wood stock, ironing which gives great strength and durability, workmanship by thorough mechanics and every part thoroughly tested.

New Bettendorf Steel Gear Wagon

Front and rear gears made of steel. Parts riveted together, not bolted. A wagon that is proof against breakdowns. Nothing can work loose or rattle, and there can be no warping, drying apart, shrinking or rotting.

You should remember above everything else that a cheap, poorly constructed wagon is dear at any price.

Before you buy any wagon call on the International local agents and learn all the superior points of the Weber, Columbus and New Bettendorf wagons. They will show you the wagons and hand you printed matter giving all particulars. Or if you prefer write nearest branch house for full information.

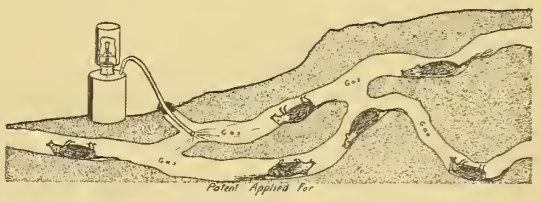
WESTERN GENERAL AGENCIES: Denver, Colo., Portland, Ore., Salt Lake City, Utah, Helena, Mont., Spokane, Wash., San Francisco, Cal.

COAST SELLING AGENTS: Arnott & Co., Los Angeles, Cal.

INTERNATIONAL HARVESTER COMPANY OF AMERICA, CHICAGO, U. S. A.
(Incorporated)

KILL

Pocket Gophers, Moles and Squirrels



More than 500 feet of holes flooded with gas in five minutes, at a cost of three cents, no pumping required, kills them by the dozen in a single operation. Not an experiment, but a sure destroyer of the pests; just turn on the gas and the work is done. Guaranteed not to injure vegetation. No danger. Any one can operate it.

Fully guaranteed. Your money back if it fails to do the work. Sent prepaid on receipt of price, with supply of carbide for ten acres, ready for instant use $5.00; without carbide $3.50.

Patent applied for. Agents wanted.

Write today for catalogue and description.

W. H. Lamb, Director in Bank of Santa Cruz County and Hardware Merchant in Santa Cruz, Cal., says:

I am sole agent in Santa Cruz County for the Rodent Destroyer. Am selling them rapidly and have never heard of one that did not give satisfaction. THEY DO THE WORK. The owners of the patent are reliable people.

W. H. LAMB.

Peerless Rodent Destroyer Co., P. O. Box 307 Santa Cruz, California

Placer Nurseries

We have now growing for next season's delivery a large stock of all leading varieties of trees and vines. We propagate only the best commercial sorts. Our trees and vines are the best that good care can produce and in their selection, propagation and growing we spare no labor or expense; and they are true to name. That is what you want.

Contract now the trees and vines you will want for next season's planting.

Write us.

Silva & Bergtholdt Company

Newcastle, California

Tanks Tanks

WINDELER'S PLANING MILL AND COOPERAGE

GEO. WINDELER, Prop

Water Tanks, Wine Tanks made from carefully selected stock by careful and experienced workmen. "Tanks that are well made last a long time." It will pay you to get my prices before buying.

Geo. Windeler

144-154 Berry St. San Francisco, Cal.

Wine Tank Water Tank

An Income for Life

May be had by planting a grove of **Eucalyptus** trees. We are headquarters for all varieties of **Eucalyptus Seed.** Also carry a good assortment of trees in flats. Write for our 1908 seed catalogue. It describes the kinds and tells what the wood is best suited for. Don't delay. Do it now.

GERMAIN SEED COMPANY

326-328-330 S. Main St. Los Angeles, Cal.

SEEDS and TREES of EUCALYPTUS

All Leading Varieties — Send for Special Price List

New Onion Sets, White Bermuda, any quantity.
Peas, Beans, Tomato Seed for late planting.
Tomato and ***Pepper Plants, Rhubarb Roots.*** Send for Catalogue.

Chas. Winsel, Seedsman

251 So. Main St. Los Angeles, Cal.

Crimson Winter Rhubarb and **Berry Plants** Our Specialty

1000 choice Navel Oranges, together with a few other Citrus Trees. April and May are best months to plant Rhubarb for heavy Crops next winter. It has never been equalled as a money maker. $1.50 per dozen, $6 per 100, $40 per 1000. Pedigreed plants.

J. B Wagner

The Berry and Rhubarb Specialist — Pasadena, California

EUCALYPTUS SEED

Eucalyptus rostrata, the Red Gum
E. corynocalyx, the Sugar Gum
E. tereticornis, the Forest Red Gum
E. globulus, the Blue Gum
E. citriodora, Lemon-Scented Gum
E. cornuta, the Yate Tree
E. polyanthema, the Red Box
E. leucoxylon, Victorian Iron Bark
and Many Other Valuable Sorts

I shall be pleased to correspond with prospective buyers and give particulars as to prices on the seeds I am offering. Trial packets of any variety 15c each, 2 for 25c, or twelve for $1.25. Also young trees of many varieties for sale. Send for circular and cultural directions.

THEODORE PAYNE

NURSERYMAN AND SEEDSMAN

Home Phone A2480

343 S. MAIN ST., LOS ANGELES

Eucalyptus

We have made a specialty of eucalyptus for the past ten years. We are no mushroom concern. We are prepared to accept contracts for raising eucalyptus for next season's planting. Take advantage of our **Low Prices on Contracts. Do It Now.** Twenty of the leading varieties to be seen at our nursery.

Saint & Warner

Sycamore Grove Nurseries

4584 PASADENA AVE., LOS ANGELES

Burbank Crimson Winter Rhubarb

Plants and Seed for sale in any quantity. Warranted the genuine article. Orders filled promptly

A. L. Fratt, Ventura, Cal.

When writing advertisers, mention Cultivator.

For the Season of 1908-09

We Shall Have to Offer

Pedigreed Fruit Trees

SEVERAL NEW FRUITS AND NUTS OF IMMENSE VALUE TO CALIFORNIA

Eucalyptus Trees

BY THE 1000 OR 100,000
NO BETTER STOCK GROWN

Please send us your name and address, and you will get all particulrrs. We are now taking contracts for ***Eucalyptus Trees*** in large quantities.

Leonard Coates Nursery Co. Inc.
Morganhill, Santa Clara Co., Cal.

Eucalyptus Seed

We are headquarters on all varieties of this seed. Be sure and get our prices on high quality stock. 80 varieties, your selection, 15c per pkt. Or we will mail postpaid, 1 pkt. each, E. Rostrata, Globulus, Tereticornis, Rudis, Corynocalyx, Leucoxylon for 50c with Cultural Directions.

MORRIS & SNOW

555 South Main Los Angeles

Pacific Seed Co.

C. Bagnall, Prop.

GROWERS AND IMPORTERS OF

Grass, Vegetable and Flower Seeds

All Kinds of Bulbs and Onion Sets

609 J St., Sacramento, Cal.

Send for Catalogue. Please mention Cultivator.

STRAWBERRY PLANTS

Strong one-year-old plants for August planting; Brandywines, $2.50 per M. Klondike, Lady Thompson, A-1, Excelsior and Midnight, $3.00. A full line of this season's plants later. New catalogue ready in September, giving full description of our improved strawberry plants and other small fruit.

G. H. HOPKINS & SON ***Burbank, Cal.***

Balfour, Guthrie & Co.

IMPORTERS OF

THOMAS PHOSPHATE POWDER

AND

NITRATE OF SODA

SAN FRANCISCO FRESNO LOS ANGELES

WRITE FOR PAMPHLET AND PRICES

When writing advertisers, mention Cultivator.

Small Fruits and Vegetables

MULCHING.

WHENEVER the soil around a plant, be it flower, shrub or vegetable, is hard and caked, it is a sure sign that treatment of the garden is wrong. The average amateur will try to correct the matter at once by watering; indeed, that is all that most gardeners used to do when the ground was dry. Now-a-days we know that watering hard, baked earth is always useless and sometimes worse than that. When the earth cakes it is a sign that it has sucked up all the moisture from below and has allowed it to evaporate. What it needs immediately is to be dug up, hoed or raked and made as fine as dust. Very often, if it is impossible to give a garden sufficient water, as when the patch is far from the house or too large to soak as it should be soaked, you can refresh the plants without water by loosening all the soil around them and making it perfectly granulated and soft.

As soon as the earth has been loosened, water it freely, but not with a sprinkling pot. The sprinkling pot is absolutely out of place in a garden. It is useful for potted plants, but for nothing else. Soak the ground with a hose or pour water on it in pailfuls. Immediately following the watering, cover with a mulch.

What is a mulch? Anything that will cover the ground loosely and yet thoroughly. The most desirable for gardens is lawn-mower cuttings from the lawn, because it is not displeasing to the eye; but chopped straw, very dry manure, dry leaves and similar vegetable matter will answer perfectly.

If no vegetable refuse of any kind is available, street dust or house sweepings will do very well. Indeed, many growers prefer dust to anything else. Whatever is used it must be kept loose and light. Its object is to prevent the heat of the sun or atmosphere from reaching the ground underneath, and just enough must be used to gain this purpose and no more. The writer has seen coal ashes and even gravel used as mulch; they served the purpose, but of course only as desperate expedients.

WHEN WILL THEY COME?

Radish plants will begin to show above the surface in from three to six days after planting. One month after that the early varieties are ready to eat. Later sorts mature as late as 45 days after sowing. Lettuce plants will show in six to eight days. Their time of maturity, as explained in a previous article, depends so much on the variety that it ranges from one month to three. Endive sends up its first leaves five to ten days after sowing and is ready to eat in 45 days. Peas show in six to ten days and are ready for the table in 50 days in very early, 50 days in medium and as late as 80 days in the very late sorts. Beans appear in five to ten days after seeding and are ready to eat in about 50 days. Cabbage seed germinates in a week or ten days and matures in 100 days. Cauliflower shows first leaves in about a week and is ripe for use in about 125 days. Corn appears in a week or eight days and is ready to eat in from 55 to 90 days. Onions require a week or ten days to germinate and it takes 100 days for the early and as much as 160 days for the late varieties to mature. Pa nups come up in 10 to 20 days a are ready for the table in about 1 days. Turnips show first sprouts 4 to 8 days and can be used in fro 60 to 70 days. Celery is slow in a pearing, rarely showing its he above the ground before the seed h been in 12 days, and often failing appear for 20 days. It requires 1 days to get ready for use.

SPRAY FOR PLANT LICE.

"I once grew a magnificent crop peas in a year when peas of the enti country succumbed right and left a phenomenal outbreak of the pe louse, and my remedy was a ver simple one—hot water, some goo soap and some kerosene. I shaved u a cake of soap into a pail of h water and stirred it until the soa was thoroughly dissolved. Then, ta ing a quart of kerosene, I added pint at a time, and with an ordinar force pump churned the mixture fo a few minutes until the whole forme a milk-like liquid and there was n free oil. This kerosene emulsion wa then sprayed on to the pea vines wit the same force pump which had bee used in making it. Two such applica tions at intervals of a few days in sured a good crop of peas.

"All plant lice are found in greates quantities on the under side of th leaves, and the spray to be really e fective must be directed from belo upward. In buying a spray pum be sure to get one that will make th finest possible mist. Remember, i is diffusion of the oil, and not th quantity, that produces the desire result."

ASPARAGUS.

Perhaps one of the most nutritiou veegtables grown is asparagus, an even if only a small plot of land ca be spared it is surprising how man dishes may be taken through the sea son from it. This vegetable thrive in rich sandy or loamy soil, yet i will grow in almost any soil that ha been previously trenched or sub soiled and manured, and although i likes plenty of moisture, yet the lan should be drained to cary off any sur plus water.

If a small bed is to be planted, th soil should be removed to a depth o 5 or 6 inches, and the plants (2-year old if obtainable) set out at about 1 foot or 15 inches each way, takin care that the roots are carefully spread out and the crown of th plants fully 6 inches below the sur face when the soil is returned to th bed.

If an established bed is in the gar den, then the tops should be cut off and a good dressing of well-rotted ma nure forked in, care being exercise not to destroy the crowns of th plants. If a dressing of salt (coarse or kainit is made it will also help t improve them.

Tons of Paris green are yearly wasted on plant lice. You can' poison this kind of pest, because i takes its food directly from the in side of the plant; but, fortunately, i can be choked off. None of thes creatures can breathe if they ar once coated with a fine covering o some oil or oil emulsion, for insect breathe through trapdoors on thei sides, not through their mouths.

The poorest seed one can sow i that which brings discontent to th sower or to some one else.

The Ornamental Garden

BEAUTY OF THE FLOWER BORDER

THE arrangement of the flowers on the home grounds counts for as much as the kind and number of flowers themselves. A yard may be full of flowers, and yet not be beautiful.

There may be a few flowers in the same yard, and still it may be very beautiful. The way the flowers are arranged makes the difference.

Where shall the flowers be planted? is a question with many. The answer is, plant them where they will show beauty in themselves and at the same time enhance the general beauty of the dwelling and grounds.

To accomplish this, they must not be planted in a haphazard way,—a clump here, a bed there, and a straggling mass somewhere else. Also, never plant so that one plant or mass hides another. Plant with the design of unity and harmony.

The best place for flowers is in border along the side of the yard or around and close to the base of the dwelling-house. In this way they are more out of the way, are as easily cultivated as otherwise, and they help to frame and unify the setting.

A border of flowers along the base of the house is in easy reach for care and cultivation, and it enhances the appearance of the structure, broadening its base and harmonizing it with surrounding natural objects.

The outer border along the side fence or between the front and back yard should be filled with the larger and more showy decorative plants. It should be planted with the larger ones next to the fence and the smaller ones in front of them so that none are hidden from view.

The flower border may be straight or curved according to the place it occupies, but the best effect is produced by making the margins irregularly curved since natural lines of planting are that way.

A single border may be of one kind of plants or of many kinds. Where different kinds of plants are used, avoid such placing as will produce discord of colors when the plants come into bloom.

The mixed border is very interesting and may be made beautiful if proper skill is used in grouping the plants. Many plants are effective in individual borders, among which are asters, salvias, calladiums, hollyhocks, irises, cannas, hydrangeas, and the hardy perennial phlox.

The lawn is the principal part of the home grounds; and no planting, whether of flowers, shrubs, or trees, should mar its unity or scope.

By massing the other plants in borders the lawn is unobstructed for use and has a full chance of an abundance of direct sunlight and air, without which it will not thrive nor will the soil it occupies be a healthful place for human living.

Let the lawn be one unbroken mass of grass plants, and mass all other plantings in borders where they will not interfere with it but where they will be just as beautiful in themselves. —Farm Journal.

When you see spots on your rose leaves be sure Mr. Red Spider is at work. He is so small you can hardly find him, but he is there on the under side of the leaves. Wash the plant in quassia-chip-water.

NASTURTIUMS.

The climbing nasturtium has come into much popularity during recent years. In raising the plants much better progress can be made by starting the seeds in the house early in the spring and getting strong plants to set out when the weather has become steadily warm. They will do well, however, if the seed is sown now in the garden where the plants are to remain. If sown thickly in a line and given a string trellis they will make a fine screen, showing a mass of brilliant colors. They also make excellent pot-plants and by starting them at different times and with proper management they may be kept in bloom the year round. A heat of sixty degrees is sufficient and too high a temperature is undesirable. Plenty of air is also one of the requisites for strong, healthy growth, for if kept close and in a high temperature the plants become drawn and poorer both in foliage and flower.—Field and Farm.

IN THE GARDEN.

DESTROYING THE ROSE APHIS.

Many rose growers will be glad to know how to combat their worst enemy, the rose aphis. By following one of the suggested plans they will experience no difficulty in destroying them. One of the easiest ways to free your plants, providing you can arrange a receptacle to cover them up practically air tight, would be to use the fumes of nicotine, nicoticide or some other preparation of tobacco. Some of our growers have arranged a little canvas box or tent that can be taken into the garden and placed over infested plants, and after it is carefully closed up they burn a small quantity of tobacco stems, dust or cheap grade of tobacco under this canvas and kill the aphis by smoking. If the burning of the tobacco is slow it produces a much stronger and more effective smudge than where it burns fast. There is no danger of injuring the plants, unless you make it very strong, and this is not often the case where smudging is done outside. The liquids of tobacco, such as nicoticide and nicotine, may be evaporated in a tent or box by an alcoholic lamp and similar results be obtained. However, this arrangement is not possible where the plants are grown on porch posts or against the side of the house, so we must resort to some sort of a spray. Probably the best spray to use in a case of this kind would be a spray of one ounce of fir tree oil to one quart of water. This seems rather strong, but it is one of the most harmless things to use on plants and yet one of the most effective insect destroyers I can recommend. The fir tree oil would be too expensive for general spraying of large trees, but such plants as roses, palms and other house plants can be very economically sprayed with it. It can be secured from the florist or city greenhouses. Another good spray is a strong decoction of tobacco and water sprayed on the plants with lots of force. All of these sprays must be applied under pressure with a good spray pump. Do not attempt to sprinkle your plants and expect the insecticide to be effective, especially where the insect is being killed by a contact spray.—Western Farmer.

GOLDEN FLOWERS.

A generation ago yellow flowers, though they made gay the old-fashioned garden, were just a bit in disfavor among the most fastidious. Today they hold a prominent place in all decorations. This is partly due to improved varieties, partly to change in taste, but more to the exquisite settings now given in arrangement. The boquet of long ago had in it a bit of everything contained in the garden. Little wonder that yellow, blended with all the other colors of the rainbow, lost its attractions! The rich shades massed in a nook by themselves were ever beautiful.

No one who has seen the Bartonia in blossom will say that there are no handsome yellow flowers. For rich satin finish, intense coloring and exquisite arrangement of stamens and other parts, this flower is almost without a rival. The light gray foliage so characteristic of yellow flowering plants is in charming contrast with the gay blossoms.

The large flowering yellow Aquilegia, a western species, is one of the most beautiful in form and color. Planted in the background with shrubbery, its graceful golden blossoms are most appreciated.

Calliopsis or lady's breastpin, grown in mass, produces a wealth of blossoms in all shades of gold and brown, the long and slender stems rendering it fine for cutting. The tall varieties make the most effective screen.

Eschscoltzia or California poppy lays special claim to the golden hues, and never was the color more royally bestowed upon these blossoms. Here we have again the soft gray foliage setting off to their best the flowers, whose sole defect seems to be their ephemeral character.

But the durability is not lacking in yellows, as the calendula bears witness. For all through the summer and long after the other garden flowers have faded this sturdy plant sends up new heads of orange or gold. Like the dandelion of the field it is the last of the annuals to leave. Many are the beautiful forms among improved holllyhocks, but none are more admired than the soft yellow, double as a rose.

Hunnemannia, similar in appearance to the California poppy, has this marked superiority: The flowers keep in water several days. It blossoms from August till November, a period when drought or frost renders continuous blossoms all too rare.

Some of the marigolds, especially the smaller French types, are effective in masses, the color being rich and texture velvety.

The nasturtium is another flower in which yellow, cream, gold and orange are exquisitely combined, and one has only to scatter a packet of mixed seed and let nature do the rest.

Pansy, Salvia, Scabiosa, Thunbergia, Portulaca and Larkspur have each good representatives in the golden hue. On the other hand, a few flowers, like sweet pea and hyacinth, are chary of giving it their best, yet of yellow flowers we have a goodly number.—Ex.

Begonias should be grown in soil made of partially rotted sod, sand, and good manure in equal parts. Nothing better.

1000 Washingtonia Robusta Palms

field grown, 2 to 3 ft, at a bargain

Armstrong Nurseries
ONTARIO, CAL.

TREE TANGLEFOOT

A Sticky Preparation Applied Directly to the Bark of the Trees

Will not injure trees. A band 5 inches wide and 1-16-inch thick cannot be crossed by any climbing insect pest. Remains sticky five to ten times as long as any other known substance. You can test it at slight expense, as no apparatus is required. Used by the carload in New England against the Gypsy and Brown-Tail Moths. In California it preserves prune orchards from the Canker Worm Wherever the Gypsy or Brown-tail Moths, Tussock Moths fall or Spring Canker Worm or Web Worm appear TREE TANGLEFOOT is of great value, and should be used when the caterpillars begin to crawl while they are very young.

Price 25c per lb. Liberal discount on quantities. The only safe and effective banding preparation. Send for testimonials.

THE O. & W. THUM COMPANY

Manufacturers of Tanglefoot Fly Paper — Grand Rapids, Michigan

Creamery Supplies

Cream Separators — Milk Cans
Combined Churns — Milk Bottles
Babcock Testers — Brushes
Butter Moulds — Wrappers
Engines and Boilers — Milk Coolers
Pasteurizers
Milking Machines
Creamery and Dairy Supplies and Machinery of all Styles and Sizes
Send List of Goods Wanted and we will Quote Prices

O. J. WEBER COMPANY
555-57 S. Los Angeles St.
LOS ANGELES, . . CALIFORNIA

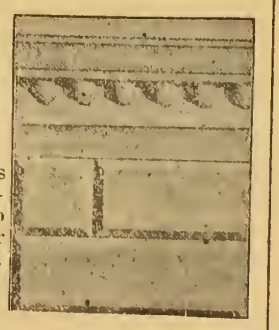
MORE MILK—MORE MEAT

IF YOU USE LILLY'S BEST FLY KILLER

I can positively testify to the merits of Lilly's Best Fly Killer. This is the first year that I have not had to fight grub in my cattle. I used it at first last summer having little faith, but the results quickly converted me. My cattle gave more milk, and kept in better flesh on less feed as a result, and I kept them in the stable all night.
A. F. CHAPMAN, Monohan, Wash.
For Sale by Dealers

Panel Face Designs

Special molds to fit any machine or job made to order in three days. Living prices.



A. F. George
811 So. Spring St. - Los Angeles, Cal.

SOUTH BEND ORCHARD CULTIVATOR

Acknowledged the best, 5 feet wide. Spring teeth if wanted. Horizontal lift. No neck weight.
AGENTS WANTED
Steel and malleable iron. Dust proof wheels.
ARNOTT & COMPANY, Los Angeles, Cal.
Write for Catalog, 112-118 S. Los Angeles St.

3 STROKE SELF FEED HAY PRESS

2 men can run it.
3 tons in one hour.
Easy draft.
Smooth bales
Will save its cost.
Shipped on trial.
SATISFACTION GUARANTEED.

THE AUTO-FEDAN HAY PRESS CO. 414 E. 10TH ST. TOPEKA, KANS.
BRANCH OFFICE, 1621 W. 12TH ST., KANSAS CITY, MO.
Ask for Catalogue No. 28
414 E. 10th St, Topeka, Kansas
Agent, John Schilling, Jr., Davies Warehouse 2nd and Central Ave., Los Angeles, Cal.

POLAND CHINAS FOR SALE
18 head of thoroughbred Poland Chinas of both sexes, some of them weigh 150 pounds. W. R. McCaslin, R.F.D., Oak Park, Sac. Co., Cal. Roosevelt Ave

Live Stock and Dairy

JULY, 1908.

THE conditions this year of scant rainfall have to be met by the farmers by growing extra soiling crops and by frequent irrigations. All farming must be intensified. Alfalfa hay costs $9 to $10.50 in the barn this summer; even foxtail hay is selling for $4 in the field. New barley is finding slow sale at $29 a ton. The farmers are wondering, with the high prices of feed and labor and the low prices of fruit, where they are at. Even the farmers that are selling alfalfa hay and barley are not making the usual amount of money, as both crops are very short. All this loss comes from four weeks of unseasonable drought. At the very time when the rain clouds should have been their busiest, the sun was shining brightly and the earth drying up. Rainmaker Hatfield, too, was at work over on the West Side, but in vain for Rainmaker and signs alike fail in dry weather. The rainmaker has been engaged for next year.

Allah makes the mango,
The farmer shakes the tree,
Allah cures the patient,
The doctor takes the fee!

Pedigreed Corn.

The Eastern silage corn planted in April is now in the silk and stands thick on the ground. It is not as tall as the corn grown from California seed. The California corn has not tassled as yet, so it is really slower growing and later than the Eastern corn. The tonnage of the whole plant of the Eastern corn promises to be a third heavier than the California, as the leaves are much wider and longer and more on the stalk. It looks as though there would be little seed corn for the neighbors like roasting ears early like this; I hope, however, they will finally leave enough to plant next year. Three irrigations were required to bring this corn up to the present stage of growth; constant cultivation has kept the soil moist between the irrigations. This corn growing brings the land into fine condition to plant the alfalfa next season. The foxtail seeds already in the land will have sprouted and been turned under as grass. The sunflowers and cockle burrs have been put to shame for their greedy growth has proven their undoing and they have gone under the earth to make room for the tiny alfalfa seed to grow untrammeled into a robust plant.

Sorghum.

This is, indeed, the farmers' friend; planted in early April, it is slow in making its first growth, but is now reaching up rapidly and the first crop will soon be ready to cut for the cows. The sorghum will make hay if not fed green or it can be put into the silo. We have a good stand of sorghum on a field of morning glory. Do you know California morning glory? I hope you do not! It may prove a blessing in the end, for the cultivators and weed knives going over it all the time are helping the land. It may be like the moral of the old story, of the old man who in dying told his lazy sons that he had buried a pot of gold in the little vineyard. They dug and dug and dug and still dug and not until the crop was harvested did they understand where the pot of gold was hidden. The morning glory is cut over as soon at it shows up, with a weed knife. Shorty said, the other day, that the man that drove Laura Jr., and Leona on the weed knife was having a happy time as he walked the fields of glory from morning to night each day.

Anthrax Cure, Milk Fever Outfits. See O. J. Weber Co., 555-557 S. Los Angeles street, Los Angeles.

Smother.

The successful suppression of the weed growth in California is found in smothering them out, either by constant cutting off of the tops or by growing a dense crop on the land. The sunshine must not reach the leaves of the weeds at all, for when they are young they are tender and weak like any other babies. Either smother them with an earth mulch or with a cover crop of great density. On the clean land put the pumpkins and beans. I have them in the long rows between the young trees. This is considered wrong in theory; but in practice, if you add fertility to the soil to balance that removed, it does not seem to be terribly injurious. After the plows and harrows have finished their effective work, then come the cultivators; but at last comes the day for them to be laid aside. The dust mulch is completed. After a few days a little green growth will be noticed coming up in the vineyard rows. It is time for the weed knives to glide through the surface below the top an inch or two and slice off the weeds at their roots. The loss of moisture and fertility is stopped right there with each weed that is slain. Weed growing instead of fruit growing does not look very profitable.

Millet.

Is a good catch crop for hay or silage. It can be fed green, also used as a soiling crop. The disadvantage of using it for soiling is that it grows old faster, usually, than it is fed off. The hay must be made before the seed elopes. It has a single, well guarded seed like the foxtail and the barbs are nearly as destructive. Millet made into hay from early cut growth, is more digestible than timothy and has a little greater food value. We are drilling the German millet seed in rows in well cultivated and irrigated land, using about forty-five pounds to the acre. Millet is a rather shallow-rooted plant and is considered hard on the land; it certainly is if the land is not fed. Millet does not object to manure put on with it in the seeding and if the fertilizer is put on with the seed it will produce very finely. Millet hay, if at all mature, will seriously affect the kidneys of horses, while it seems to have no serious effect on cows or pigs.

Growth.

The leaves of the German millet are broader than those of other varieties, while the heads are often an inch in diameter. Where millet is used for siloing, it is usually thirty-five to forty days in reaching its growth. It is expensive to grow, as it is an annual and the seed costs six cents and upwards a pound. Its value is not worth considering when one has plenty of alfalfa; its only value is in its use as a catch crop to help out a year of drought.

Varieties of Millet.

Foxtail (Chaetochloa Italica) the

EXCLUSIVE
Tubular ADVANTAGES No. 2

LOW SUPPLY TANK

Last week we told you of the light, simple Tubular Bowl—how it was different from complicated bucket bowls—how it was an **exclusive** Tubular feature—not found in other makes.

This week we offer you Feature No. 2. The **Low Supply Tank.**

Don't overlook this point in buying a separator. You know a milk pail full of milk is quite heavy and when you have to lift several a day to fill a separator tank that is **shoulder-to-head-high**, it means back-breaking work that is needless, for the Supply Tank on the Tubular is scarcely waist high to a woman 51-2 feet tall. These are

2 Good Reasons WHY

the Tubular is the separator for you.
The Tubular is in a class by itself—so much ahead of others that when compared or tested in actual work the difference is at once apparent in its favor. Let us send you Catalog 260 it's full of interesting proof.
The SHARPLES SEPARATOR CO.,
West Chester, Penna.
Toronto, Can., San Francisco, Calif., Chicago, Ill.

Ohio Feed and Ensilage Cutters
Hand and Power. All Sizes.

This cut represents the Ohio Hand Feed Cutters, made in two sizes with 8½ and 10½ inch knives. They are light, but very strong and serviceable. Will cut hay, straw and dry, hard corn fodder, consequently they are the best general purpose hand machines manufactured. ***Catalogue of Full Line Free on Application. Write to***

Pacific Implement Co.
133-153 Kansas St. San Francisco Cal.
or ***Arnott & Co.***
Los Angeles, Cal.

Live Oaks Farm
Frank A. Meacham, Proprietor.
Importer and breeder of RED POLLED CATTLE, SHROPSHIRE SHEEP, RAMBOUILLET SHEEP, HORNLESS AMERICAN MERINO SHEEP. Both sexes for sale. Take electric car at Petaluma or Santa Rosa for LIVE OAKS STATION. Address all mail to
Petaluma, Sonoma Co., Cal.

Berkshires--Shorthorns
My Berkshires took every blue ribbon and Gold and Silver Medal in the female classes. Choice pigs at low prices. G. A. Murphy, Perkins, Cal.

Thoroughbred Poland China Swine
Black Minorca and Barred Rock Poultry
High Grade Stock of Best Strains.
Young Stock For Sale
M Bassett ***Hanford, Cal.***

The Whiting Jersey Stock Farm Company
is making the very best strains of blood fresh from the island of Jersey a specialty.
Whiting Jersey Stock Farm Co. Heber, Imperial Co., Cal

Geo. C. Roeding, Fresno, Cal, breeder of
Thoroughbred Holstein Bulls and Heifers
Thoroughbred Berkshire Boars and Sows

John Lynch Breeder of Registered **Shorthorns**
MILK STRAIN
Box 321 Petaluma, Cal.

barn yard (Panicum Crus-galli) and broom corn (panicum millieccum) are the varieties in cultivation in this country and Europe. Foxtail millet sounds rather disreputable to California ears; it is named from the single spike of the head. This spike is fully as viciously barbed as the common foxtail. Under this name are classed Hungarian, German and common millet.

Common millet is the earliest and also grows on the poorer classes of sandy soil better than either the German or Hungarian varieties. Hungarian comes in between the two other varieties in season; it stools very freely and produces a fine stalked and better hay than either of the other varieties.

German millet is ranker in growth and requires better soil; it is the heaviest producer of the three varieties. Barn yard millet comes from Japan. it is used rather for green feeding or making silage than for hay. It makes a hay that the cattle will hardly eat, as it is coarse and ill-flavored. This form of millet is catalogued by the seed men as "Billion Dollar Grass." Broom corn millet is hardly known in the United States, but is greatly used as a grain plant in Europe.

Allied Plants.

There are some plants that are considered as millet by most people. Teosinte (Euchlaema Mexicana) is more nearly related to the common field corn than to millet. It grows well in any hot country. The San Joaquin Valley and Imperial Valley are good places for its growth. It has great value as a fodder plant. It is, however, distinctly inferior to sorghum for soiling and for grain, Indian corn far outranks it in production. The other millet is called pearl millet and has little to interest us as a fodder plant.

All the true millets are hot weather plants and are only to be considered as catch crops in California. Where alfalfa and corn will grow to perfection the millets cannot be considered as staples. They can be planted as late as August and yet produce good returns for either green feeding or for hay. They have an advantage in that they will make a crop on land that has been producing wheat hay or oats and peas, with less allowance of water than Indian corn. Wisely used, they, like ourselves, fill their own place in this mundane sphere.—M. E. Sherman.

CONGESTED UDDER.

When the cow is suffering from congested udder it is a good idea to dry her off at once and feed one-half ounce of nitrate of potash night and morning in the soft feed. Give plenty of clean water, feed pure and wholesome food, and massage the udder once a day with a little iodine treatment.

I think many have made the mistake of breeding heifers too young, and this has had a tendency not only to dwarf them in size and constitutional vigor, but in their power to digest and assimilate large quantities of feed to be converted into milk. Grow them well; and if a heifer, after having been bred, lays on considerable flesh don't get frightened. If she has been bred right, "blood will tell," and when she comes to freshen she will need all of this surplus flesh to tide her over this period till she gets into good working condition.—F. H. Scribner, H. F. Register.

Cream Separators, all sizes, all prices. O. J. Weber Co., 555-557 S. Los Angeles street, Los Angeles.

THE HEALING OF WOUNDS.

Animals on the farm are continually being injured by accidents that happen in a thousand different ways, writes George H. Glover, veterinarian, Colorado Agricultural College. Barb wire cuts are most frequent and a word or two of advice as to the proper treatment in the hands of farmers will not be amiss. The first thing to gain a correct understanding of a sane and effective method of treating wounds is to remember that nature does the healing and that remedies applied are simply for the purpose of assisting nature. The right mental attitude in this respect will tend to eliminate a thousand and one nostrums which are tried in rapid succession in the belief that there is somewhere, if it could only be found, a specific remedy with magical influence to bring about the desired recovery in a marvelous way. Mankind has been diligently seeking such remedies for thousands of years and is still keeping up the search. It is time that such a view of the situation, which is based purely upon superstition, should be eliminated, and that we get down to principles based upon scientific research, and instead of groping blindly in the dark, seeking the "where," let us always be ready to inquire "why."

The ordinary wound will heal of itself if not interfered with. This interference may be from germ infection, parasites or too much meddling with various applications on the part of man. Now, let us suppose a case. A horse has a badly lacerated leg from contact with a barb wire. The first thing to do, of course, would be to stop the bleeding. This can be accomplished by a tight bandage of clean, white muslin, tied directly over the wound or above it. Often the bleeding artery will protrude, and a thread can be run under it with a needle and the artery tied. Do not use flour, dirt, or cobwebs or anything of that sort on the wound; they are unnecessary and may produce a dangerous infection.

Having stopped the bleeding, remove the clots of blood and cut off the ragged edges of muscles with shears. A pan of antiseptic solution should be provided. One of the best and cheapest antiseptics on the farm, good for man or beast, is Creolin. Add a teaspoonful of this to a pint of water that has been boiled. Place the knife, shears, etc., in this solution, and wash the hands before beginning. After having cleaned out the wound, wash it thoroughly with the antiseptic solution. See that there is good drainage from the wound at the bottom. Do not allow it to start healing with a pocket that will hold pus. As it is practically impossible to keep a wound on a horse antiseptic, it is not advisable for the farmer to tie up the wound; leave it exposed to the air and apply the antiseptic wash several times a day. Three good antiseptics are, corrosive sublimate, which can be purchased at the drug stores in tablets all ready for use; formalin is good, as is also a solution of boracic acid. After about a week, it is well to change to dry dressing, a powder composed of equal parts of boracic acid and charcoal and iodoform makes a very good dry dressing. Clean, air slaked lime, powdered over the wound twice daily, is very satisfactory. The so-called "proud flesh" is only unhealthy granulation. It is seldom advisable for the farmer to interfere with this condition by using caustics; the results are really disastrous; better in this case to call in a qualified veterinarian. If maggots should get into the wound, a little turpentine or chloroform will help bring them to the surface, where they may be picked out. I did not mention sewing up the wound, for the reason that in case of the ragged barb wire cut, it is very seldom worth while to do so.

A wound ,to heal properly, must be gotten perfectly clean and free from germs from the start and then kept clean. Remember that it is largely a matter of keeping dangerous germs out and giving nature a chance. Too much interference is often the cause of tardy healing of wounds.

A mixture of equal parts of licorice and ginger in the hog feed two or three times each day is recommended for the pig that coughs. A lump of coal tar placed well down the throat while the pig is held up on its hind feet is also good.

Wood Soled Boots and Shoes. Boots, $3.25; Shoes, $2.00. O. J. Weber Co., 555 South Los Angeles St., Los Angeles, Cal.

BUMPER CROPS

De Laval

CREAM SEPARATORS

With the finest crop prospects ever before American agriculture—big crops of all kinds practically assured in nearly every locality and a world wide shortage of grain and other food supplies that insures good prices—there never was a better time to make that most profitable of all farm investments—the purchase of a DE LAVAL CREAM SEPARATOR.

Nobody who has the milk of one or more cows to separate can have good reason to delay making this investment, nor for being tempted to try "something else"—with the wide gulf of difference in every practical way between the new and improved 1908 De Laval separators and any other possible means of cream separation.

A De Laval separator tells its own story best. Order direct or through the nearest agent. A catalogue, to be had for the asking, is the next best thing.

DE LAVAL DAIRY SUPPLY CO.

108 So. Los Angeles St. LOS ANGELES
42 E. Madison Street CHICAGO
74 Cortlandt Street NEW YORK

General Offices: 101 Drumm Street, SAN FRANCISCO.

107 First Street PORTLAND, OREG.
1016 Western Ave. SEATTLE
Box 1052 VANCOUVER, B. C.

Rosendale, Wis., Mar. 23, '08. I have used a U. S. for 15 years. It has always been perfectly satisfactory and I never hesitate to recommend it to anyone. CHAS. L. HILL.

DURABILITY

This word is the secret in separator construction. Compare these two letters, please. Is not Mr. Kroyer's experience, with this "cheap" apology for a separator, sufficient proof to any fair-minded reader, about to purchase a separator, the wise move to make? Read Mr. Hill's testimony, please, and compare—15 years of perfect satisfaction as compared with 8 months' use and "all played out." The ever-ready-to-use

CLEAN SKIMMING
EASY RUNNING
LONG WEARING

IMPROVED 1908 U.S. CREAM SEPARATOR

has more practical improvements than any other separator made, having a solid, low frame; most simple yet efficient bowl, waist low supply can and numerous other advantages.

Send to-day for catalogue No. 20, describing fully this labor saving, money earning, reliable separator.

VERMONT FARM MACHINE CO.
BELLOWS FALLS, VT.
16 Distributing Warehouses in U. S. and Canada.

499

New Market, Minn., Mar. 19, '06. I bought an "Economy" Separator 8 months ago and it is all played out now. Ordered a No. 6 U. S. and am now satisfied. A. KROYER.

Prompt Delivery Assured California Customers from Stockton warehouse. No delays. Address all letters to Bellows Falls, Vt.

CUTTER'S
Anthrax
and
Blackleg
VACCINES

Are given the preference by 80% of California stockmen because they give better results than others do.

Write for prices, testimonials and our NEW booklet on Anthrax and Blackleg

The Cutter Laboratory
Berkeley, California

VENADERA HERD
OF REGISTERED JERSEYS

I have for sale a number of richly bred young bulls, some of them from cows that have high official yearly records.

GUY H. MILLER,
Route 3, Modesto, Cal.

Wanted FIRST-CLASS WORKING FOREMAN

For Large Dairy of Pure Bred Jerseys. Only good experienced men need apply.

Geo. A. Smith, Corcoran, Cal.

California Cultivator

ESTABLISHED 1889
Subscription price One Dollar per year.
Payable in Advance

Thursday, July 9, 1908

Address All Communications to
CULTIVATOR PUBLISHING CO.
115½ No. Broadway, Los Angeles.
733 Merchants Ex. Bldg., San Francisco.

Copy for Change of advertisement must be in office on Saturday preceeding date of issue. New advertising copy should reach the office not later than Tuesday to insure insertion.

CULTIVATOR PUBLISHING COMPANY
H. A. PERKINS, EDITOR AND GEN. MGR.

C. B. MESSENGER - - - - Associate Editor
F. H. THOMAS - - - Advertising Manager
H. G. HUTCHINS - - Subscription Manager

EDITORIAL CONTRIBUTORS:

J. W. MILLS - - Deciduous and Citrus
JOHN ISAAC - - - Horticulture
J. B. NEFF - Walnut Culture and Irrigation.
Mrs. M. E. SHERMAN - Live Stock and Dairy
Q. A. LOBINGIER - - Vegetable Garden
S. S. TWOMBLY - - - - - - - Poultry
W. E. FOSTER - - - - Pigeons
L. M. FALL - - - Law Queries
RALPH E. SMITH - - Plant Pathology
S. A. PEASE - Plant Diseases and Injurious Insects

Entered at the Post Office at Los Angeles, California, as Second-class matter.

Contents

FAMILIAR SIGHT IN SUMMERTIME, Cover.
ALEXANDER CRAW, 27.
VARIETIES OF GRAPES, 27.
WITH THE CITRUS GROWERS.—Gum Disease; Avocado; Destructive Pest in Italy, 28, 29.
DECIDUOUS.—Table Grapes on Resistants; Prune Drop; Powell to Work in the North; Bubterranean Fruit Pests; Correction of Names; Walnut Gathering Machine; Good Fruits for Canning; Entomological Field Work; Pruning Walnut Trees, 30, 31.
SMALL FRUITS AND VEGETABLES.—Mulching; When Will They Come; Spray for Plant Lice; Asparagus, 32.
ORNAMENTAL GARDEN.—Beauty of the Flower Border; Nasturtiums; Destroying Aphis; Golden Flowers, 33.
LIVE STOCK AND DAIRY.—July; Congested Udder; Healing of Wounds, 34, 35.
EDITORIAL.—Not a Newspaper; Sight Worth Seeing; Overproduction; Fire; International Irrigation Congress, 36.
AGRICULTURAL NOTES OF THE PACIFIC COAST.—Northern, Central, Southern, the Coast, 37.
POULTRY.—Keep Small Flocks; What to Feed; White and Brown Egg Incubation; Water Basin for Chicks, 38, 39.
BEES AND THEIR CARE.—Water for Bees; Manufactured Honey; Danger in Old Bee Hives; Bee Keeping on Small Scale, 40.
GENERAL AGRICULTURE.—Value of Load of Manure; Now is the Time, 41.
QUERIES AND REPLIES.—Spray for Spider; Brown Scale; Mold on Grape Juice; Raising Rabbits; Powdery Mildew; Red Spider; Dipping Fumigating Tents; Dodder; Aphis; Output of Potatoes, 42.
IRRIGATION AND FORESTRY.—Forest Fires; Irrigation, 43.
HOUSEHOLD.—The Fleet in California; In Camp; Wasteful; Homely Hints; Curfew; A Few Definitions; Kind of Girl to Shun; Mucilage; Polishing Cloths; To Clean Fabrics, 44, 45.
PRODUCE MARKETS.—Los Angeles Market; San Francisco Market; Citrus Markets, 46, 47.

NOT A NEWSPAPER.

A subscriber has called the attention of the Cultivator to the fact that the death of one of the great men of this nation, Grover Cleveland, had received no mention whatever, while the passing of Alexander Craw whose sphere was largely within this State and the Hawaiian Islands, had received extended notice. This served to call our attention to the fact that many people think that our field is almost universal. The fact of the passing of so great a man as Grover Cleveland was not ignored because of any personal or political question. That is not allowed to enter into the conduct of the Cultivator. It was a case which was handled so extensively by all the metropolitan and most of the country press that it did not call for mention from a paper which is purely agricultural. On the other hand, with Alexander Craw, known to every agriculturist of this State, and who has been so vitally concerned in its welfare and done so much for agricultural interests, it is most fitting that an agricultural paper should tender its tribute.

True, this paper did mention the work of the Republican Convention in nominating Taft and Sherman as the leaders in the present political campaign as it will also next week refer to the nomination of Mr. Bryan and whoever is nominated for vice-president on his ticket. These two events might have been passed without mention in our columns perhaps, but as they have bearing on our agricultural interests in a way which will be freely discussed by all within the next few months the mere mention of the fact in our columns was considered proper.

Meantime, we will endeavor to keep the Cultivator in its chosen field, which is that of cultural agriculture and horticulture.

A SIGHT WORTH SEEING.

The following from the Imperial Standard is an indication that the world does move out here in California:

Monday morning a freight train with 63 cars, all loaded with cantaloupes picked up at Holtville, Heber, El Centro, Imperial, Keystone and Brawley, left the latter town, driven by two engines and bound for Eastern markets.

It is but five years since, over practically the same route, twenty-mule teams wended their way, bringing supplies to the same valley which now sends out this immense quantity of high class produce—produce which in one day's shipments represents values of probably $75,000.

And while there are from sixty to seventy-five cars of cantaloupes a day leaving the valley there are a half dozen engines at work bringing in cars to be filled and spotting them where wanted for loading, while a trainload of miscellaneous freight is brought in each day and many cars of other products of the valley are sent out. Two trains each way a day carry a mail coach, two express cars and two or three passenger cars.

All this traffic is maintained on a little road forty miles long in a territory which was without a single inhabitant eight years ago.

The beauties of California and its world of latent opportunities have been the theme of editorial and other writers, but never was there a better illustration of the possibilities of the reclamation of the waste places of this land of opportunity.

OVERPRODUCTION.

As a rule, the production of fruits and agricultural products is not overdone, but occasionally the farmer becomes elated by large profits of some special crop and everybody proceeds to "follow the leader." This has been the case this year in Imperial valley with cantaloupes, though it may not be said to be entirely a case of overproduction so much as a combination of that with a shrinkage in purchasing power in the Eastern markets. But in any case the vast increase in the melon acreage has met with disappointment which, in some cases, will be almost equal to disaster. Such movements should be discouraged so far as possible, at least to the extent to which they are followed in the Imperial valley. It is hard to tell how it can be done, but the growers should organize and formulate some plan by which a canvass of the situation could be made and knowledge gained as to the extent of the production and, so far as possible, of the probable demand.

It is reported that some who invested their all in cantaloupe culture this year will lose almost the entire amount.

The people of Coachella valley are also in a similar state as to their onions, but in that there is a much larger production of onions in Texas than in California, which makes the field much larger for control.

FIRE.

The season is now with us when it behooves every one in this State to be careful with the handling of fire. Whether it be in the home, at the barn, in the grain fields or still more in the forest, the greatest of care should be exercised. In looking over the exchanges which come to our table from every part of the State, no week passes in which we do not observe account of a grass fire in one section, or field fire sweeping over thousands of acres in another, or still more often where the hills have been deprived of their covering of brush, and sometimes of forests by the sweep of a forest fire which runs for miles before it burns itself out.

California is only awakening to the fact of the vast loss which is ocasioned by these forest fires on our water sheds. The government and the State, and sometimes the counties are combining to reduce this fearful loss as much as possible, by appointing fire wardens, but excepting the people take an interest and uphold the officials in this matter the greatest good cannot be accomplished. Let every camping party exercise greatest precaution that no fire shall ever be allowed to escape from its proper boundaries, and especially that no live embers shall ever be left when camp is broken. Besides, when the fire has once started let every one who can, aid in every way possible.

INTERNATIONAL IRRIGATION CONGRESS.

Elwood Mead, formerly chief of the Irrigation Investigation in the Department of Agriculture, and now chairman of the State Rivers and Water Supply Commission of Victoria, Australia, is urging the holding of an international congress of irrigation and water conservation. This, he urges, should be held in the city of Melbourne and gives as his reason that Australia, and especially Victoria, is far ahead of the United States, and most other countries in its irrigation laws. On the other hand, he admits that American irrigation engineers are better qualified than those of any other section of the world.

Mr. Mead's idea is that the bringing of the bright men of America and other sections where irrigation has become almost perfect in its engineering problems together in the country where irrigation laws have become almost perfectly administered, will be a great advantage to all.

Sure it is that if anything could be brought about which could give a more satisfactory set of laws than California now has it should be encouraged.

For the first time in years the Los Angeles Chamber of Commerce has decided to make an exhibit at the coming State fair. Such a step has been urged by the management of the State fair for years on the ground that it was due to the agricultural interests of the State that the southern end of the State be more generally represented than in the past. The distance away has been the objection observed, but we are glad to know that it has been shortened to that extent that the south will come up with a creditable exhibit. This we know to be true because the Chamber of Commerce has never taken a step in such a matter in a half hearted way.

The "spotless town" war which has been spreading on all sides, is one well worth imitation by people living in the rural districts. It has been found that parks, well kept streets and a general cleanly appearance on all sides, increases values and draws people of the best classes to the cities. If this be true of the cities it will be still more true of the country sides. Let the people of the country organize improvement associations which will take a pride in making every community just a little bit nicer than its neighboring community, and we will soon have our State more talked about than ever before.

Regarding issuance of permits for keeping pheasants in captivity, Chas. Vogelsang, Chief Deputy of the Fish Commission writes: This Board is liberal in its interpretation of the law, especially when it makes for the preservation of the species. A great many have taken up pheasant culture with marked success. Out of our hunting licenses we will shortly establish a game farm to hatch and distribute for the general good, pheasants, partridges and other wild birds, and possibly animals.

We do not know how much the farmer receives as rental for ground occupied by bulletin boards proclaiming the merits of Spoopendike's little liver pills, but trust it is great. Those things are a blot upon the landscape which should not be permitted, and the farmer who will consent to it certainly must receive good returns. We hope a time will soon come when farmers will receive liberal enough returns from their crops that they will not be compelled to sell the sightly locations on their ranches to be prostituted in this way.

It is estimated that the Texas fever tick will be responsible for about $40,000,000 loss annually to cattle owners of this country. This awful loss should give impetus to the effort to stamp out the pest. There have been occasions where damage has resulted to stock which has been dipped in the various solutions. The recent example at Santa Ana where stock died after dipping should call for thorough investigation, but should in no sense discourage people from continuing the effort to wipe out the tick.

Agricultural Notes of the Pacific Coast

Northern California

A 3000-acre tract near Chico is to be cut into farms this year.

Irrigation is more general in the Sacramento valley this year than ever before.

Tehama county has a mill constructed for the manufacture of alfalfa meal.

Marysville is shipping large quantities of cucumbers by express to Eastern market.

Big forest fire on the Wetterau ranch below Sacramento recently did much damage.

Berry growers of Gold Ridge district, Sonoma county, recently held a meeting at Sebastopol.

On some of the sheep ranges back of Red Bluff the snow remained much later than usual this spring.

The members of Sonoma County Pomona Grange were royally entertained at Sebastopol recently.

Many sections of the Sacramento valley claim that pear blight is showing less virulence than usual.

The bridge across Willow Creek at Willows was destroyed by too heavy a load of cattle being driven over recently.

The harvesting season now well on at Gridley shows that the output of grain will be much in excess of earlier anticipations.

More than 100 boys have been sent by the Boys and Girls' Aid Society of San Francisco, to the berry fields of Green Valley.

Grain crops of District No. 7 near Yuba City are exceptionally good this year, some of the barley running 20 sacks per acre.

A large amount of machinery has been assembled in the creamery building at Davis, and its installation is now in progress.

The importation of plants brought by special agent, Meyer, from Asia, made a freight shipment aggregating over 15 tons of plants.

The Sutter county horticultural inspector reports energetic campaign against the blight, and that it is much less in evidence than in the past.

Fairoaks is rapidlly becoming a beautiful surburban section. As one paper expresses it, it will soon be the Pasadena of Northern California.

Action is to be taken by the supervisors of Yuba county against miners who are dumping debris from the hydraulic mines into the Yuba river.

Fruit growers about Loomis, Penryn and Newcastle, are complaining that various deciduous fruit shipping concerns have combined to their injury.

Tehama county apricot growers are complaining at the depredation of coons which make nightly raids in some of the orchards and destroy much fruit.

Cling and free stone peaches about Marysville will not yield as heavily as anticipated. It is predicted that the total shipment of Yuba and Sutter counties will not exceed 3000 tons.

Articles of incorporation of the new Feather River Canal Company were recently filed in Butte county. This canal when constructed will open up an immense fertile country tributary to Oroville.

Central California

Tulare is building a new winery.

Hay market of entire valley seems to be remarkably quiet.

One wheat field of 1000 acres near Angiola yielded 9500 sacks.

The Exeter Sun is appealing for better care of orange groves.

Turlock apricot trees are literally breaking with the load of fruit.

Thousands of acres were burned in a grass fire in Eastern Kern county.

Five new packing houses are being constructed at Watsonville this year.

One grower at Tulare will produce about two cars of onions this season.

Orange growers are pleased at the recent drop in the cost of orange boxes.

Turlock has produced quantities of exceptionally fine strawberries this season.

Modesto delivers some of its fruit to the Pacific Pea Packing Company at Turlock.

Good raisin weather is now being given to the growers of the San Joaquin valley.

The Turlock Journal appeals for a better pack of cantaloupes during the coming market season.

"The best crop of hay I ever raised" is the verdict of a grain grower of Salinas valley.

Farmers in the Terra Bella district are complaining bitterly of great damage from ground squirrels.

The Oakdale Milling Company at Turlock has increased the capacity of its mills to 1000 sacks a day.

Watsonville papers are appealing for more careful handling of the apples and more uniform packing.

Future prices are not made on prunes as yet and the market shows no desire to become very active.

The output of green deciduous fruits in California is more than double that of last year at this date.

An extensive grass fire burned over 1000 acres of land, 800 of which were in barley hay, near Tulare recently.

Forty tons of alfalfa hay were recently destroyed near Porterville, supposedly from spontaneous combustion.

Central California Produce Company of Turlock has shipped a car of Early Rose potatoes to the State of Washington.

A distillery at San Jose produces alcohol to that extent that its internal revenue payment averages $11,000 per day.

A farmer near Tulare has been arrested for cutting a ditch and taking water which it is claimed did not belong to him.

Hundreds of men and teams are at work in the fields near Tagus, and beets are being delivered at the Visalia factory.

Kings River has a flow of two million acre feet of water annually. It is eighth in list of California rivers. Sacramento stands first with 12,420,000 acre feet.

A meeting of citrus growers of Tulare county was held in Lindsay recently at which it was strongly recommended that the shipping of green fruit be discouraged and that it be held on the trees until fully sweetened.

Southern California

Fruit dryers at Redlands are busy on apricots.

Some aphis infests cantaloupe fields, but less than formerly.

Ventura county output of apricots will be the biggest in its history.

Redlands apricot crop will exceed fifteen hundred tons of green fruit.

Some Imperial cantaloupes are sold as low as $1.00 per crate in New York.

Output of cantaloupes from Imperial valley has been greatly reduced by unsatisfactory prices.

Brawley potatoes have done exceptionally well this year. Producers are receiving fair prices.

The San Bernardino mountains back of Redlands were visited by severe forest fires last week.

The Riverside Enterprise appeals for enforcement of the law, demanding full weight of butter rolls.

Tustin Lemon Packing House is an active place these days, being busy to its utmost capacity shipping fruit.

The government is to spend $25,000 in developing water for various Indian reservations of Southern California.

Many cantaloupes are shipped from Imperial this year and sold at New York for prices less than freight and packing.

Antelope valley reports that the crop of almonds this year will be a bumper one, probably the largest in its history.

It is reported that Secretary Garfield intends to set the farm unit for homesteaders under the Yuma Irrigation project at fifteen acres.

Los Angeles county is inaugurating a campaign for good roads, and has called an election for July on the question of $3,500,000 bonds.

Dispatches from Eastern orange markets show that the success of the pre-cooling plants used in the orange industry this year has been complete.

Orange county grain growers have been offered as high as $1.37½ per hundredweight for the entire crop of barley. This is in advance of last year's prices.

Owners of cattle in Orange county, which died after dipping under direction of the county veterinarian, are to institute suit to secure recompense for destroyed stock.

Walnut outlook is still very promising though the earlier moist weather permitted the development of some blight. Some groves are dropping nuts quite badly.

Bloomington packing house shipped 105 cars of oranges this season, which is a large output for a small house. An addition to the plant will be made before another season.

The Antelope Valley Gazette reports the success of a lady in goat raising who started raising goats some years ago, having at that time only eight. Last year she made a sale of 2300 goats, the increase of the eight.

It is reported that the committee recently appointed to recommend horticultural laws for enactment at the coming legislature will recommend a law favoring that the horticultural commission be reduced from three members to one.

The Coast

Milton, Oregon, has shipped berries to the value of $50,000.

Haying in Eastern Washington began about the middle of June.

Clarkston, Washington, is marketing an immense crop of cherries.

The Dalles, Oregon, held a most satisfactory cherry fair last week.

Eugene, Oregon, has a new cannery, one of the largest in the State.

Strawberry crops near Wenatchee have been the biggest crop ever raised in that section.

Many farms about Quincy, Washington, will be irrigated from artesian wells now being sunk.

About 25 per cent of the crops about Walla Walla have been ruined by cold winds and lack of rain.

Grain men of Northern Idaho, especially near Lewiston are preparing for the largest yield of grain ever in its history.

At Creston, Washington, the entire town turned out to greet the farmers' educational train even the stores of the town being closed.

One wool grower at Billings, Montana, has a clip of over a million pounds, and his check for this season's clip amounts to $155,000.

Hundreds of acres of prunes will be grubbed up this year in Oregon, and the land will be planted to walnuts. The Franquettes are the favorite variety.

While the farmers and politicians are disputing over the appointment of an inspector at Kiona, Washington, fruit pests are running riot in the orchards.

Farmers at Hood River who were greatly damaged by the destruction of an irrigation flume are threatening all kinds of vengeance if they can find the culprit.

The farmers' educational train over the Central Washington branch of the Northern Pacific has been a great success and was warmly received by settlers along the line.

It is claimed that a wheat has been bred in Northern Idaho which will yield 200 bushels per acre, but, as a rule, farmers who hear the story all seem to be from Missouri.

A hundred thousand trees are being planted on the forest reserve near Pike's Peak. This is the first planting in the great scheme for 20,000,000 trees on that one reserve.

Oregon has a law that all boxes of fruit shall be marked with the section in which the fruit is grown, which the fruit inspectors of the State are rigidly enforcing.

Dairymen near Seattle, Washington, are incensed at the rigid health laws which discriminate against dairy products. They charge that the law makers have gone microbe crazy.

Many cherry growers near Seattle, Washington, have made the mistake of planting a variety of cherries which are proving poor shippers and arrive in the market too soft to sell.

Eugene, Oregon, is shipping a large quantity of cherries this year, and in order to secure best prices is putting up a handsome pack. She has brought from California an expert packer to supervise the packing of her fruit.

PER 2 BUSHEL SACK **$1.90** PER 2 BUSHEL SACK

Buy the World's Famous Egg Food No. 4

MIDLAND

IF YOU WANT EGGS
YOU WILL FEED NO OTHER.

Used by the largest and best breeders in the country. Thousands of poultrymen are using it, and it is the acknowledged standard of the world. Haphazard feeding is no longer profitable. Try Midland Food and be convinced.

Petaluma Incubators and Brooders

The acknowledged standards of perfection. All poultrymen who have used these machines have supreme confidence in their ability to hatch and breed. Hence their ever increasing popularity. Winners of the Gold Medal at the St. Louis World's Fair for the greatest hatch, with 40 different makes of incubators in competition. How's that?

St. Louis, Mo., Dec. 8th, 1904.—Petaluma Incubator Co., Petaluma, Cal: My dear Sir—The awards have been held up owing to a controversy between the Exposition officials and the national commission, but today I am able to state the award of a gold medal on your Petaluma Incubators has been confirmed. You are at liberty to make use of this in any way you see fit and in due time the diploma will be issued and the medal obtainable. Congratulating you upon this evidence of the merits of your incubators, in which there was very great competition, I beg to remain, yours very truly, J. A. Filcher, Commissioner.

And Now Comes New Reward for Merit

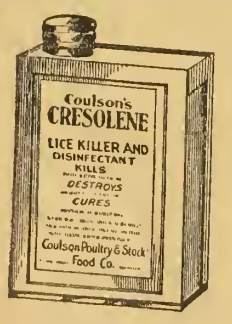
Read the following telegram received from the Lewis & Clark Exposition at Portland:
"Petaluma Incubators and Brooders just awarded Gold Medal at Lewis & Clark Exposition."

WRITE FOR CATALOGUE 47—A BEAUTY

Petaluma Incubator Co.

Main Office and Factory, Petaluma, Cal., Box F.
Los Angeles, 636 South Main Street.
San Francisco Office and Salesroom, 83 Market St.

When writing advertisers, mention Cultivator.



Coulson's Cresolene

**LICE KILLER
DISINFECTANT
AND DIP**

Dilute With Water Before Using

CRESOLENE is a powerful disinfectant, insecticide, and germicide obtained from coal tar. It is non-poisonous, and non-corrosive and will do no harm to the most delicate skin.

It mixes readily with water, forming a milky emulsion, and can be diluted from 50 to 100 times it own bulk, in accordance with the different uses to which it is put.

Thus when you purchase 1 gallon of CRESOLENE you can make up to 100 gallons of the best disinfectant for use with stock, poultry, dogs or as a general disinfectant and insecticide.

This reduces the cost to 1 1-4 cents per gallon which is cheaper than anything else on the market.

PRICES: Quart can, 50c; one-half gallon, 85c; gallon, $1.25.
Freight paid on orders of one gallon or more.
Manufactured by

Coulson Poultry and Stock Food Company
Petaluma, California
Germain Seed Co., Los Angeles, Distributing Agents for So. Cal.

Little Chicks should be fed on Excelsior Chick Food

prepared from clean, sound grains, seeds, beef scraps and charcoal in proportions to make a well balanced ration and produce strong, healthy chicks and keep them continually growing. For sale by all dealers and grocers. Take no other.

Excelsior Cereal Milling Company

242 Central Ave., Los Angeles

MY BOSS MAKES MONEY

Because he raises poultry in the Inglewood Poultry Colony. Eggs bring a higher price there than they do anywhere else. If you are going into the poultry business, go in right and get a farm in the Inglewood Poultry Colony. Address for particulars

Inglewood Water Company
349 Wilcox Building Los Angeles, Cal.

Profit in the Poultry Yard

We solicit short articles of a practical nature from the fancier and utility breeder, giving their experience with poultry. All inquiries pertaining to feed, management, disease and its prevention will be answered through these columns.

KEEP SMALL FLOCKS.

TWENTY-FIVE hens in a flock, the individuals of which lay 150 eggs in a year, is a much better investment than a flock of fifty that lay only seventy-five eggs each in the same time. We have got as many eggs from the small flock as the large one and have saved the feed of twenty-five hens, also the extra labor involved in caring for the larger flock. How hens can be bred and cared for in such a way as to produce 150 eggs annually is well brought out by Prof. Gould of the Maine Experiment Station in a recent report. Starting ten years ago with an ordinary flock of Plymouth Rocks, the high producers have been selected from year to year by the trap nest method, these have been used as breeders in the year following the one in which they made a record. By this careful selecting it has been possible to build up a flock, the average of which is 160 eggs per hen. These hens were kept in the rigorous climate of New England. Yet many a man and some women would take these record-making birds and make scrubs of them by their methods of treatment. Having well-bred stock, it must be well cared for to continue heavy producers.

The method of developing and feeding these layers has been something as follows:

The chicks are hatched in incubators and brooded in colony brooding-houses. The houses are 7x12 feet, have a good tight floor, sheet roof and two windows and a door in the front. Two brooders are put in each house, separated by a partition. They are fed any food in the litter and dry mash is kept before them, given grit bone and charcoal and green food.

Here they are kept until the snow is off the ground, then this colony-house is moved to the field where the birds have a grass run until fall, when they are put in the laying-houses. In this house they are fed grain in the litter and dry mash in the hoppers. They have dry clover, beets, turnips, etc., for green food and are liberally supplied with meat in shape of beef scraps.

The record shows that it has cost $1.45 per hen for food as an average for several years, while the gross returns for eggs, has been something above $3.00.

Now, with a small flock, well cared for, anyone can do equally well; but when we have made twenty-five hens give us a record similar to the above, don't let us get ambitious to go into the poultry business and base estimates on what can be done with a small flock. If we do, we will stand a good show of being disappointed. As numbers increase, the attention to details is apt to be neglected, disease creeps in and causes loss. We fail to keep our birds up to high production, cost of keep does not diminish, and soon the balance is on the wrong side of the ledger. The profitable eggs of this country are to be produced by small flocks on the farms and village lots by those who do not make poultry raising their principal business, but rather a side issue for profit and recreation.—S. S. T.

WHAT TO FEED.

This depends on the locality. Make the basis of your mixture that grain or mill-product that can be most readily and cheaply obtained in your locality. If in the Middle West, corn. If in California, barley. In a locality where wheat is abundant and cheap, then use wheat. Study the composition of this substance selected and if deficient in protein add something rich in protein. If it runs low in fat, add to it foods rich in fat. If bran is readily and cheaply obtained, as compared with other food material, then make a goodly per cent. of the mash bran, but add to it something rich in starch and fat.

Barley is a starchy food. Corn contains a large proportion of starch and is also well supplied with fat. The addition of either of these to the bran tends to give us a better balanced ration. And a dollar's worth of this mixture will give us better results than a dollar's worth of either corn, bran or barley, fed alone. Try it.

The following makes a fairly well balanced mixture for California conditions:

Bran, 30 pounds; corn meal (feed meal,) 20 pounds; beef scrap, 5 pounds.—S. S. T.

POULTRY BREVITIES.

Keep the brooder the first week from 90 degs. to 95 degs.

* * *

To the temperature of the brooder may be traced much of the mortality among young chicks.

* * *

Ventilation without direct drafts is one of the essentials of a well constructed poultry house.

* * *

One great secret of getting a good profit from poultry is weeding out the unprofitable layers.

* * *

The trap nesting of fowls should be undertaken only by those who have abundant time to devote to it.

* * *

Most any of the standard makes of incubators will hatch a fair per cent. of the fertile eggs. It is when we come to raise them that the trouble commences.

* * *

Rhode Island Reds.

California Cultivator: Will you give us something of the origin and history of the Rhode Island Red fowl, now so popular with many? —E. M. K.

A writer in Farm Poultry gives the following information on the subject: The Rhode Island Red is a fowl that has been produced by several farmers in and about Little Compton, R. I. This community is largely engaged in the production of eggs for market. Rhode Island Red is the fowl kept by nearly all of them, but you occasionally see a few Light Brahmas and Barred Plymouth Rocks, and we are told that at one time you could see some R. C. Brown Leghorns. All these varieties and more have been used in making the Rhode Island Reds. Some Red Malays are said to be chiefly responsible for the color of this breed. Years ago these males were introduced and crossed on different birds

in this vicinity. The poultry farmers took a fancy to the red color, and always bred from red males. Whenever they introduced a cross they always saved the red males from this cross and bred them. In time the breed established had this red color, no matter whether the foreign blood introduced had been Light Brahma or Barred Plymouth Rock; but whatever it had been, the red always predominated, and these poultry raisers always clung to it. It should be borne in mind that this was years ago, twenty, thirty, or in some cases even fifty years ago. The introduction of the R. C. Brown Leghorn blood is said by many to be responsible for the rose comb variety. The fact that these farmers were not as particular in the selection of the females as they were in the selection of the males, is undoubtedly what has caused this breed not to breed as true as others until possibly very recently.

* * *

Blood Spots.

Will you please tell me, through your paper, why it is that fresh eggs have spots of blood in them?—C. E. Rice. Redlands.

Blood spots in eggs are due to slight hemorrhage in the ovaduct. When an organ is functionally very active, quantities of blood flow to that organ. In such cases small blood vessels may break and blood escape into the ovaduct. This is not a disease, but due to the marked activity of the organ. Such organs become readily inflamed by slight disturbances. Slight chill readily causes garget in the heavily milking cow, the congestion passing to inflammation.

Such conditions call for a cooling diet, as green food in abundance, less meat scraps and similar foods, and the addition of saltpeter to the drinking water; a teaspoonful to two quarts will be found beneficial.

* * *

Abnormal Appetite.

Please tell us why it is our chickens eat their droppings. Is it because they need some food we are not giving them? If so, kindly let us know what it is. They get all the grain they can eat, wheat, oats, barley and corn. Meat scraps, charcoal and cabbage are also given them.

Would appreciate some information on the undermentioned also. Some four weeks ago we got 200 B. Leghorn chicks from some man we know nothing about. The chicks, when we received them, looked nice, healthy little fellows, but since then they have steadily weakened and died. A white mucous, or matter, gathers in the eyes, and in some cases it is in such abundance that it just oozes out of the little beggars' eyes. In all cases it has proved fatal. They are fed on a good chick food and get beef scraps and green food.—"H. H.," Poultry Farm.

The cause of the abnormal appetites developed by animals at times is often hard to trace. In one case it may be lack of some ingredient in the food. In another, it may be from lack of exercise and occupation. I would suggest you feed more mineral matter and give the hens access to a supply of green food, that they can gather themselves, if possible, as a patch of alfalfa. The tincture of nux-vomica added to the drinking water, a teaspoonful to two quarts, will tend to tone up the digestive system. I think the Leghorn chicks contracted a cold either in shipping or at some other time, and it has developed to a catarrhal condition, resulting in the mortality that you mention.

* * *

Ticks.

Inclosed please find sample of ticks which we find in our hen-houses. Will you kindly tell us how to get rid of them?—A. J. H., Davis.

Spray the houses with kerosene emulsion, using a good spray pump. Do this after removing all rubbish. It would be well to add a pint of crude carbolic acid to two gallons of the emulsion, in which case you will have an excellent disinfectant as well. After thoroughly spraying, paint the under-side of the roosts and supports with crude oil.

Repeat this treatment in five or six days and think you will find the house free from not only ticks but mites as well.

WHITE AND BROWN EGG INCUBATION.

It is unnatural to incubate light and dark eggs together. Dark eggs are produced by different breeds from white ones and shell and membrane are of different texture. Place Leghorn and Cochin eggs in the same incubator and the Leghorns will hatch from 12 to 24 hours ahead of the Cochin and the Cochin chicks will never be so good as when kept in a separate batch. Have often tried, for convenience only to hatch Leghorn eggs with Brahmas, Plymouth Rocks, Wyandottes or Orpingtons and always the same result, whether under hens or with incubators—poor hatch from the browns and not up to average with the whites. Have had better results from mixed eggs by giving the browns twelve hours start of the whites.

WATER BASIN FOR CHICKS.

Take a basin that will hold about two quarts of water and fill it with pebbles a little smaller than eggs. When level full of the pebbles, pour in the water until the spaces between them are all full. Sink the basin in the ground until the rim is an inch above the surface. The chicks can run all over this, stepping on the pebbles and can drink the water without getting wet. We have used such a fountain for years with perfect success. It is easy to clean, keeps the water cool for several hours and protects the chicks from getting wet all over, as they cannot crowd each other into the water no matter how much they try to do so.—Minnesota and Dakota Farmer.

The night was dark, the coop was cold,
The rooster was infirm and old.
There was no flesh upon his bones;
His lice were cold as paving stones.

Deeply and darkly at dead of night,
No other bird around him,
Shanghai the slender gave up the fight
Dead the next morn they found him.

Black Minorcas
Exclusively
"Birds That Lay and Win"
Winnings at Los Angeles, 1908: Cocks, 1, 2, 4, 5; Cockerels, 1, 2, 4, 5; Hens, 1, 2, 3, 5; Pullets, 1, 2, 3, 4, 5 Pens, 1, 2; Cup for highest scoring Minorca male in show. Stock and eggs for sale. Catalogue free.
H.A.Wheeler, Box 123, Lordsburg

HOMERS
Prolific Breeders
Winner of 1st pen at Breeders' Show
Satisfaction Guaranteed
C. E. Bunker
San Jacinto, Cal.

Baldwin's White Leghorns
First prizes San Jose '06, and State Fair '07. Three 1sts and special, San Jose, '07. $50 cup best display Petaluma '07. Send for free '08 Catalogue and price list. Good breeding stock for sale cheap to make room.
Frank E. Baldwin
46 Washington Ave. - San Jose, Cal.

FEED YOUR PULLETS
As well as your Laying Hens, on
Coulson's Egg Food
It will bring them to maturity in health and vigor and ensure you lots of eggs in the Fall when prices are high. It can be fed moistened as a mash, or dry in hoppers. Manufactured only by
Coulson Poultry and Stock Food Company
Petaluma, Cal.
GERMAIN SEED CO., Los Angeles, Distributing Agents for Southern California
Send for our Free Book, "Poultry Feeding for Profit"

For More Eggs Feed
Egg-More
Not a strong tonic and stimulant, but a little fed daily with good grains will keep hens healthy, make them molt early, feather out quickly, and lay lots of eggs when scarce and high. If not sold by your dealer, we will prepay freight on 25 lbs., $1.90; 50 lbs., $3.60; 100 lbs., $7.00. Send for free booklet.
West Coast Mill
705-709 Griffin Ave. (S. P. Track) Los Angeles, Cal.

RANCH MIRASOL
Annual Clearing Sale of Breeding Stock
Opens July 1st
This is the Famous Mitchell Strain of S. C. White Leghorns
Laying Hens, $1.00 to $3.00 each; Cockerels, $3.00 to $20.00 each
With every order for hens amounting to $15.00 or over we will give one $3.00 Cockerel as long as the stock of the latter lasts. This offer is good till August 1st only. We are taking orders now.
Carl C. Curtis, Owner, Lincoln Avenue and Ventura St., Pasadena, Cal.
NORTH FAIR OAKS—ALTADENA CARS

Starbuck's Barred Plymouth Rocks
We trap nest our hens. Why set from poor layers? Bird laying qualities are inherited the same as any other. This year we have discarded all old matings and have gone to the next generation. Cocks have 9 generations of 200 egg mothers. Hens all from 200 egg mothers and from cock with 6 generations of 200 egg mothers, and are laying fine. We have divided into pens according to the way they are showing up in six months laying. $2.50 for 13 eggs from first pen. $1.00 from 2nd. until they have time to make longer records. (Except from our one best, not for sale. We claim the world's Barred Rock, 6 months laying record for this one.) Do you wish to hear about our prize winning Buff Orpingtons and Silver Wyandottes? We have something to crow about. No Sunday sales or visitors. ***Wm Starbuck & Son, Fullerton***

Trap-Nested White Wyandottes
That won 22 ribbons out of 25 and 6 Silver Cups and a carving set and a cut glass vase. All the National White Wyandotte Club Ribbons. Second on 10 pullet pen, contest open to all breeds. Mammoth Bronze Turkeys, winners of 5 blue ribbons, all at Los Angeles County Poultry Association Show, December 7, 1907. White Wyandottes were judged by H. Berrar of San Jose, Cal., and W. W. Browning of Ogden, Utah. Hens and Pullets, $15, $20 and up.
MISSION VIEW POULTRY RANCH, MRS. C. D. HUBBARD, SAN FERNANDO, CAL.

Now is the time to hatch **BANTAMS**
Golden Sebright, Buff Cochin, and Light Brahma Eggs, $2 per 15. Prize winners.
M. E. Dillingham Box 67, San Gabriel, Cal.

White Wyandottes Exclusively
Good, White, Typical Birds. Stock and Eggs For Sale.
W. A. SEYMOUR
470 No. Beaudry Ave. Los Angeles Cal

Bees and Their Care

WATER FOR BEES.

Few beekcepers are aware what amount of water is required by a colony of bees during the summer months, and how important it is that a permanent supply should be available within a reasonably short distance of an apiary, says a writer in the Agricultural Journal of Victoria. As a general rule, bees are left to themselves to get their supply of water wherever they can.

There is usually a natural watercourse, dam or water-hole somewhere in the neighborhood, and if permanent and withiu a few hundred yards of the apiary, such sources answer well enough. When, however, water is not permanently available within a quarter of a mile, it is greatly to the advantage of the apiarist to provide an artificial supply as near the apiary as convenient. I do not think that the time occupied by the bees in carrying water over a longer distance need be seriously considered, but the greater liability of being caught by birds and insects blown down during strong winds or caught in rain-squalls during the longer journey is a serious matter. At the margins of dams and water-holes hundreds of bees are often destroyed within a few minutes by cattle or horses stamping them into the mud or swamping them through the plunging of the auimals into the water.

Saves Hard Feeling.

Where many bees are kept, and the water supply is limited, they become a uuisance to stock, aud sometimes a source of ill-feeling between neighbors in consequence. Bees are also very annoying about the apiarist's own home, round water-taps, tanks and the drinking dishes of poultry, when the weather is hot, and any other supply of water rather far from the apiary. The writer was confronted with all the troubles enumerated when first establishiug his apiary in its present location; an automatic artificial supply close to the apiary has overcome these difficulties, and has now been working contiuuously for eight years without a hitch.

The water is obtained from the roof of the honey house and stored in two tanks of 1000 gallous each. An iron water pipe, laid underground (18 inches deep) so as to keep it cool in summer, conducts the water to the drinking troughs, which are at a distance of about 100 feet from the building, and the same distance from the nearest hives. This distance is necessary, otherwise the bees, when flying to and from the water, interfere with work in the apiary, and also cause confusion at swarming time. There are two drinking troughs; they are placed on a stand at a height of three feet from the ground, in order to prevent poultry going to them, and to keep drifting leaves and other material out as much as possible.

Each trough measures 36 inches x 24 inches inside, with a depth of six inches, and consists of a frame made of 6x7-8 white Baltic flooring boards, with a bottom of 6x½ lining boards. It is lined with plain galvanized Iron, No. 26 gauge, neatly fitted inside the wooden casing, to which it is secured at the top with fine tacks. It is better to have two or even three of such troughs instead of a large one of the same surface area as the two or three combined. If only one large trough is used the bees are too much concentrated, and a good deal of fighting and stinging takes place occasionally. It is, therefore, better to have several troughs a little distance apart, and if they are placed on the same level and connected by means of a piece of garden hose attached to a stud at the bottom of each, one stand pipe, with automatic tap, will supply them all. On the top of each trough floats a raft, upou which the bees alight to drink, aud it Is so constructed that they cannot drown, and even dead bees cannot drop into the water and thus pollute it. The raft is made of slats of ½-inch lining boards, 35⅝ inches long, 15-16th iuch wide, and ½ inch thick. The edges on the upper side are planed away at an angle of 45 degrees, so that when the slats are placed side by side they form V-shaped gutters, with an openiug 1-16 inch wide at the bottom. Twenty-four of these slats are nailed on to three cross-pieces of ⅞-inch flooring board 23½ inches long and 2 inches wide, in such a way that the thin bottom edges of the slats are 1-15 inch apart. The raft is then fitted into the trough and dressed till a space of not more than ⅛ inch remains all around between the raft and the lining of the trough. An automatic valve can be arranged to keep the water at a uniform level.

RIVERSIDE PARK.

MANUFACTURED HONEY.

Frank M. Benton of the United States Department of Agriculture is another who does not believe there is such a product as manufactured comb honey. He says: "I am aware that there is a popular belief in the idea that much of the comb honey sold in the open market is manufactured and adulterated; that is, prepared artificially in factories. Such is not, however, the case, as an examination of the whole subject would convince any fair-minded person. Were this so, it would be very easy to select two sections of the same make which would be exactly alike, being produced by machinery, but no two sections of honey have ever yet been seen that were exactly alike.

"There exists stil another reason which may be brought up as a strong argument against this popular fallacy. The cheapest manner in which any substance cau be placed in honey combs, sealed over and put on the market so as to sell readily for comb honey, is to employ honey bees and place them in a rich field where honey-producing plants are abundant. Aside froui the difficulty of producing combs themselves, every pound of liquid prepared or placed in these combs would cost the adulterator several cents at wholesale rates, then would follow the labor of sealing. The whole thing would require expensive machinery and the employment of workmen in order to do the work were it possible, on any scale, commensurate with the idea of profit. It is much simpler, and far less capital is required, to set up apairies and allow them to increase, as they naturally do, and gather supplies from the boundless realm of nature, where the cost is nothing."—Journal of Agriculture.

DANGER IN OLD BEE HIVES.

I will endeavor to explain my experience in using old hives in which some one's bees died, and not knowing what was the cause of the bees dying.

In 1905, during the swarming season, I ran short of hives, so I used some of the hives that belonged to the fellow who had formerly kept bees where I am keeping mine. At one time he had some one hundred colonies, but lost them all in a short time. He said his bees died from neglect and moth worms. So I thought if the moths were the cause there would be no use in burning out the hives to prevent foul brood. This summer I have had three or four cases of foul brood, which started in these old hives. This goes to show that his bees died from foul brood. Now, my using those old hives may cause me to lose all my bees.

I will say to any one, if you are going to use hives that the bees have died in, unless you know for certain that they did not die from diseases, I would advise you to burn out the insides of the hives thoroughly and everything that goes with them. Ex.

BEEKEEPING ON A SMALL SCALE.

If one keeps bees on a small scale it pays to have the best of hives. They cost something, but they last well, aud your bees do better, winter better and make more honey generally than if you put them in any old box. The bees feed themselves, so there is no feed to buy, as in the case of chickens, and of course they will increase some, which increase you can generally dispose of, if your terms are not too high. There is nothing about the bee business that we know of that a woman cannot master as well as a man, if she care to .

The vetches are not honey plants of the first order, but they do furnish a large amount of honey-bearing nectar in their flowers and stipules; they make a good growth and constitute withal a very valuable forage legume.

DIVIDEND NOTICE.

San Francisco Savings Union. N. W. Cor. California and Montgomery streets.

For the half year ending June 30th, 1908, a dividend has been declared at the rates per annum of four and one-quarter (4¼) per cent on term deposits and four (4) per cent on ordinary deposits, free of taxes, payable on and after Wednesday, July 1st, 1908.

Depositors are entitled to draw their dividends at any time during the succeeding half year. A dividend not drawn will be added to the deposit account, become a part thereof and earn dividend from July 1st.

LOVELL WHITE, Cashier.

DIVIDEND NOTICE.

The Savings and Loan Society. 101 Montgomery St., Corner Sutter St., San Francisco.

For the half year ending June 30, 1908, a dividend has been declared at the rate of 4 per cent per annum on all deposits, free of taxes, payable on and after Wednesday, July 1, 1908. Dividends not called for are added to and bear the same rate of interest as the principal from July 1, 1908.

WM. A. BOSTON, Cashier.

THE HARD PART.

"Take the stand," said the court to the railway magnate.

"Thank you, judge," replied the person addressed. "Would you mind sending the bailiff out for a screwdriver. The thing seems to be fastened down."—Philadelphia Ledger.

What you bring away from your field in straw and grain depends largely on what you carry to it in cultivation.

General Agriculture

THE VALUE OF A LOAD OF MANURE.

A LOAD of fresh manure (1 ton) contains ten pounds of nitrogen, two pounds of phosphorus and ten pounds of potassium, besides other elements of plant food not so important in point of provision. If figured at commercial prices, the nitrogen at 15 cents a pound, the phosphorus at 12 cents and the potassium at 6 cents a ton of such manure would be worth $2.34.

But bare figures are not interesting unless their relations to other things which do interest us are shown. Corn fodder, for instance, has 16 pounds of nitrogen, 2 pounds of phosphorus and 17 pounds of potassium. It is worth, merely as manure when figured as above stated, $3.65.

A ton of oat straw is on the same basis worth $3.25. Wheat straw is worth $2.75; clover hay $8.40; alfalfa hay $9.40; cowpea hay $9; timothy hay $5.35. Thus a ton of manure would be less valuable than a ton of any of our ordinary field crops, if the latter were used as fertilizer only, and also supposing them to be immediately available as plant food. The fact that they require a longer or shorter period for decay, while manure is quickly available, accounts for the more apparent value of the manure.

It is interesting also to note that a ton of manure contains sufficient nitrogen for 10 bushels of corn; enough phosphorus for 11 3-4 bushels; enough potassium for 52 3-5 bushels. For wheat there is enough nitrogen for eight bushels; phosphorus for 13 1-2 bushels; potassium for 36 1-3 bushels.

Now let us compare a ton of manure with an equal quantity of commercial fertilizer. We shall take such fertilizers as are best for some one element, rather than mixed or complete fertilizer, because the manufacturers charge extra for the mixing. A ton of sodium nitrate has enough nitrogen for 310 bushels of corn or 270 bushels of wheat; it costs $46.50. A ton of bone meal contains enough phosphorus for 1470 bushels of corn or 1666 2-3 bushels of wheat; it costs $30. A ton of potassium chloride (sometimes called muriate of potash) contains enough potassium for 4200 bushels of corn, or 3055 bushels of wheat. Accordingly, if one ton of sodium nitrate, one-third ton of bone meal and one-fourteenth ton of potassium chloride be applied to one acre, capable of producing say 50 bushels of corn, six 50-bushel crops might be taken from it and the soil still be as fertile as before. The cost of fertilizer would be nearly $60. The crops at 35 cents per bushel would amount to $105. An equal quantity of manure would not produce one such crop of itstelf; yet at commercial fertilizer price $60 would purchase 25 tons of manure, which would produce five 50-bushel crops without drawing upon the soil at all.

The value of manure is not limited to plant food alone as are most commercial fertilizers. Manure has the effect of making the soil looser and more easily tillable. It gives better color and enables the soil to drain better and retain moisture better. Also sets free other foods from the soil. Commercial fertilizers require that other things, such as straw or green manures be added to prevent the land from becoming "killed," as the condition is often termed.

It must not be inferred from this article that commercial fertilizers are more valuable than manure. Manure does not cost the farmer $2.34 per ton even where he hires a hand and hauls it several miles from town or city. What we wish to show is that the farmer can afford to pay that much before he needs to think about investing in commercial fertilizers.—Missouri College Farm.

NOW'S THE TIME!

Time for what?

Why for the people to do some thinking about what kind of a postal service they want.

Platforms—political platforms for congressmen to stand on—need framing.

In whose interest do you want them framed, my dear fellow citizens? In yours? Or in the express companies and corporations generally?

Whoever you are, whatever you are, merchant, mechanic or farmer, do you think it really benefits you to pay treble the real cost for the transportation of foods you need?

Do you know that while you can send by mail one pound of merchandise to London, England, for 12 cents, you are made to pay 16 cents for the same pound if you mail it to the next village in California? Is this in your interest? You have been told it is! Do you really believe it?

Do you know that the express companies carry for the British Post Office parcels up to 11 pounds weight from New York to any point in the United States for 24 cents each?

Do you know how much they charge you for the same service?

If not, just enquire of Wells Fargo & Co.'s agent. Do you want this to continue?

Don't talk what the express companies have put into some gullible merchant's mouth, that an up-to-date parcels post will ruin local trade by throwing business to the mail order houses.

Don't you know that lots of these houses already send their wares free of all charge for transport to their customers? Probably special rates favor this. Why not let your post office handle your parcels with equal rates to all, and with surety of no secret rebates or favors to any? Cheaper transportation helps and makes trade; does not hurt it.

If you want cheap parcels post see you have your delegate to your party convention instructed to put it and keep it in the party platform.

And Now's the Time!—Edward Berwick, Pacific Grove.

Those contemplating the culture of alfalfa should use every available means of familiarizing themselves with its necessities and the aids to its growth. As shown by Bulletin No. 300 of the Station at Geneva, New York, inoculation with nitrogen-gathering bacteria is necessary to success on a great majority of fields where alfalfa has not previously grown. Without inoculation the chances are four or five to one against success, while with it, 70 per cent of the fields under test gave satisfactory yields. The use of soil from an established successful field has given better results than any other method of inoculation tested. All bulletins of the Station are sent free to applicants.

Malthoid Roofing

Saved the lumber, coal and building plant of A. I. Schowalter & Co., of Halstead, Kan., from fire last March. The south wind blew the flames from a barn filled with hay directly on the sheds of this company. These sheds were roofed with Malthoid, while the sides were covered with corrugated iron. The heat was so intense that it ignited the wood back of the corrugated iron and it was only with difficulty extinguished. The fire-resisting qualities of Malthoid Roofing saved the roof, which was subjected to the most heat.

Malthoid Roofing is fire-resisting and durable.

The Paraffine Paint Co. San Francisco California

E. G. Judah, General Representative, Security Bldg, Los Angeles

Paid Semi-Annually

7%

Assured Profit

We offer you Cane Sugar Lands in Mexico. Perfect title. Give 50-year contract to cultivate for you, guaranteeing 7%, paid semi-annually, until crop profit exceeds this amount. Offer these lands for cash or on easy terms.

A Life Income from Land

Sugar Plantations produce the greatest continuous yield of any known crop. Tropical Mexico stands today unmatched in soil, climate, water. We own over 9000 acres in the heart of the best section—near Tampico. You become a land-owning profit-sharer in this project. We do all the work for you.

Sugar Plantations the Most Profitable Crop in All the World

GOOD LIVE AGENTS WANTED

One Acre Should Produce $203.52 Annually
Five Acres Should Produce $1017.60 Annually
Ten Acres Should Produce $2035.20 Annually

Free Trip to Property Communities or syndicates buying 50 acres or more, may send representative to property at our expense

Tampico Sugar Company References: Citizen National Bank

Los Angeles California

501 Union Trust Building

Yaqui River Valley Lands

$12.50 PER ACRE

Alfalfa, wheat, corn, beans, sugar cane, oranges, lemons, limes, and other semi-tropical crops and fruits grown on these lands, rich alluvial and silt deposits.

The Finest Irrigation System in the West

An abundance of water at 50 cents per acre foot. Terms offered during the next ninety days are extremely easy. For information write

WM. H. CANNON & CO., Ventura, Cal.

Poultry Supplies

Best of All Kinds at Lowest Prices

West Coast Seed Co.

707 So. Spring St., Los Angeles, Cal.

AERMOTORS

Send for FREE Catalog

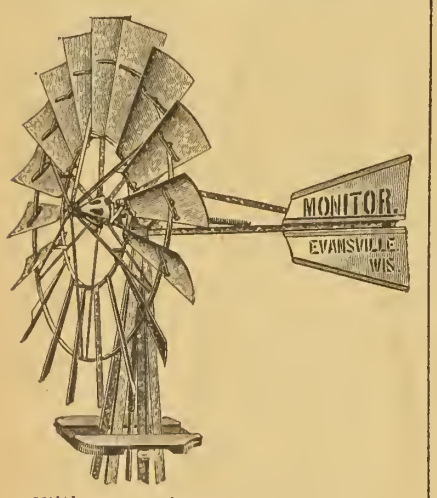
Specially Adapted to Conditions in Southern California

WILL RUN IN A WIND SO LIGHT THAT OTHER MAKES STAND STILL.
NO WIND STRONG ENOUGH TO INJURE IT.
ADJUSTMENT FOR TAKING UP WEAR OF PINION.
WITH PROPER OILING, WILL LAST A LIFETIME.
HEAVILY GALVANIZED AFTER COMPLETION.
THOUSANDS OF REFERENCES.
COST NO MORE THAN OTHERS THAT ARE NOT AS GOOD.

Tanks Towers Pumps Distillate Engines

Smith-Booth-Usher Co
Machinery and Supplies
Successors to
S. J. Smith Machinery Co. and L. Booth & Sons
212-214 S. Los Angeles St., Los Angeles
Home, Ex. 1090—Sunset, Main 1090

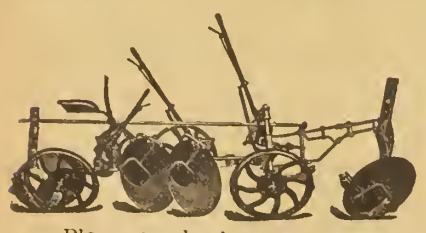
Don't Buy a Windmill



Without getting our proposition.
Write today for full information.

Arnott & Company, Inc.
112-118 S. Los Angeles St.
Los Angeles, Cal.

EMERSON DISC PLOWS



Plow your land now—no need to wait until the rain softens it. The Emerson Disc Plow will plow it, and you will get larger crops next year.

Some Disc Plows are better than others—the Emerson is the best. Let us tell you why it is the best. Write us for information.

Newell Mathews Co.
Los Angeles and Market Streets.
LOS ANGELES, CAL.

IF YOU CANNOT COME TO THE CITY
Just write and tell us what you want. We purchase anything. No extra charge for services.
Columbia Commercial Co., Mail Order House
405 East Second St. LOS ANGELES, CAL.

JAMES R. TOWNSEND
Solicitor of American and Foreign **Patents** Copyrights, Trademarks and Labels Registered. Rooms 428-433 Bradbury Blk. Los Angeles, Cal. Phones: Home, A4619; Sunset, Main 347

Queries and Replies

Questions to be answered in this department should be received at this office one week before reply is expected. Write plainly on one side of the paper and sign full name and address. Unsigned communications receive no attention.—Ed.

Spray for Spider.

I send a few apple leaves that seem to be infested with a plant louse that is on my cabbage plants.

You will also notice some of the leaves are curled, with a small worm on the inside. These leaves were taken from my orchard planted last December. Will Bordeaux mixture kill them?—W. B. W., Santa Cruz.

The Bordeaux spray is of no value for insects. It is for killing fungous growths only. Spray with tobacco solution or distillate emulsion. See issue of Cultivator of March 12, for fuller directions.

Brown Scale.

The specimens of scale infesting the leaves of the orange from your correspondent at Lodi prove to be the soft brown scale, Coccus hesperidum. It can be best controlled in this particular case by kerosene emulsion, which is made as follows:

Dissolve one-quarter pound of yellow soap in a gallon of hot water. Add a gallon of kerosene and mix the two thoroughly, this being best done by pumping the solution back into itself with a pump.

This is a stock solution and should be diluted to twenty-five or thirty gallons. This preparation should be made in these proportions, and of course, can be made in any quantity.—H. J. Quayle.

Mold on Grape Juice.

An inquirer wishes to know reason for mold forming on surface of bottled grape juice. The inquiry was referred to Mrs. Louise Cary Smith of Pomona, who has for years put up perfect juice. At least it is nearly enough to perfection that she won gold medal over all producers at Portland Exposition and has built up a business which is attracting the best trade of the country to her "El Verde" brand. Mrs. Smith guarantees her product to be grape juice—absolutely no preservative other than sterilization. We may add, however, that the painstaking work of Mrs. Smith and the absolutely cleanly method of work and attention to details, from washing the grapes to final bottling, which she personally supervises would permit no spores of mold to infect her product.

Mrs. Smith says:

"Concerning the cause and preventive of mould forming on grape juice, I would say the cause is largely due to the use of moldy grapes in crushing, and the prevention can only be secured through the utmost care in sterilizing or "pasteuring." For fuller details of this process, I beg to refer your subscriber to a bulletin on "The Preservation of Unfermented Grape Must," issued from our State University several years ago."

Raising Rabbits.

Several questions have been sent in regarding care of rabbits and Belgian hares. We recently requested Mrs. Bee Josephine O'Mealey of Kanova Ranch, Anderson, to give some information. She is qualified from years of experience. She writes:

People do keep all ages, sexes and conditions of hares in one pen, but so do certain of our foreign element live—twenty or more in one single small room; and one condition is just about as advisable as the other. We never find it safe to keep two or more animals, male or female, in the same pen after breeding once. Does may be kept together until bred or bucks until service is permitted, but not with safety afterward. One has a very different opinion of the "timid hare" after seeing the incredibly vicious fight a pair of does will put up. No quarter is given and the fight is to the death, unless separated.

It is sometimes necessary to give one doe some of another's progeny to rear. In such case the interloper should be as nearly as possible the same size as the foster mother's own little ones—smaller in preference to larger. Before being introduced to the nest the strangers should be rubbed or wiped over with some of bedding material which is saturated with the excretion of the intended mother. Unless this be done to remove the scent of the dam, the foster-mother will invariably destroy it. I have seen a cat bring up young hares with excellent results, but personally consider a cat-mother too much trouble.

People sometimes become unduly alarmed and think a doe neglects her little ones because she is not seen to nurse them. In years of experience with large numbers of hares I have never seen but one doe nurse her young.

Hares demand clean quarters, wholesome feed, fresh clean water twice a day, and freedom from interference.

Powdery Mildew.

Please tell me what is on the enclosed apple leaf.—Subscriber, Gardena.

The apple leaf sent by your subscriber at Gardena is affected by the powdery mildew, a very common trouble with apples in this State. This disease is best controlled by spraying with some kind of a sulphur mixture early in the season before it has developed. For this purpose we have used a solution of sulphide of potash of about one ounce in two gallons of water. A lime sulphur mixture is also effective, and the so-called Rex spray, a compound, and the so-called being used to a considerable extent at present for this purpose. I also find included a twig of peach leaves from San Diego county. These appear to have been affected by some insect, and I will keep them for Professor Quayle. Ralph E. Smith.

Red Spider.

What is best method of destroying red spider? Where can I get government bulletin on the subject?

H. S., Orange.

See Cultivator of March 12 for sulphide formula or blow dry sulphur through the tree. This should be done before the pest appears, to be most effective. Write Experiment Station, State University, Berkeley, Cal., for bulletin, or Department of Agriculture, Washington, D. C.

Dipping Fumigating Tents.

Will you tell me regarding dipping of fumigating tents to preserve and make them more effective in holding gas? S. W. M., Orange.

Commissioner Pease of San Bernardino gives the following:

We have a tank over a furnace large enough to hold a 45-foot tent easily. Over this we erect a derrick high enough to raise the tents out of the tank after they have been dipped. The tank is filled two-thirds full of water and to this is added enough oak extract to make the tents a good color. We use nearly half a barrel at first and add more extract as we need to fill up the tank. The tents are immersed in this when boiling and kept boiling until the tents are saturated all through.

The tents are then pulled up out of the tank by means of the derrick and after draining a few moments are spread out on the ground to dry, after which they are rolled up and stored until needed for use.

The oak extract is used as a tanning process to prevent mildew, and to fill the cloth. The only place that I have been able to find oak extract in Los Angeles is at F. W. Braun Drug Co. Larger tents can be dipped one-half at a time, dipping one-half and then reversing the tent and dipping the other half. S. A. Pease, San Bernardino.

Dodder.

The enclosed growth is continually forming on my alfalfa and killing it.—Subscriber, San Diego.

It is "dodder" or love vine, a yellow, leafless, thread-like vine, which is an annual. Cut off the infested spot and burn straw over it. Never let go to seed as it will continue to perpetuate itself. In buying alfalfa seed always insist it be free from dodder seed.

Aphis.

I am sending you a lima bean plant, under separate cover, which I took from a field yesterday evening. There are a great many affected the same as this and most all of the bean fields hereabouts are affected more or less. Can you let me know a spray or anything else that will stop their spreading? Please answer through the Cultivator.—A Subscriber, Carpenteria.

Aphis, and an exceedingly bad case of it. Kerosene emulsion will readily kill the pest, but must be used quickly. It is probable a change in weather will give you relief.

Output of Potatoes.

A reader recently required the output of potatoes for the coming year. The query was referred to the State Board of Trade at San Francisco and it replies:

It is an impossibility at this season of the year to make even an estimate as to the output of the potato crop for the State. In many localities not all of the early crop has been dug and the late crop has not come in yet. When we are in position to give you the information even approximately correct we will be glad to do so.

Red Gum.

W. A. Burnell, a subscriber to the Cultivator, who recently moved from Los Angeles to Imperial county, writes a glowing report of his new home near Calexico, saying: "It was quite a risk but I am glad I took the chance. I planted last week five acres to Egyptian corn and in four days it was out of the ground and on the evening of the fifth it was one inch above the ground and had a root three inches long. It will give me fodder for stock in six weeks. The heat has not been as bad as I expected, and the worst I have experienced was 112 degrees; have worked out in the sun every day since I came. There is about fifteen degrees difference in the way the heat feels, and I am told that 100 degrees here is about the same as 85 in Los Angeles. What varieties of the eucalyptus are best adapted to the Imperial valley?"

Try the Rostrata or ordinary red gum.

A HUMAN FAILING.

"Pa, what is the meaning of inconsistency?" asked Freddy.

"Inconsistency, my son," explained pa, "means a man who growls all day and then goes home and kicks the dog for barking at night."—Harper's Weekly.

Warranted to give satisfaction.

GOMBAULT'S

CAUSTIC BALSAM

A safe, speedy and positive cure for

Curb, Splint, Sweeny, Capped Hock, Strained Tendons, Founder, Wind Puffs, and all lameness from Spavin, Ringbone and other bony tumors. Cures all skin diseases or Parasites, Thrush, Diphtheria. Removes all Bunches from Horses or Cattle.

As a **HUMAN REMEDY** for **Rheumatism, Sprains, Sore Throat,** etc., it is invaluable.

Every bottle of **Caustic Balsam** sold is Warranted to give satisfaction. Price **$1.50** per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars, testimonials, etc. Address

THE LAWRENCE-WILLIAMS COMPANY, Cleveland, Ohio.

FARMERS' BOOKS

Order Through the Cultivator

FEEDS AND FEEDING.—By Prof. W. A. Henry. Is a thorough, accurate and reliable handbook for students and stockman, giving most practical and useful knowledge on plant growth and animal nutrition, feeding stuffs, feeding animals and every detail pertaining to this important subject, indispensable to every owner of live stock. 658 pages. 6x9 inches.
Cloth $1.00

AMERICAN GRAPE GROWING AND WINE MAKING.—By George Hussmann of California. With contributions from well known grape growers, **giving wide** range of experience. The author of this book is a recognized authority on the subject. Illustrated. 269 pages. 5x7 inches.
Cloth $1.50

STANDARD OF PERFECTION.—By the American Poultry Association and used as the standard for judging all shows. The thing for dealers in fancy stock.
Cloth $1.50

PERFECTED POULTRY OF AMERICA.—This is the most recent publication, and is one of the finest poultry books ever issued. It contains full page illustrations of all breeds and varieties of poultry, turkeys and water-fowl. On many of its pages are represented the feathers from each section of the fowl. Gives the information necessary for the selecting of the best specimen in your flock.
Cloth $2.50

A. B. C. AND X. Y. Z. OF BEE CULTURE.—By A. J. and E. R. Root, the leading authority on Bee Culture Its reputation is known to all Beekeepers. 536 pages.
Cloth $1.50

CAMPBELL'S SOIL CULTURE MANUAL.—By H. W. Campbell. The originator of the "Campbell System of Dry Farming." A complete guide to scientific agriculture as adapted to the semi-arid regions. Of great value to all Western ranches. 320 pages.
..... $2.50

Cultivator Publishing Company

Your Eastern Trip

SOUTHERN PACIFIC

May be arranged so that you may travel by way of

New Orleans and the Sunset Route

San Francisco and the Ogden Route

Portland and the Shasta Route

Enjoying the balmy air of the South or the cool and bracing air of the North.

Personally conducted excursions every day from Los Angeles via all routes without change to principal eastern points.

City Ticket Office:
600 S. Spring St., cor. Sixth
Southern Pacific

Irrigation and Forestry

FOREST FIRES.

The attention of all persons who inhabit or frequent the forest or brush-covered areas of California is called to the following provisions of the State Forest Laws relating to forest fires.

Under Statutes 1907, Chapter 536, it is a misdemeanor, punishable by a fine of not less than $25 nor more than $500, or imprisonment not less than fifteen days nor more than six months, or both, to commit any of the following acts:

1. To set fire on the lands of another, except camp fires, which may be built on unenclosed lands if the owner has not forbidden it in any way, and provided the builder totally extinguishes the fire before leaving it.

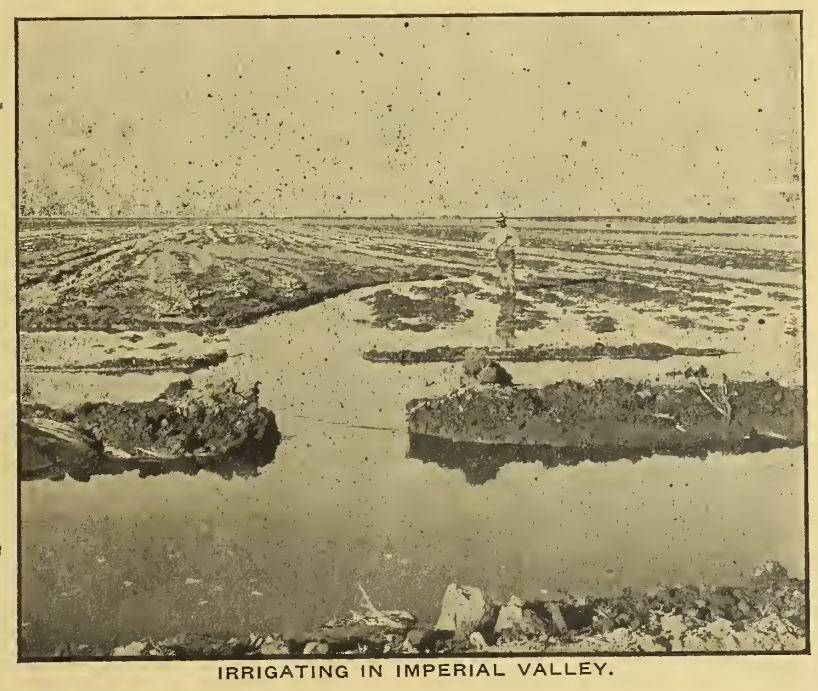
2. To allow fires, lawfully set, to escape from the control of the person having charge thereof, or to spread to the lands of another.

3. To build a fire anywhere (except camp fires and fires set to facilitate redwood logging) without first securing written permission from a State Fire Warden.

4. To use any engine or boiler, burning fuel other than oil, unless the engine or boiler is equipped with adequate devices to prevent the escape of fire from any part.

5. To refuse to obey the summons of any State Fire Warden to fight fire. (For this the fine is not less than $10.)

The light rainfall of last winter and the long spring drought makes the danger of fire this summer particularly great. On that account every precaution to guard against it should be taken. Your co-operation is sought to this end. If you have evidence that the State Forest Laws have been violated, place it in the hands of your District Attorney at once, and notify me. All violations will be prosecuted whenever sufficient evidence to secure a conviction can be gathered.—G. B. Lull, State Forester.



IRRIGATING IN IMPERIAL VALLEY.

IRRIGATION.

The Evening Index really ought to read up on the history of Southern California, and this county in particular. Such a course in reading would save its making so many ridiculous mistakes. For instance: In its editorial of last Friday it says of Mr. Matthew Gage, builder of the Gage canal, now irrigating in Riverside county some thousands of acres:

Gage is the pioneer irrigationist of Southern California. It was he who planned and built the first great irrigation system in Southern California, by which the country about Riverside was turned from a desert into fertility by water carried a dozen miles from the San Bernardino valley.

It is to laugh! Mr. Gage is not the "pioneer irrigationist of Southern California." He did not plan and build the first great irrigation enterprise in Southern California. At the time the Gage canal was built Riverside was not a desert, but had planted, growing and flourishing thousands of acres of trees, vines and other vegetation.

But Riverside was not the first irrigation enterprise in South California by nearly three-quarters of a century. Sometime about 1770 or 1771, the old Mission Fathers at the mission in San Diego, led the waters of the San Diego river out on the valley lands for the purpose of irrigating the same. About 1778 the Mission San Gabriel was irrigated from the waters of the San Gabriel river, and the old aqueducts or fragmentary remains thereof, remained sound and solid until only a few years ago. In this valley the branch mission of San Gabriel, in the western part of Redlands, was established and the zanja which now runs through the city, was built for irrigation purposes, and this same zanja has been in use continuously ever since, more than a hundred years. In fact, this zanja is the oldest irrigation system in the United States in continuous use.
—Redlands Citrograph.

Secretary Fischer of the State Agricultural Society visited the fruit growers of Sacramento valley and urged extensive exhibits at the coming fair.

FARM TO LEASE.

FOR SALE—7 1-3 YEARS LEASE ON THE Twin Pine Poultry Ranch, situated on the Los Felis Road, West of Pigeon Farm, less than three miles from Court House, consisting of four acres with all of the plumbing extending over the 40 yards and runs; abundance of water free and irrigation water twice a month; cow, horse, harness, wagon; about 1000 hens and chickens, pigeons, hares, five incubators, brooder house and 13 brooders, and other small buildings, all fencing included, and abundance of fruit. It must be seen to be understood. Lease includes five rooms of a seven-room house, a small rock house and barn room. Rent, $19.17 a month. Address, I. S. CROWFOOT, Route 5, Box 139, Los Angeles.

TREES.

FOR SALE—1,500 EUREKA LEMON TREES and 1,000 Washington navel orange trees, true to name. Also street and ornamental trees. Clean, healthy stock only offered. GEO. B. WARNER, SANTA ANA, CAL.

Classified Liners

Rates 1½ cents per word per issue. No ad accepted for less than 25 cents. Our classified columns are the clearing house for the readers of the Cultivator. Here you can insert an ad for the small sum of 1½ cents per word per issue, and be sure that it will be read by thousands.

MACHINERY.

GASOLINE ENGINES OF ALL KINDS, makes and sizes bought, sold and exchanged. We have a large stock new and secondhand. See us before buying. We can save you money. BAILIE & BRANDT CO., 943 N. Main St., Los Angeles, Cal.

FOR SALE—AT HALF ACTUAL VALUE No. 7 U. S. Cream Separator, good as new. One No. 9 machine new, to close out. K. B. Norswing, 5833 S. Main St., Los Angeles.

FOR SALE—JOB LOT OF NEW ADDISON Power Pump heads and cylinders, double and single acting, selling fast at reduced prices. Write quickly. BAILIE & BRANDT CO., 943 N. Main St., Los Angeles, Cal.

FOR SALE—ONE AND TWO-INCH HORIzontal centrifugal pumps at a snap. Never been used. BAILIE & BRANDT CO., 943 N. Main St., Los Angeles, Cal.

POULTRY

KILLAMITE KILLS THEM—BEST INSECT powder made for fowls or plants. 50c for 2½ lb. sifting can, express prepaid by us if your dealer hasn't it. Regular 10c can free, postage paid, for 10 addresses of poultry keepers. WEST COAST MILL, 818 San Fernando St., Los Angeles, Cal.

FOR SALE OR EXCHANGE—(FOR BLACK Minorca chickens, turkeys or geese): Thoroughbred Belgian hares, does $1.50, bucks $2.00; Black Minorcas eggs, $1.25 per setting. L. F. STERNEMANN, Wrights, Cal.

FOR SALE—STOCK AND EGGS OF THE following standard bred poultry: Black and White Orpingtons, Brown and White Leghorns. J. J. Verkouteren, Route 3, Hanford, California.

INDIAN RUNNER DUCKS—DUCKLINGS 3 months old 50c; breeding stock 75c and $1.00 each. CLYDE J. MOSS, Corona, Cal.

EGGS FOR HATCHING.

ORPINGTONS, BUFF AND BLACK, THE winners of the lion's share of honors at the Los Angeles County and Breeders' shows this year. The birds that win in the keenest competition and lay eggs all the year. Birds that pay as they go. Handsome catalogue free. Guaranteed fertile eggs in any quantity. Proven breeding stock very reasonable. Write today. Orpington Reservation. ROSS & TATE, Altadena, Cal.

EGGS FROM MY PRIZE WINNING BARred Rocks; won all firsts, all seconds but one, and all specials on Barred Rocks at L. A. C. P. A. Show, 1907. Eggs from best pens, $3 per 15; $12.50 per 100. Stock for sale. CHAS. E. SMITH, Gardena, Cal. San Pedro Interurban car to Smith's Crossing.

MISCELLANEOUS.

RANEY HOME CANNER—SAVE YOUR fruit and vegetables by canning at home with the time tried and old reliable Raney Canner. Free book, Fruit Growers' Supply Depot, E. G. MENDENHALL, Box "M," Kinmundy, Illinois.

ALL ABOUT IMPERIAL VALLEY—BRAWley News, Brawley, California, trial subscription three months, 25 cents.

WANTED—MALE HELP.

NINETEEN JOBS GOING AT PRESENT—Electricity, plumbing, bricklaying taught in few months; tuition back after two months; advanced students paid wages. Free catalogue. UNION TRADE SCHOOL & CONTRACTING CO., 120-126 E 9th St., Los Angeles, Cal.

CATTLE.

FOR SALE—TWO YOUNG JERSEY BULLS—For particulars address DR. C. S. LANE, Santa Barbara, Cal.

DOGS.

SABLE AND WHITE COLLIE PUPPIES—Sires, Brandane Wishaw Squire and Glen Fana Bounder, litter brother to Aufield Model. Dams, Ormskirk Gloriana and Presidio Nellie. $10 to $25; 2 to 8 months. GLENALPINE KENNELS, Grandville, Cal.

PIPE.

FOR SALE—PIPE—WE HAVE 25,000 FEET good 2-inch for 9c per foot; 1000 feet good 10-inch O. D. screw casing for 75c per foot. 100 feet good 15-inch stove pipe casing for 90c per foot. All other sizes and fittings cheap. All sizes boilers and engines, etc. A. CANNADY & CO., 1029 N. Alameda St., Los Angeles, Cal.

FARM LANDS FOR SALE.

FOR SALE OR EXCHANGE FOR ORANGE or Los Angeles Co. walnut land. Improved or unimproved 140-acre mountain fruit ranch; 20 acres apples and peaches; 15 acres grapes; 2 acres berries; 10 acres drained bottom land; 20 acres hay or corn land. Balance in timber. 10 living springs. 7-room house, 2 barns; 1 mile to school. Postoffice and station. Price, $15,000. WILLIAM RICHARD, Eccles., Santa Cruz Co., Cal.

FOR SALE—20-acre fruit, dairy and poultry ranch in full bearing and stocked, including implements and crop. Good nine-room house and plenty other buildings, good water, good roads, one mile to High School, 1½ mile to railroad and 5½ miles from Fresno. $4500 takes the whole business, if taken at once; $2500 down rest on long time. Will take other property in part payment. Address, ALBERT ASHE, (owner). Oleander, Fresno Co., Cal.

FOR SALE—1 TO 10-ACRE TRACTS ON CAR line, between Riverside and new cement works; good for chicken ranches, alfalfa or gardening; will sell on easy terms; plenty of water on each tract. C. C. POND & N. R. BELL, Riverside, Cal.

FOR SALE—TWENTY AND FORTY acres, level, good land. Fine for chickens, berries, etc. $30 per acre. Very easy terms. No irrigation required. WM. MANTZ, Santa Maria, Cal.

FOR SALE—SAN LUIS OBISPO COUNTY ranches of all descriptions. Fine eucalyptus and walnut lands from $10 per acre up. J. F. WEST, Nipoma, Cal.

What MORE Could You Desire In A Savings Bank?

20,000 Depositors
Strong Directorate
Capital and Surplus Over
$900,000
Resources
$10,000,000

GERMAN AMERICAN SAVINGS BANK

Tallest Building in Los Angeles

SPRING & FOURTH STS.

Heart of the Business Center
Model Banking Facilities

Oldest and Largest in the Southwest

SECURITY SAVINGS BANK

Los Angeles, California

CAPITAL AND RESERVE $1,200,000.00
TOTAL RESOURCES OVER $20,000,000.00

We Pay Interest

4% on Term Savings and on Six Months Certificates of Deposit

3% on Ordinary Deposits

By special arrangement 'Ordinary' accounts may be checked against without presentation of a pass book, and 3 per cent. interest will be paid on the minimum monthly balances.

Plan to Visit

Yosemite Valley

This Season

It Is a Quick, Comfortable Trip

—VIA—

YOSEMITE VALLEY RAILROAD

An ideal outing in the Sierras amid the grandeurs of Yosemite. Cost reduced to popular prices. Ample hotel and boarding-camp accommodations. Write for descriptive folder.

For Tickets and Connections see

Southern Pacific or Santa Fe

OR ADDRESS

H. H. VINCENT, General Agent

553 South Spring St., Los Angeles, Cal.

Yosemite Transportation Company

Operating Stages of Merced Canyon Route. El Portal to Yosemite Valley.

D. K. STODDARD, Manager
El Portal, California

When writing advertisers, mention Cultivator.

Household Department

THE FLEET IN CALIFORNIA.

Out there in California
They are pawing up the soil,
They are letting go of business
And neglecting of their toil;
They're forgetting their religion
In the house and on the street,
And likewise, too, their politics—
They're dotty on the fleet.

They are loading up the jackies
With a cargo of pink teas,
They are crowding them with welcome
As the heroes of the seas;
They've taken off the lid of things
And made the whole coast free
For every tarry visitor
Who came to them by sea.

They have set the valiant officers
On pinnacles of fame,
They've filled their veins with native blood
Which gets there just the same;
They have given them the climate
In its glory and its bloom,
With an affidavit showing
It will drive away all gloom.

They swim out in the briny deep
By either day or night
To meet the coming warships
Before they get in sight;
They flock around the anchored steel
Like fish around the bait,
And shout their joy along the coast
Up to the Golden Gate.

Oh, say
Out California way
When they do things
They do 'em on wings.
It's the boast
Of the coast
That nowhere else on earth is found
The California greet.
And now they're handing out their best—
They're dotty on the fleet.

L'ENVOI.

And Roosevelt, as the fleet makes good,
Smiles some, but goes on sawing wood.

—W. J. Lampton, in the New York World.

IN CAMP.

TEDDY disconsolately munched a soda cracker, wondering the while how she had ever come to insist that a camp stove was a useless luxury.

It was her first season in camp, and her brothers had readily enough given in to her demand for an absolutely correct atmosphere. They had camped in tents on the little lake instead of in the comfortable wooden shack on Lower Lake, and they had cooked in primitive fashion over an open fire.

The boys had done the cooking since they had gone into camp three weeks before, but it had all seemed so easy that when they wanted to go down the lake to the village, she had insisted that it would be no trouble at all to get her meals.

They had paddled away just as the sun began to tinge the clouds in the east, and would not be back before night. Twice Teddy had spilled the bacon into the fire, and as a crowning accident she had set the coffee pot wrong, and that, too, was sliding into the flames, putting out what little fire there was left.

A crashing in the underbrush roused her and she sprang to her feet, nervously handling the revolver the boys had left with her for protection. She raised the glistening weapon as a man burst through the tangle of brush, and with a voice that she tried to make stern, commanded him to hold up his hands.

They went above his head in an instant, and staid there while he paralleled. Teddy knew that the next thing was to bind her victim, but how to do that and retain the revolver was something that was not told in books.

He smiled at her look of helplessness and came a few steps forward.

"I am not a tramp or a robber," he said, with a flash of white teeth beneath his mustache. "I saw a fire awhile back and thought that perhaps I might beg some breakfast. I wandered further from our camp than I intended. I am on the other side of the ridge on Blue lake"

"There isn't any breakfast," she said, forlornly. "I spilled the bacon into the fire, and then the coffee pot fell in. I was eating these." She waved her revolver toward the box of crackers, and the tramp smiled.

"If you will take my parole," he suggested, "I'll earn my breakfast. I believe that is the proper thing for a tramp to do."

Teddy lowered her gun. He probably was a tramp, but he had nice eyes and a pleasant smile, and she felt that she could trust him.

"If you will set the table," he called, "I'll have things ready in a jiffy."

For a moment Teddy paused. She did not quite like the idea of eating at the same table with a tramp. None of the campers she knew wore such outrageous garments.

But the smell of the coffee and the frying fish decided her, so she set two plates.

Skillfully he dished up the fish and took the coffee from the fire. He was even more expert than the boys. Probably that was because he had to camp out the year around.

The breakfast put her in an excellent humor, and when the tramp suggested that if she would lend him a gun he would try and get something for dinner, she loaned him a shotgun without a thought until he had left the camp.

Then the realization of what Bob would say should he come home and find the gun gone led her to follow the trail the tramp had taken.

She soon overtook him, and he looked up with a smile at her approach.

"Come to share the fun?" he asked pleasantly. Her blush told its own story, and he threw his head back and laughed. "I was going to bring the gun back," he declared. "Do you really think I am a tramp?"

"No," her voice lacked conviction. "But, you see, you are not like the boys.'

"Possibly they would be like me," he suggested, "if they were in camp without ladies. Khaki and leggins are all very pretty, but there is more comfort in an old suit that won't be hurt if you do take a notion to wade a trout stream before breakfast."

After dinner he entertained her with stories of the woods, and neither realized how late it had grown until a boat shot around the point, and the boys waved a welcome.

They swarmed up the beach a few moments later, and Teddy started as they warmly greeted the tramp.

"I didn't know that you knew Mr. Charteris," said Bob in surprise.

"He came for breakfast," explained Teddy.

"And having had the breakfast, I stayed to get the dinner," Charteris added with a laugh. "You see I was out early this morning, and got too far away from camp to make it for breakfast. Then I saw this fire and came over."

"Hope you'll come over often," said Bob heartily. He liked the young railroad magnate.

"Thank you," said Charteris, seeing a second invitation in Teddy's brown eyes. "I think I shall be over very often—if Miss Trevor does not mind such trampish fellows hanging about the camp."

"I rather like tramps," said Teddy demurely, "especially before breakfast."

—San Jose Mercury.

WASTEFUL.

The trite saying that the ordinary American family throws away food enough to keep three French families in comfort is a little exaggerated, but it comes fairly close to the mark. We are guilty not only of that crude method of waste which consists in throwing away good food, but also probably more still is lost by our ignorance of cookery. Some American men know how to cook, but few of our women. This beautiful and beneficient art is either below or above their faculty of comprehension. A high-priced steak after the maltreatment it receives in the ordinary American kitchen is a pathetic spectacle. There is no need of considering what happens to cheap steaks for we never buy them. Nothing is good enough for us but the cuts which cost the most. Those other parts of the steer which in a French kitchen become delicious soups, ragouts, stews and patties we throw to the dogs. Generally speaking, the American citizen knows nothing about soups.

We have a theory in this country that it is dangerous to be economical of food, rent and clothing. We are taught by certain great philosophers that any saving we might effect in these particulars would accrue presently to our bosses and not to ourselves. The transfer would be effected by a cut in wages. Wages, these eminent sages teach, keep evermore at the exact level of the standard of living. Lower the standard of living by eating round steak instead of porterhouse and down in the same measure goes the level of wages. Is there anything in it?

At any rate it is by this theory that we excuse our National extravagance to ourselves. In doing so we forget that a determined habit of saving such as prevails in France would soon transform our workman into capitalists and then the level of wages would no longer concern them.

HOMELY HINTS.

When you have been poisoned by ivy, or, in fact, any plants or vines, bathe the parts in clear hot water—have it as hot as possible. Dry the affected parts with a soft cloth and bathe with tincture of lobelia. This should be done twice a day. Where skin is broken, be very careful about using the lobelia in this way, as it is very painful when it comes in contact with the raw flesh.

To keep flies from roosting on the screen door, ready to come in when it is opened, take a piece of an old window shade, or else fold a piece of manilla paper as long as the door is wide and about half a yard wide, and cut into narrow strips to within two inches of the top, then tack across the top of the door. The gentlest breeze or the movement of the door, when opened will keep the flies away.

CURFEW.

Solemnly, mournfully,
Dealing its dole,
The curfew bell
Is beginning to toll.

Cover the embers,
And put out the light;
Toil comes with the morning,
And rest with the night.

Dark grow the windows,
And quenched is the fire,
Sound fades into silence,
All footsteps retire.

A FEW DEFINITIONS.

Many children are so crammed with everything that they really know nothing.

In proof of this read these veritable specimens of definitions written by public school children:

"Stability is taking care of a stable."

"A mosquito is a child of black and white parents."

"Monastery is the place for monsters."

"Tocsin is something to do with getting drunk."

"Expostulation is to have the smallpox."

"Cannibal is two brothers who killed each other in the Bible."

"Anatomy is the human body, which consists of three parts, the head, the chist and the stummick. The head contains the eyes and brains, if any. The chist contains the lungs and a piece of the liver. The stummick is devoted to the bowels, of which there are five, a, e, i, o, u, and sometimes w and y."—Literary Digest.

ONE KIND OF GIRL TO SHUN.

No matter how attractive a girl may be in face and figure, if she is thoroughly selfish all prudent people will shun her. No careful person is likely to be charmed with the girl.

Who never thinks of anyone but herself.

Who never makes an effort to oblige others and yet expects to be waited on hand and foot herself.

Who never will own that another girl is pretty, but who endeavors instead to find some defect in her to point out to others.

Who never does a stroke of housework, but selfishly indulges in gaiety and amusements while her mother slaves to keep affairs in order.

Who never is happy unless she is monopolizing the conversation and the interest of the men in the room.

Who never takes any notice of children, but considers them "little nuisances." "plagues," who ought never to have left the nursery.

Who never confesses she is in the wrong, but sticks to her point through everything.

Who spends all her money on dress, sweets or some luxury for herself.

Who never bestows a kind word on those beneath her in position.

Who never, above all, could love or seriously consider the comfort of any other person but herself.

THEIR REAL WORTH.

One day as a leading lawyer and a judge, both of Boston, were walking together the lawyer said:

"Judge let's go into partnership. You furnish the money and I'll furnish the brains."

The judge quickly pulled out a two-cent piece from his pocket, and holding it in the palm of his hand said to the lawyer: "Very well, old chap, cover that."

In India cakes of tea pass as money.

DOUBLY USEFUL MUCILAGE.

"If you make your own mucilage (one heaping teaspoonful of gum arabic to an ordinary mucilage bottle gives it pure at a cheaper rate than that bought ready made,) you can dispense with court plasters, liquid or otherwise, except where an antiseptic is necessary," says Woman's Home Companion for July. "Ordinary cuts can be coated with this quite as effectively as with the patent preparation. Two coats thoroughly dried will stand the application of water better than anything but the adhesive plaster doctors use—an inconvenient, expensive luxury."

MAGIC POLISHING CLOTHS.

Mix two pounds of whiting and one half ounce of oleic acid with a gallon of gasoline. Stir and mix thoroughly. In this compound soak flannel rags of the desired size, then wring out and hang up to dry, being careful to keep them away from a fire or open flame. These cloths will give a fine gloss to silverware, will not soil the hands. and will preserve their polishing qualities indefinitely.—Woman's Home Companion.

TO CLEAN FABRICS.

Grate two large sized potatoes into a pint of water, then strain same through a coarse sieve into another vessel containing a pint of clear water. Let this stand until thoroughly settled. The clear solution is poured off and used to sponge fine materials, which are afterward washed with clean water, dried and ironed.

WORTH HEEDING.

Begin it right.

Get the right habit.

Imitation indicates limitations.

Laziness is next to uselessness.

Thoughts are the best character builders.

The man who is too smooth often becomes slippery.

A good front doesn't last long without a good backing.

The Lord hates a coward, and abominates a dodger.

A man's future is more clearly indicated by his past than by his palm.

It is a good thing to be sure, but don't be too sure you are sure unless you're mighty sure.—Silent Partner.

Tommy was stubborn and his teacher was having a hard time explaining a small point in the geography lesson.

"Tommy," teacher began, "you can learn this if you make up your mind. It's not one bit smart to appear dull. I know," she continued, coaxingly, "that you are just as bright as any boy in the class. Remember, Tommy, where there's a will there's——"

"Aw," broke in Tommy, "I know all dat, I do. Me fadder's a lawyer, he is, an' I've heard him say it lots o' times."

"You should not have interrupted me," reprimanded the teacher, "but I am glad that your father has taught you the old adage. Can you repeat it to me?"

"Sure," said Tommy confidently. "Me fadder says dat where der's a will —der's always a bunch o' poor relations."

For those who fit buttered papers in their cake tins it is a good plan to leave small projections of the paper on two opposite sides which can be used as handles in removing the cake.

There's now and then a one-horse farm of another color.

The Oldest Savings Bank in California

FOUNDED IN 1857

The Savings and Loan Society

101 Montgomery St., Cor. Sutter St., San Francisco

CAPITAL FULLY PAID $1,000,000.00

Exclusively a Savings Bank whose policy is for ***Conservatism*** and ***Safety,*** the result of ***50 years experience.***

Deposits may be made and withdrawn by mail.

San Francisco Savings Union

Founded June 18, 1862 Northwest Cor. California and Montgomery Sts., San Francisco

Conducts a Savings Bank Business Exclusively

Capital Paid Up, $1,000,000.00. Surplus, $1,183,632.00.

Total Assets, $27,508,850.00.

E. B. POND, President.

W. C. B. de FREMERY AND C. O. G. MILLER, ... Vice-Presidents.

LOVELL WHITE, Cashier. . . . . R. M. WELCH, Asst. Cashier.

DIRECTORS: John F. Merrill, Wm. A. Magee, W. C. B. de Fremery, H. C. Breeden, Jacob Barth, Fred H. Beaver, Wakefield Baker, C. O. G. Miller, E. B. Pond.

Every facility afforded for opening accounts and making deposits and withdrawals by mail. Correspondence invited.

Largest National Bank West of Denver and South of San Francisco

First National Bank

of Los Angeles, California

UNITED STATES DEPOSITORY FOR GOVERNMENT FUNDS

TOTAL RESOURCES, $16,000,000

ADDITIONAL ASSETS—One Million Five Hundred Thousand Dollars invested in the stock of the Los Angeles Trust Company and the Metropolitan Bank and Trust Co., and held by the officers of the First National Bank, as Trustees, in the interest of the shareholders of the Bank.

We are prepared to extend to the small depositor the same personal and careful attention that we do our largest accounts.

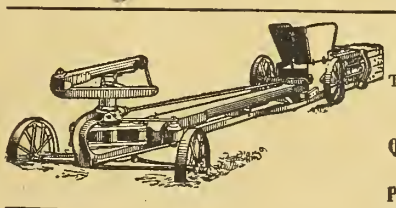
$16.30 buys this handsome six-hole Nickle-Trimmed Cast Range direct from the Manufacturer

without high shelf. With high shelf, just as shown in the cut, $19.97; large oven, six cooking holes, best quality of iron. Burns coal or wood. Handsome nickel trimmings. OUR TERMS are the most liberal ever made. You can pay after you receive the range. You can take it into your own home and use it 30 days. If you don't find it exactly as represented, the biggest bargain you ever saw, you won't have to keep it.

Write today for our beautifully illustrated Stove Catalogue No. 101-C. A postal card will do it. Don't buy until you get it.

P. F. Ross & Co.

443 Pine St. San Francisco, Cal.



Lightning Hay Presses

The old reliable. In use 25 years. Meets the demand for

Strength, Durability, Capacity

Wood or steel pitman as desired.

Quick shipment can be made from stock at Pasadena

Kansas City Hay Press Co.

Pasadena, Cal. 523 Mill St., Kansas City, Mo.

Home Made Ice Cream and Candy

Appeals to Everyone in the Family

Has been going since the very day of publication. Full of all that is known about Home Made Ice Cream and Candy. Nearly Three Hundred Formulas.

Make 60 cent Chocolates for 15 cents

Taffies Nut Candies Butterscotch Everything

A 50c Book **You Get It Free With the Cultivator** For 1 Year's Subscription

Paid in advance. For old or new names who pay for the coming year. Enclose a $1.00 bill and ask for the "Candy Book." Address

Cultivator Pub. Co., Los Angeles, Cal.

Deposit Your Surplus Savings

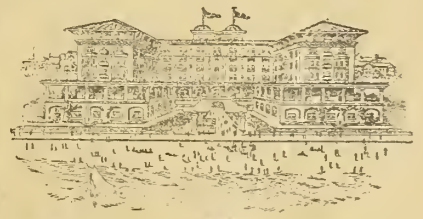
WITH THE

California Savings Bank

Los Angeles, Cal.

4% Paid on Time Deposits

3% Paid on Checking Accounts



Hotel Virginia

Long Beach

The Most Magnificent Beach Hotel in the World. American Plan. Moderate Rates.

D. M. LINNARD

The Produce Markets

Los Angeles Markets

LOS ANGELES, July 8, 1908.

The whole produce market has been in a more demoralized condition than in months. Cantaloupes especially have gone to the bad, and all fruits have been in such large supply that the market has been continually glutted. Potatoes, onions and most vegetables, likewise have been rather weak.

Butter.

The predicted slump in butter occured and a 2½ cent drop was made Saturday. At present quotations the market is fairly firm. The receipts are very heavy, some days as high as 27,000 or 28,000 pounds.

Wholesale quotations now are:

Creamery ex per roll..........50
Firsts..........47½
Dairy..........25
Cooking..........25
"Butterine"..........15@20

Cheese.

Southern California..........15
Northern fresh..........13½@14
Longhorn..........17
Eastern singles..........15½
Cheddars..........17
Imported Swiss..........28@30
Swiss..........17½
Oregon..........15
Limburger..........17½

Eggs and Poultry.

Eggs have advanced slightly, but the market is not strong. It has been deemed wise not to advance further.

The wholesale trade are asking:

Eggs local candled..........23
Eggs case count..........21¼@21½
Firsts fresh..........22
Eastern fresh..........21

Wholesale prices..

Hens per lb..........10@12
Young roosters per lb..........17
Fryers..........17@20
Broilers per lb..........15@18
Roasters..........16
Old Roosters..........7
Turkeys..........16@18
Geese..........11@13
Ducks..........10@12
Squabs.......... 1.50@1.75

Live Stock.

The following quotations are f. o. b., Los Angeles, on all stock.

Hogs from 175 to 200 pounds..6¼ @6½
Prime steers..........4¼
Heifers..........3½@3¾
Calves per lb..........4½
Sheep ewes per head..........3.75@4.00
Lambs per head..........3.00@3.25
Wethers..........4.00@4.50

Potatoes.

The potato market is demoralized and promises but little improvement. The supply is heavy. A material lowering since last week is noted.

Wholesale prices are:

Sweet potatoes per bx new crop 2.00
White Rose new..........1.20@1.30

Onions.

Bermudas per 100..........1.65
Bermuda per crate..........1.00@1.10
Silverskins new..........1.25
Crystal wax per crate..........1.25@1.50
Northern Red..........1.05@1.25
Garlic..........7

Vegetables.

The following are commission house prices; deduct freight and commission to secure farm prices.

Artichoke per box..........50
Asparagus per lb..........8@9
Asparagus green per box....2.00@2.25
Beets per doz..........30
Bell peppers per lb..........15@20
Beans limas per lb..........4
Beans string..........1
Cabbage sack..........60
Cabbage red per lb..........2
Celery per doz green hothouse..1.25
Corn per box..........25@35
Chili peppers per lb..........8@10
Cucumbers per doz..........30@50
Cauliflower per doz..........60
Carrots per doz..........30
Egg plant lb..........7@8
Green onions doz bunches......20@30
Horseradish..........12½
Lettuce per crate..........60@85
Mint per box..........40
Okra..........9
Peas sugar per lb..........3@4
Parsley..........30
Parsnips..........35@40
Rhubarb per box..........50@1.00
Rhubarb northern..........1.50
Radishes per doz..........15@20
New summer squash per box..........15
Summer squash per box..........15
Salsify..........15@20
Spinach per doz..........15@17½
Turnips doz bunches..........30
Tomatoes per crate..........65

Citrus Fruits.

Navels fy off bloom..........2.00
Navels ch..........1.50@1.75
Valencias..........3.00
Grapefruit seedless..........3.00
Grapefruit seedlings.......... 1.75@2.00
Lemons fancy..........2.25
Lemons choice..........1.75
Limes 15-lb box..........75

Fresh Fruits.

Wholesale prices on the market are:

Red Astrachans new..........50@60
Astrachans packed box..........1.25
Crab apples..........75@1.25
Apricots per lug box..........25@50
Cantaloupe st..........1.00@1.10
Cantaloupes ponies..........90
Cherries..........80@90
Cherries per lb..........8@10
Royal Annes..........1.00
Currants per box..........85
Dewberries..........4
Figs per box..........75
Grapes Thompson seedless ..1.00@1.15
Pears per lb..........5
Plums Burbanks per box..........65
Plums Sonoma..........85
Plums Satsumas..........75
Plums Mikado..........90
Plums Wickson..........90
Plums Tragedy..........85
Plum peach..........85
Peaches per lug box..........75
Raspberries..........4@5
Strawberries per crate..........50@75
Extra fancy..........10
Blackberries..........1¾@2
Loganberries..........¾@2
Goseberries..........8@12
Watermelons per lb..........1@1½

Dried Fruits.

Wholesale prices are:

Apricots..........7@9
Evap apples fy per lb..........7¼
Figs loose white..........5
Figs blk..........4
Peaches..........10
Pears..........12½
Nectarines..........14
Prunes..........4@4½

Beans Dried.

Wholesale prices:

Limas per ctl..........5.50
Pink No 1..........3.80@3.90
Lady Washington..........5.25@5.50
Small white..........4.75@5.00
Black Eyes..........3.80@4.00
Garvanzas..........4.80@5.00
Lentils..........9@10
Bayou..........3.90@4.00

Nuts.

Almonds per lb..........15@16
Pecans polished..........16@17
Peanuts Virginia..........8½
Peanuts California..........8½
Walnuts No 1 SS..........14

Honey.

Wholesale quotations:

Extracted Water White..........7@7½
Extracted white..........7
Comb W W..........16
Comb white..........15

Hay.

Price paid to producers f. o. b. Los Angeles are as follows:

Barley No 1..........13.00@14.00
Barley No 2..........10.00@12.00
Alfalfa northern per ton....11.00@12.50
Alfalfa local..........12.50@13.00
Plain oat No 1..........15.00@17.00
Wheat No 1..........13.00@15.00
Wheat No 2..........12.00@14.00

Grain.

Wholesale selling price f. o. b., Los Angeles.

Wheat new per ctl..........1.85
Wheat in 100-lb sacks..........1.90
Kaffir corn..........1.80
Barley..........1.55
Corn Eastern sacked..........1.95
White oats..........1.90

Feed Stuff.

Selling price F. O. B. Los Angeles as follows:

Cracked corn..........1.95
Shorts..........1.80
Bran..........1.65
Oil cake meal..........2.50
Feed meal..........2.00
Rolled barley..........1.50

LIVING ANIMOSITY.

"Those two families in the adjoining flats who used to be at daggers drawn have been reconciled, haven't they?"

"I don't know. They profess friendship, but one family gave the little boy in the other a big toy drum, and the second family gave the first one's oldest boy a fiddle."—Baltimore American.

San Francisco Markets

SAN FRANCISCO, July 7, 1908.

Butter.

Butter market is not active and quotations are slightly under last week's. Receipts are fairly heavy.

California extras per lb..........22
California firsts..........21
California seconds..........20½
Fresh packing stock..........20

Cheese.

California young American fy....13½
Firsts..........13
California flats fy..........11
Firsts..........10½
Young America fy..........14½
Eastern fy..........16
Oregon fancy..........11½

Eggs and Poultry.

Eggs advanced a cent soon after last week's quotation and on Monday advanced a couple of cents to 24 for extras.

Official quotations of the S. F. Wholesale Dairy & Produce Ex. are:

Fresh ranch eggs..........24
Eggs firsts per doz..........21½
Eggs second per doz..........17
Eggs thirds..........16

Hens per doz..........5.00@6.50
Hens extra..........6.50@7.50
Young roosters..........7.50@8.50
Old roosters..........3.50@4.50
Fryers per doz..........6.00@7.00
Broilers per doz..........3.00@4.00
Geese per pair..........1.75@2.00
Goslings per pair..........2.00@2.50
Ducks young..........4.00@5.00
Turkeys per lb..........14@16
Pigeons..........1.35@1.50

Live Stock.

San Francisco prices gross weight:

Steers No 1..........3¾
Do second quality..........3¼@3½
No 1 cows and heifers..........3@3¼
Hogs 80 to 200 lbs..........6@6¼
Hogs 200 to 300 lbs..........5½@5¾
Calves per lb..........3½@4½
Lambs spring..........4¾@5
Wethers No 1..........4
Ewes No 1..........3½

Potatoes.

Wholesale market quotations:

New potatoes per ctl..........1.00@1.25
do per box..........1.15@1.50
Early Rose new..........1.00@1.10

Vegetables.

Wholesale quotations:

Asparagus per lb..........2@6
Bell peppers..........6@8
Celery per doz..........35@50
Cucumbers per box..........65@85
Chili peppers per lb..........5@6
Corn per sk..........1.25@2.50
Egg plant per lb..........6@7
Green peas per lb..........2@3
Lima beans..........6@7
Squash per box..........50@85
Onions green per box..........70@75
Okra per box..........2.00
Rhubarb per box..........50@65
Tomatoes per box..........65@85
Tomatoes per crate..........1.10@1.40
String beans..........2@5
Wax beans..........2@4
Garlic new..........4@5

Onions.

Onions red per box..........70@75
Onions yellow per box.......... 1.00

Citrus Fruits.

Navels..........3.00@3.50
Valecias fancy..........2.25@3.50
Grapefruit seedless..........3.50@4.00
Grapefruit seedlings..........1.75@2.25
Lemons..........3.50@3.75
Limes..........4.00@5.00

Fresh Fruits.

Apples green per box..........35@75
Apricots per box..........35@50
Apricots ton..........20.00@30.00
Blackberries per chest..........2.00@3.00
Cherries white per drawer..........35@60
Cherries Royal Annes..........3@6
Cherries Black..........3½@6
Currants per chest..........6.00@7.00
Figs per crate..........25@35
Grapes per crate..........90@1.25
Gooseberries per chest..........1.00
Gooseberries per lb..........3@7
Loganberries..........2.00@3.00
Melons ponies..........1.00@1.25
Melons st..........1.25@1.50
Pears Bartlett per box..........1.00@1.25
Plums per box cherry..........30@50
Plums Clymans..........20@40
Plums Tragedy..........20@40
Peaches per box..........25@50
Peaches baskets..........20@35
Aligator pears per doz..........7.00@9.00
Raspberries per crate..........1.50@1.75
Raspberries per chest..........4.00@7.50
Strawberries per chest..........2.50@4.00
Longworths per chest..........5.00@7.00
Watermelons per lb..........1½@2

Dried Fruits.

1908 prunes being contracted for at 4 cents for Sinta Claras at 3¾c for outsides.

New crop contracts for future delivery, 25-lb. lots—Apricots, per lb.: Standards, 6½@6¾c; choice, 6¾@7c.; fancy, 8@8½c.

Peaches—Standards, 5½@5¾c; choice 5¾@6c; fancy, 6½@7c.

Apples (evap.)..........5@6
Apricots per lb st..........6@6¼
Apricots choice..........6¼@6½
Apricots fy..........7½@8
Figs white..........2¼@3½
Nectarines..........10@13
Plums pitted..........12@15
Peaches st..........5@5¼
Peaches ch..........5¼@5½
Peaches fy..........6@6½
Pears..........5½@7
Prunes 4-size bag basis..........2¾@3¼

Raisins—1907 crop, f. o. b.: Clusters and Layers, 20-lb. bxs—Imperial Clusters, 6-crown, $2; Dehesa Clusters, 5-crown, $1.75; Fancy Clusters, 4-crown, $1.40; London Layers, 3-crown, $1.10; do, 2-crown, $1.05. Seeded, 25-lb. bxs—Fancy bulk, per lb., 5½@6c; Choice bulk, 5½@6c. Loose Muscatels, 50-lb. bxs—Standard, 4-crown, 4c; do, 3-crown, 3¾c; do, 2-crown, 3½c; Seedless, 3¾c. Seedless Sultanas—Unbleached, 4¼@4½c. Thompson Seedless—Unbleached, 4½@4¾c. Dried grapes, 3c.

Nuts.

Walnuts S S No 1 new crop..........13¼
Walnuts No 2..........10¼
Almonds nonp..........11½@12
Almonds IXL..........10@10½
Ne Plus Ultra..........10@10½

Beans Dried.

Limas..........5.00@5.10
Pink..........3.25@3.40
Small white..........4.50@4.60
Large white..........4.40@4.50
Lady Washington..........3.45@3.50
Black eyes..........3.40@3.60
Red kidneys..........2.75@3.00
Garvanzas..........2.25@2.75
Bayo..........3.25@3.40
Horse beans..........2.25@2.40

Hops.

Hops per lb..........4½@6½
Hops old fancy..........1@3
Hops 1908 contracts..........10@12

Honey.

Clear white comb..........16@17
Amber..........12@15
Extracted w c..........7@7½
Beeswax No 1 per lb..........28@30
Beeswax No 2 per lb..........25@27

Hay.

Somers & Co. say:

Arrivals of hay continue to steadily increase, the total for the week ending today amounting to 4290 tons in comparison with 3860 last week and 3150 for the week preceding that. With the increase in shipments the market continues to weaken until at the present writing conditions are badly demoralized here and hay selling in San Francisco for even less than buyers have paid for same in the country. This condition cannot, of course, continue so one of two things must result—shipments to market must be materially lessened or the selling price in the country reduced. As large quantities of hay are ready for shipment at many points we incline to the idea that it is the selling price in the country that must show change, for conditions in no way warrant the prices that are being very generally asked throughout the interior. Business along all lines has become very dull and the hay market is always materially affected by such conditions, for the consumption of hay here is materially reduced when general business operations become dull.

The future presents nothing of promise or of interest, and it is generally conceded that for the next six months we must expect very quiet times throughout the Pacific Coast.

The market for new crop hay is becoming more firmly established along definite lines, although the tendency is decidedly downward. We give present prices as follows:

Choice wheat hay..........15.00@16.00
Good wheat hay..........13.00@14.50
Other grades same..........11.00@12.50
Wheat and oat..........11.00@14.00
Tame oat..........11.00@14.50
Wild oat..........10.00@13.00
Stock hay.......... 8.00 to 10.00
Alfalfa..........9.00@12.50
Straw, per bale..........45@75

Grain.

Wheat No 1..........1.62½@1.65
Barley new..........1.27½1.30
Corn small yellow..........1.72½@1.77½
Oats white..........1.45@1.55
Oats gray..........1.50@1.55
Rye new crop..........1.47½@1.50

Feed Stuff.

Bran per ton..........31.00@32.50
Feed cornmeal per ton..........39.00@40.00
Cracked corn per ton..........40.00@41.00
Rolled barley per ton..........28.00@29.00
Oil cake meal per ton..........36.25@38.25
Cocoanut cake per to..........26.00@27.00
Middlings..........34.00@35.00

Citrus Market

LOS ANGELES, July 8, 1908.

The orange market is rather flat ow- g to vast quantity of other fruits fered at low prices. Only small antity of navels now going forward. Lemons are in demand and com- anding fair price.

hipments.

Total shipments of citrus fruits to ate 26,010, of which 3526 were lemons. o same date last year 24,703, of which 33 were lemons.

BOSTON, July 3.—Three cars sold. wenty-five on track. Weather hot nd muggy. Market easier.

NAVELS—	Avg.
agle High Ft Ex	$1.90
VALENCIAS—	
ocus S F Ft Ex Yerkes	3.55
LEMONS—	
olden Rule Riv Ft Ex Riv	2.00

PITTSBURG, July 3.—Three cars ld. Ten on track. Market un- anged. Weather hot.

NAVELS—	
ride of California off bloom Riv	1.50
VALENCIAS—	
iolet D M Ft Ex Duarte	3.65
avilan Riv Ft Ex Con Sta	2.80
ride of California Riv Ft Ex	2.55
LEMONS—	
amel Q C Ft Ex Corona	1.45

NEW YORK, July 3.—No auction les of California citrus fruit held ere today. Weather hot and muggy.

PHILADELPHIA, July 3.—No auc- on of California citrus fruit held ere today.

CLEVELAND, July 3.—No auction les of California citrus fruit held ere today.

ST. LOUIS, July 3.—No auction les of California citrus fruit held ere today.

CINCINNATI, July 3.—No auction les of California citrus fruit held ere today.

BOSTON, July 6.—Six cars sold, eather hot, market easier. Thirty- ne cars on track.

VALENCIAS—	
H S T F Ex Glendale	2.15
irship V C Ft Ex Fillmore	3.50
weetheart High Ft Ex	3.40
agle High Ft Ex	2.85
lue Flag Spence Ft Co	3.10
oothill Spence Ft Co	2.20
NAVELS—	
ixie	1.50
SWEETS—	
weetheart High Ft Ex	2.20
artridge Cal Cit U	1.55
ST. MICHAELS—	
uletide Red M O Co	2.20

PITTSBURG, July 6.—Six cars sold. ight on track. Weather hot, market asier.

VALENCIAS—	
erenade C C Ft Ex Sanger	1.50
ull Value C C Ft Ex Sanger	.90
LEMONS—	
quirrel A H Ft Ex Prenda	2.10
ommercial A H Ft Ex Prenda	1.40
ion S T Ft Ex Santa Bar	2.05
agle S T Ft Ex Santa Bar	1.80

ST. LOUIS, July 6.—Raining. Mar- et weak on account of weather. our cars sold; twenty-two on track.

VALENCIAS—	
agle High Ft Ex	3.15
olden Orchard Ind Ft Co	3.40
itrus Belle	3.00
ST. MICHAELS—	
weetheart High Ft Ex	3.00
RUBY BLOODS—	
ankee Doodle High Ft Ex	3.25
TANGERINES—	
weetheart (halves) High	1.55
SWEETS—	
weetheart High Ft Ex	3.10
agle High Ft Ex	2.60
ankee Doodle High Ft Ex	1.50
BUDDED—	
agle High Ft Ex	1.80
ankee Doodle High Ft Ex	1.35
GRAPEFRUIT—	
weetheart High Ft Ex	1.90
LEMONS—	
xcellent C F As Santa Paula	1.85
ommercial A H Ft Ex Prenda	1.45
ur Pride High Ft Ex	1.50

PHILADELPHIA, July 6.—Three cars Valencias, one St. Michael, one mixed and one lemon sold. Market remains unchanged; improvement looked for. Weather hot, sultry: Five cars on track.

VALENCIAS—	
Iris D M Ft Ex Duarte	3.63
Purity Tustin Packing	3.18
Cobbler R H Shoemaker	2.59
SWEETS—	
Floral S B F Ex Colt	1.50
SEEDLINGS—	
Floral S B F Ex Colt	1.67
LEMONS—	
Mission S T Ft Ex Santa Bar	1.36
Festival S T F Ex Santa Bar	1.35
ST. MICHAELS—	
Old America	2.71
Old America half boxes	1.26

CLEVELAND, July 6.—Weather very hot. Market steady on good fruit, weak on poor stock. Four cars sold, nine on track.

NAVELS—	
Parrot S A Ft Ex Pomona	2.10
SEEDLINGS—	
Parrot S A Ft Ex Pomona	1.95
Hawk S A Ft Ex Pom	.80
ST. MICHAELS—	
Parrot S A Ft Ex Pom	2.55
SWEETS—	
Parrot S A Ft Ex Pom	1.85
LEMONS—	
Tallyho S B Ft Ex Rialto	3.40
Big R S B Ft Ex Rialto	3.10
LEMONS—	
Sardonyx Cal Cit U	2.20
Sunrose Cal Cit U	1.70

CINCINNATI, July 6.—Weather hot and muggy. Market steady. Four cars sold.

NAVELS—	
Duck (off bloom) S A San Dimas	1.40
GRAPEFRUIT—Seedless—	
Floral S B Ft Ex Colo	.95
ST. MICHAELS—	
Tiger S B Ft Ex Colt	2.80
Floral S B Ft Ex Colt	2.55
Rancho S B Ft Ex Colt	1.15
LEMONS—	
Greyhound S A Ft Ex San Di	3.05
Duck S A Ft Ex San Dim	2.10
Cry Baby Flagler Ft Co	2.50

For Mehring Foot-Power Milking Machines see O. J. Weber Co., 555-557 S. Los Angeles St., Los Angeles, Cal.

SCIENCE AND FARMING.

One of the many important facts in modern farm science most worth the attention of farmers who think, is the new system of feeding live stock. Present ideas which have grown from and out of old-time methods within comparatively recent years, put the whole feeding question on a truly scientific basis. The proportion and composition of foods is fully explained by agricultural science and wise breeders and feeders pay sufficient attention to the subject to reap great benefit from it.

Facts upon which the entire structure of the cattle feeding business rests are so well attested that there is no gainsaying them, and first and foremost in actual importance is the tonic idea.

It teaches one common sense principle—no animal under the continued strain of heavy feeding can make satisfactory growth or production without the digestive apparatus is strengthened to meet such strain.

To attempt to bring a fine bunch of thrifty steers up to the proper selling weight, or to get a large average production of milk from a herd of cows, leaving nature to settle alone the constant over-drafts made on animal digestion by big, daily rations of rich foods, is simply to upset the very end in view.

Give your cattle a tonic—something to strengthen digestion—and growth will be continuous because there can be no interruption caused by indigestion, loss of appetite or complications of a more serious nature.

Another great advantage in the tonic idea is its economy. Cattle receiving it, because of greater appetite, eat more rough fodder and thus reduce feed bills.

Eminent medical writers, such as Professors Winslow, Quitman and Finley Dun, tell us certain elements are always beneficial—bitter tonics, which aid and strengthen digestion, iron, well-known as a blood builder, and nitrates, which act as cleansing agents to remove poisonous matter from the animal system. These are the ingredients found in the tonic and healthy growth, production and condition are sure to follow in cattle, horses, sheep or swine when these elements are given.

STYLE.

A spirited horse in a shabby harness or rattling old buggy, has no more pride nor spirit than a self-respecting man has in shoddy and soiled clothing. The effect on the onlooker is likewise that of disappointment. A certain degree of style, finish and good construction is essential to comfort and satisfaction in a vehicle.

As the writer was passing a certain vehicle and farm implement house of Los Angeles recently, a bunch of vehicles caught the eye and compelled attention. There were all kinds of things on wheels. That was not strange for one may see such a sight any day.

The one thing which did compel attention, however, was the style and finish which attracts. They were the aristocracy of wheeldom, a pleasing sight, indeed. We wanted to buy a surrey, or carriage or phaeton, simpl because the appearance of comfort and finish made those things attractive.

The farmer nearly always has good, well groomed horses. Very often he also has them attached to a buggy which is no credit to the farm.

Considering the slight cost and long life, if well cared for, there is no excuse for any farmer to ride in any vehicle that is not a credit to his ranch.

The stylish vehicles mentioned above were in the sales rooms of Arnot & Co., 112-118 South Los Angeles St., Los Angeles, and is well worth inspection. Arnot & Co. keep a long line of mowers, rakes, balers, plows, harrows, heavy wagons, light wagons—every thing wanted on the farm.

Call on them or write your wants.

NEW SUBSTANCE TO REPLACE SHINGLES.

An interesting invention has been recently announced to the building trade. It is a substance which comes in rolls like ordinary "Prepared Roofing," so called but which has all the appearance on the roof of individual, diamond-shaped tiles.

The principle involved is novel and very interesting, yet so simple that we wonder it has not been used before.

The material comes in long sheets. Through the middle a saw tooth cut is made in manufacture. The halves are separated after the sheet is unrolled. One half is placed over the other when laying, thus developing the first course of tiles.

Each succeeding strip breaks up the strip underneath into these graceful individual tiles.

The sides of the material are slightly different shades of red, so that by alternating these sides in laying, a pleasing color contrast is developed between adjoining tiles.

This new material is called Zolium. Full information regarding this important invention can be obtained of J. A. & W. Bird & Co., Boston, Mass., who are the patentees and makers.

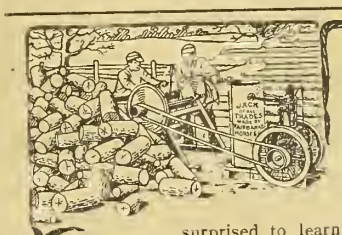
A GOOD FOUR-HORSE EVENER.

One of the most difficult things to get in the way of eveners is a good 4-horse Evener for a Gang, Sulky or Disc Plow. There are many kinds made—some homemade—others made to sell, but the majority of them fail to work satisfactorily.

There is a firm in Carroll, Ia., who has made a specialty of making 2-3-4 and 5-horse eveners for fifteen years and over and the big success they have made is the best proof that their eveners are the best on the market. We refer to the Heider Manufacturing Company, Carroll, Iowa.

Their eveners for Sulky, Gang and Disc plows are simply fine. Their 3-horse Evener is particularly good for use on hay wagons where loader is used, manure spreaders, etc., in fact, anything where they want to use three horses on an implement with a pole.

If you'll write a postal they will be pleased to send you their Evener Catalogue which shows a large line of their goods. They also manufacture some excellent ladders. Mention this paper when you write.

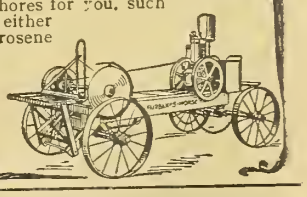


Why Break Your Back?

when a

Fairbanks-Morse Gasoline Saw Rig

Will do your work quicker and better than a dozen men at a small part of one man's pay. Then by sawing your neighbors' wood the outfit will often pay for itself and yield a handsome profit the first season. You would be surprised to learn how cheaply it will do chores for you, such as pumping, churning, grinding, etc. Made in either Portable or Stationary Types. Operates on gasoline, kerosene or distillate.



Cut out complete advertisement and send for Engine and Saw Catalog No. H F 1034

Fairbanks, Morse & Co.

Los Angeles San Francisco

WOOD PIPE

Made from California Redwood or Selected Washington Douglas Fir

NATIONAL WOOD PIPE CO.

Stave Pipe 2 inches to 10 feet Diameter up to 400 feet Head

SAN FRANCISCO OFFICE 318 MARKET ST.

LOS ANGELES OFFICE, 404 EQUITABLE BANK BUILDING

OLYMPIA, WASH. SALT LAKE CITY, UTAH

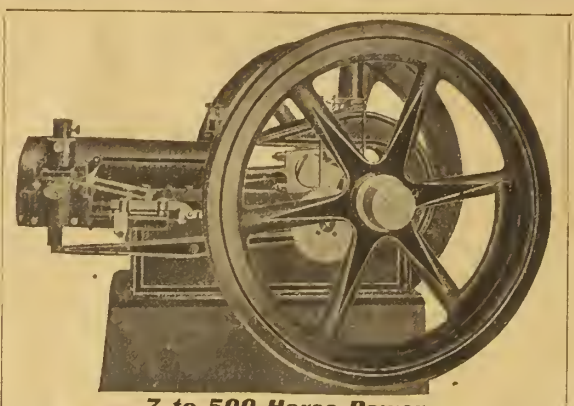
Prices, specifications, hydraulic data, and general information furnished upon request.

The Popular Western

Built In the West Best For the West

FACTORY AT YOUR DOOR

LONGEST LIFE LEAST FUEL FEWEST PARTS ALWAYS GOES



7 to 500 Horse Power

Irrigation Plants Designed Constructed Installed

U. S. GOVERNMENT TEST

35 H.P. Western Engine Been Run 2 Years

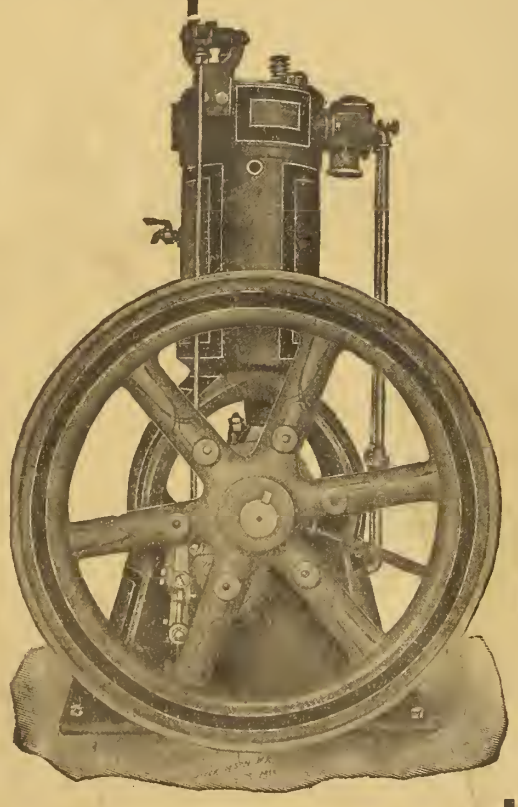
RAN 87 DAYS DAY AND NIGHT

With One 20-Minute Stop to Lace a Belt
Send for the Copy of Test

Western Gas Engine Co.

Works and Office:
908 to 932 No. Main St. Los Angeles, Cal.
Send for Catalogue.

That Small Engine You Have Wanted So Long



For a few weeks we will make special low prices on all our small engines.

HORIZONTAL AND VERTICAL
BE SURE AND SEE US

Norton Engine and Power Co.

201-3 No. Los Angeles St., Los Angeles, Cal.

THE

Latest Deep Well

Guaranteed to deliver from 100 gallons per minute upwards, depending on the diameter and capacity of well, from a depth of 50 to 300 feet below the surface. Can be either belt driven or direct connected to electric motor as occasion requires.

Write for Catalogue 46B.

Byron Jackson Iron Works

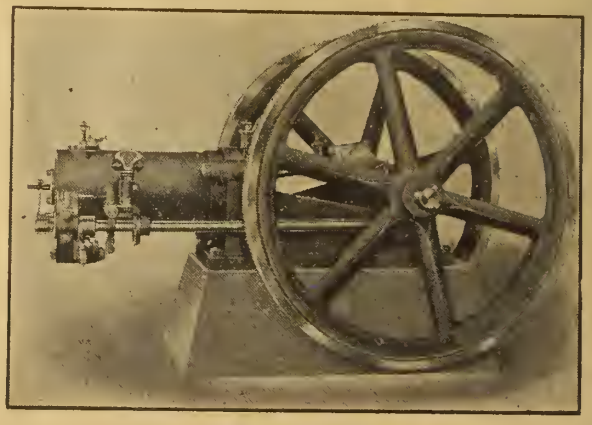
Turbine Pump

A deep well pump that has no valves or plungers to wear or get out of order, no gears consequently no noise or breaking of teeth.

Compact, durable, always primed and ready to operate constant flow, hence increased capacity of well.

This type of pump is fast taking the place of Vertical Steam Deep well Plunger and Propeller Pumps.

Main Office and Works:
Carlton Station
West Berkeley, Cal.



THE DOAK GAS ENGINES

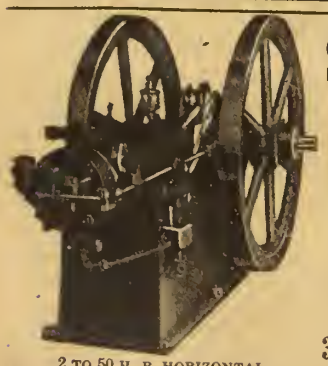
Stationary, Portable Hoisting and Marine

All sizes from 3 to 50 H. P. carried in stock at all times. If you want the best, the most reliable, the most economical and the simplest engine in the market, **write for our latest catalogue before you buy.** Take broad gauge local train and get off at Oak Street Station.

Doak Gas Engine Co.

Business Office: Rooms 86-87-88 Bacon Building, Oakland

Sales Office and Factory: 4th and Madison Streets, Oakland



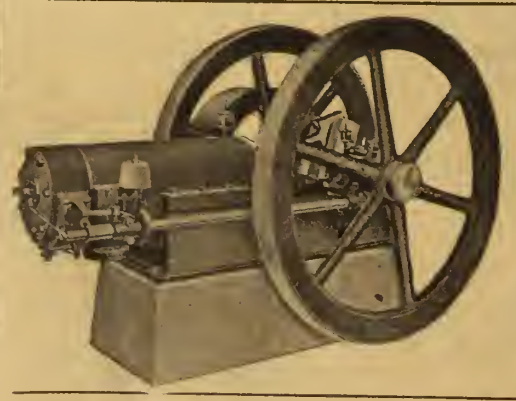
2 TO 50 H. P. HORIZONTAL

STOVER GAS ENGINES

The simplest and the best. We have had long experience installing pumping plants. We know our business. See us before you buy. 2 to 50 H. P.

LIVINGSTON & LEE

352 So. Los Angeles St., Los Angeles, Cal.



HERCULES DISTILLATE ENGINE

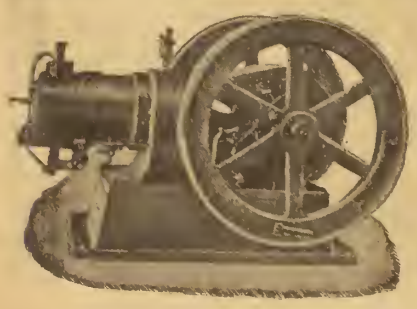
Heavy, Strong and Simple in Construction

The Right Engine at the Right Price

Horizontal and Vertical; All Sizes. Buy direct from the manufacturer and save agent's commission. Send for our new Catalogue C.

The Hercules Gas Engine Works
Alameda, Cal.

Olds Gasoline Distillate Engines



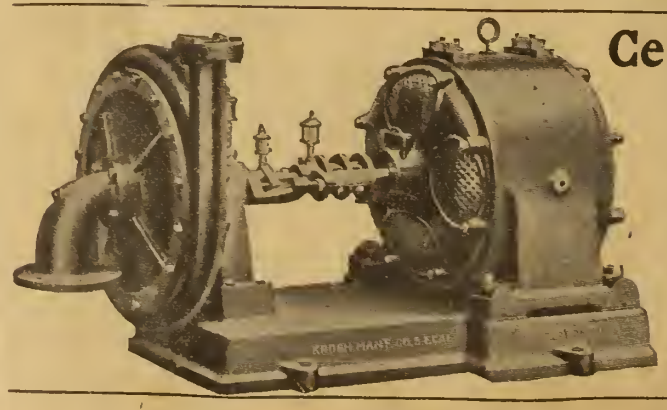
For all purposes, Stationary, Portable and Spraying. All sizes from 2 to 100 H. P. Simple, durable, warranted, are giving fine satisfaction to purchasers on the Coast. Prices and circulars mailed on application to

The Compressed Air Machinery Company

Dealers in all kinds of machinery

34 to 40 Jessie St., San Francisco, Cal.

SEND FOR BULLETIN NO. 15



Centrifugal Pumps

For high or low heads

Direct Connected or Belt Driven

Highest obtainable efficiency

Krogh Man'f'g. Co.
127 10 133 Beale Street
SAN FRANCISCO, CAL.

Send for New Catalogue No. 50 just issued.

500,000 Feet of

Water Pipe and Well Casing

All sizes, any amount. Special Prices while it lasts. Write or Phone for Prices.

Adams Pipe Works 2025 Bay Street, Los Angeles, California
Phones: F1917; Broadway 1264

When writing advertisers, mention Cultivator.

630
C A
Cult

California Cultivator

Published Weekly — One Dollar a Year

Los Angeles — July 16, 1908 — San Francisco

Changing Wheat Fields Into Orchards

TWENTY years ago Merced county was a vast wheat field, but the acreage devoted to the production of grain has been annually growing smaller, while fruit orchards and alfalfa fields and vegetable gardens have been multiplying in number and size, until the traveler in a drive over Merced county today will see large and thriving vineyards; he will see the orange, lemon and olive trees in abundance; he will see great orchards of apples, apricots, figs, peaches, pears, prunes, etc.; he will see many walnut and almond trees, and acres of peanuts; he will see the smaller fruits, strawberries, raspberries, blackberries, currants and gooseberries growing and yielding abundantly.

Merced county lies practically in the center of the San Joaquin valley, which is the big central valley of the State, comprising several counties. This county is sixty miles in length, from the foothills of the Sierras on the northeast to the summit of the Coast Range on the southwest. Its width from Stanislaus County on the northwest to Madera county on the southeast is about forty miles, the total area being about 2600 square miles.

Two large rivers, the Merced and the San Joaquin, flow through the county. In addition to these it has several smaller waterways—Chowchilla River, Bear Creek, Mariposa Creek and other small streams come into the county from the east, while Los Banos, Sycamore, Cottonwood, San Luis and other creeks rise in the Coast Range and irrigate the fertile lands of that portion of the county lying west of the San Joaquin River.

ALFALFA — $3298.00

ONE SEASON'S EARNINGS

It will pay every Farmer who reads this "Ad" to write us especially if interested in Clover or Alfalfa growing. We can refer you to a man who made $3298.00 in Alfalfa last year.

HE WILL TELL YOU HOW IT WAS DONE

We manufacture the machine shown in the cut; it threshes, separates, hulls, and cleans ALL the seed for market. No other machine will do it. You should write us and get our Alfalfa Booklet FREE. It will give you valuable information. Mention this paper.

BIRDSELL MFG. CO., South Bend, Ind., U. S. A.

We Sell Everything the Rancher Uses

At the Right Price

We Carry a Full Line of Blacksmith Supplies, Consisting of

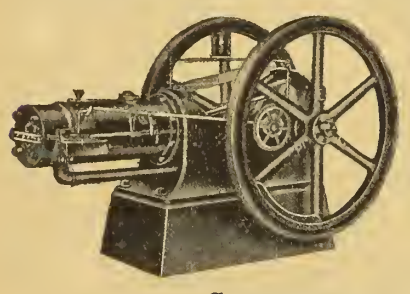
Iron Steel Coal Anvils Blowers Vises

and All Kinds of Anvil Tools, besides

Wagons Buggies Plows Harrows, Etc.

A postal card to us will get you prices and cuts of anything you may need

Los Angeles Vehicle & Implement Co. Successor to L. M. Davenport 110-112 No. Los Angeles St., Los Angeles



For the Land's Sake!

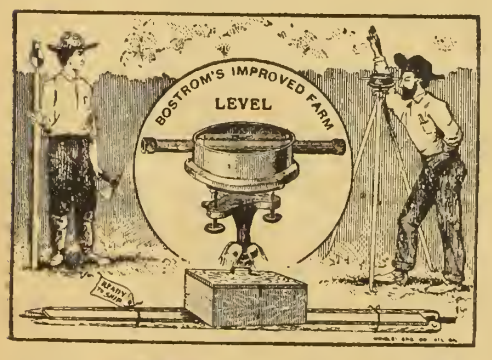
IRRIGATE WITH A

Commercial Gas Engine

SEND FOR BULLETIN NO. 11 AND YOU WILL

Commercial Engine Company

953-955 No. Main St. - Los Angeles, Cal.



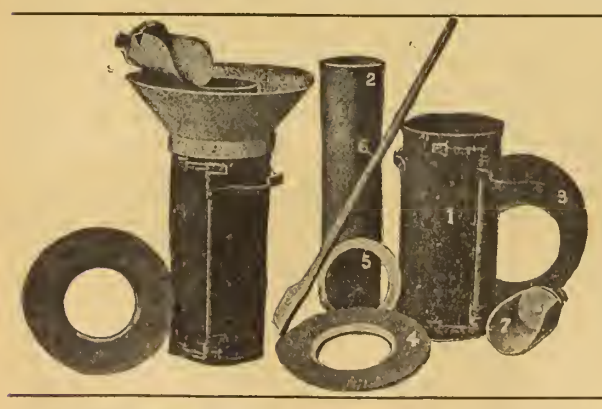
BOSTROM'S IMPROVED FARM LEVEL

Used for irrigation and drainage work. Cheapest and best level yet invented for farm use. Has the latest patented improvements in simplicity and usefulness. Can be operated by any one. Price including telescope tripod and target rod $12.50.

PALACE HARDWARE COMPANY

581 Market Street, San Francisco

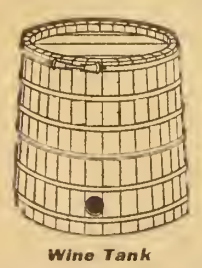
Coast Agents. Send for Circular.



CEMENT PIPE TOOLS

Do you want to make money? Here is your chance. Get a set or two of our pipe tools, make up a stock of pipe and do contracting of installing irrigating systems. Your neighbors are wanting something to save water and labor. Here it is. Write for our Brown Book. It contains much information for those interested in irrigation.

KELLAR & THOMASON
COVINA, CALIFORNIA



Tanks Tanks

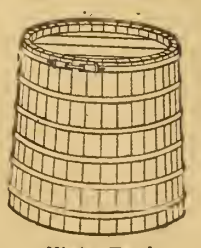
WINDELER'S PLANING MILL AND COOPERAGE

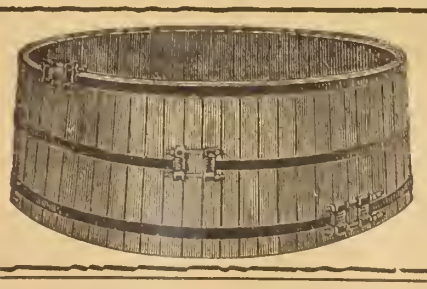
GEO. WINDELER, Prop

Water Tanks, Wine Tanks made from carefully selected stock by careful and experienced workmen. "Tanks that are well made last a long time." It will pay you to get my prices before buying.

Geo. Windeler

Wine Tank **144-154 Berry St. San Francisco, Cal.** ***Water Tank***





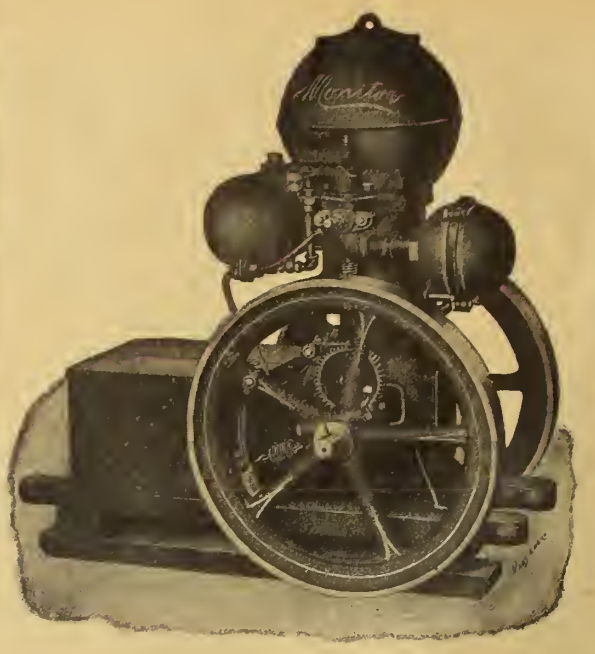
TANKS

Wine Tanks, Water Tanks, Stock Tanks, Cyanide Tanks. Two million gallons of wine tankage built this year. Write ***now*** for my prices. Lumber direct from the forest. This means low prices.

R. F. WILSON

General Manufacturing STOCKTON, CAL.

When writing advertisers, mention Cultivator.



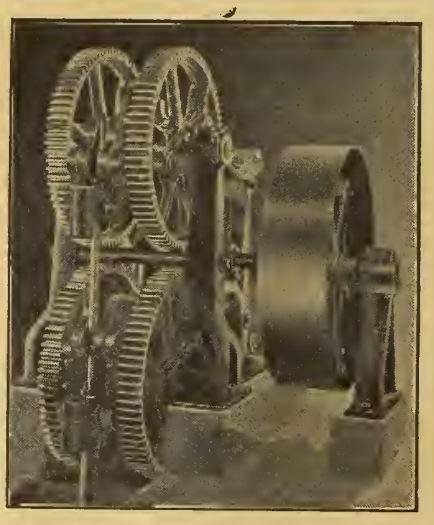
MONITOR ENGINES

Economy and Simplicity

Far in advance of competitive engines. Don't fail to personally inspect this engine before buying. Popular priced. Handsome illustrated booklet on request.

Arnott & Company, Inc.

112-114-116-118 South Los Angeles St. LOS ANGELES, CAL.



This is a cut of the

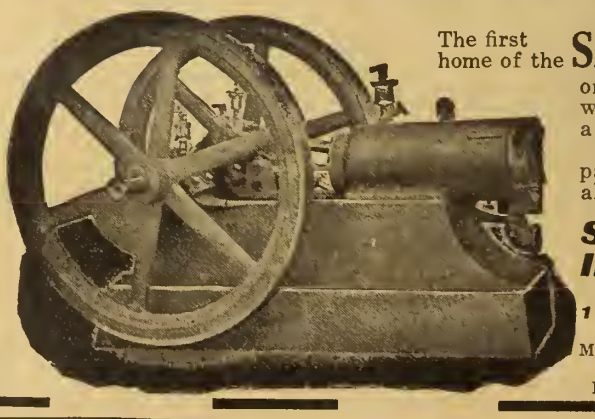
NEW POMONA DOUBLE PLUNGER DEEP WELL PUMP HEAD

for raising water for all purposes. It is highly efficient, thoroughly reliable and the smoothest running deep well pump made. It is built in three sizes from 10 to 40 Horse Power. Send for new catalog to

Pomona Manufacturing Co.
Manufacturers
Pomona, California

or C. H. Weed, Porterville, Cal.

Samson Gasoline and Distillate Engines



The first home of the **SAMSON** engine is a large one. It's second home, which is everlasting, is a happy one.

They may be compared with the sea—always ready to roll.

Samson Iron Works

Office and Factory: 1100 to 1198 Aurora St. Stockton, Cal.

Market and 1st Sts., San Francisco

Branch: 920 J St., Fresno

A Railway on the Ranch

Saves Much of the Hard Labor

The equipping of the ranch with a ***Portable Railway*** is a very ***Profitable Investment*** and ***not*** very expensive.

Our booklet S. F. 60 gives several suggestions for applying it to the Dairy and Ranch.

Works at Koppel, Penn.

ARTHUR KOPPEL CO.

212 So. Los Angeles St. Los Angeles, Cal. ***Chronicle Building San Francisco, Cal***

Eastern Offices:
Pittsburg
New York
Chicago
Boston

When writing advertisers, mention Cultivator.

California Cultivator

Vol. XXXI—No. 3 Los Angeles, California, Thursday, July 16, 1908 Subscription $1 a Year

At the County Fair Fifty Years Ago

An Entertaining Story Published in an Eastern Farm Paper in 1857, Which Shows That Some of the Amusing Things of 20th Century Fairs Were Noticed by Our Grandfathers

THE following amusing experience was printed in the Rural New Yorker. in 1857. It relates a condition, probably somewhat overdrawn, which prevailed at the ordinary county fair at that time. Some people have been cruel enough to say that the good old times of a half a century ago are not so much worse off than we are today.

This being about the time farmers are getting ready to "go to the fair" the lesson of" Smith's bull" and "Old Nance" may be of value. If so, we hope Cultivator subscribers will get "on the committee."

The page from this old paper was taken from a scrap book and forwarded us by E. A. Beard of Anaheim.

* * * *

Some years ago I got acquainted with one of your contributors who edited the Wool Grower, and he used to put me in print. I must say my vanity was flattered by seeing my name printed in the paper, with some things I said, and some I didn't say, and we've kept the papers ever since. After all, everybody likes a little fame, but some are satisfied with a smaller amount than others. Well, I have not the editor any more to set me out, so I have been thinking I would just try and see if you would not put me into the Rural on my own hook—especially as I want to tell you all about my going to the State Fair, at Buffalo, the other day.

Concluded to Go.

As it was not so far but what we could go with our own team, mother and I concluded we would hitch up and have a week to see the sights and some cousins we had not seen for a long time. Mother (that's wife, you know,) thought we ought to take something to the Fair. I told her to take a tub of her butter, but she said she didn't think it was good enough, but thought I might take some of the stock. But I thought it would be a great bother. However, Sam was pretty strong in the faith that we could beat everybody on horses, and wanted to take old Nance. She's a right smart beast, is that old mare, you may depend.

Takes the Mare.

Well, we packed off Sam, for I was willing to give the boy a holiday. It does the boys great good to attend these kind of Fairs, I do believe, after seeing all I saw there.

Goes In.

We got safely to town Monday night, and Tuesday I went up early to the Fair grounds to see what was going on. I got in and hunted up Sam, and found he'd got the mare entered, and had got his card on her head and a good stall, and all things comfortable. The animal arrangements were first-rate generally, and during all the time of the Fair the supply of fodder was good. I think that Maj. Patrick, who was everybody in managing things, a trump sort of a man

Hears Something.

As I was standing up near the business office in the crowd, I heard a couple of men talking about premiums. One said to the other:

"Are you an exhibitor?"

"Yes."

"So am I, and we had better look to the committees."

"Why so?"

"You see the committees are never all full, and if you are on hand at the big tent when they are called, it's easy to slip in a friend, which is a mighty nice thing sometimes."

"Well, I am showing a patent for making cowcumbers, and if you can get the premuim it will make my fortune."

"And I am showing a new kind of bob-tailed hens, and a premium won't set me back."

"Well, you get me on to your committee, and I will name you for mine."

"All right; go in to win when you can."

Thinks I, perhaps if that's the way the thing leans I may as well take care of myself as anybody else. Everybody for himself seems to be the rule on these occasions. So off I streaked it to the cattle pens to find Smith, who is my neighbor. you know. Smith is in the patent bull line. (Mr. P. evidently means "improved.") Says I, "Smith, you're showing bulls and I am showing old Nance, and I guess if merit counts we can win. And that's the talk here on paper." Then I told him what I'd heard about the committee.

"Is that so?"

"Exactly."

"Well, I think old Nance is the best mare in the yard."

"And you've got the best bull on the ground."

Then I told him that we must be up at the tent in time.

Well, sure enough, when the committees were made up I was on Smith's bull committee, and he was on the mare committee.

The Committee Goes Out.

The head man took the book as had the things in it, and we were all introduced to each other, and went down to look at the bulls. We were on the red bulls. So we went along and looked at them, and I didn't say much till we came to Smith's bull, and I looked at him pretty carefully, pulled his tail, punched my fingers into his ribs, and went through the motions as I had seen the others. Says I, "that's a bull that looks like it." Smith had combed him all over with a fine-toothed comb, and brushed him with a hair brush, and he did look slick, for he was just as fat as a hog. And from all I saw, I think fat at fairs, like what the lawyer said about charity, covers a multitude of sins.

Gets the Horns Poked at Him.

Just as I said that, the fellow who had a bull in the next stall comes up to me pretty fierce, and says he:

"What do you know about bulls?"

"Well," says I, "I think I know what they are used for in my section."

"May be," says he, "you are on the committee?"

"I have that honor," says I.

"But," says he, "that bull hain't got any pedigree."

"Well," says I, "he had father and mother, didn't he?"

"Oh! yes, but then nobody knows who they were."

"Well, then nobody knows but they were just as likely as your bull's parents."

"But, sir, look at my bull's pedigree. There it is, sir. Got by imported Shirt-tail, out of Skim-milk, by Thunder," &c.,—and he showed a string of names as long as your arm.

"Well," says I to the committee, "are we to judge the pedigree or the animal?"

And they said—"The animal, of course."

"Then," said I to the fellow. "will your bull get better stock than this?"

"Of course he will," says he, "for he's got a pedigree and that bull hain't."

"Well," says I, "your bull has got somebody to brag for him, and the other hasn't, that's certain." And that sort o' knocked him. "But," says I, "I've known people who felt grand over their pedigree, and I've seen a heap of people who couldn't go further back than their father and mother that banged them all to pieces for smartness. Handsome is that handsome does," says I, "and, as the hymn-book says, 'a man's a man for a' that.' Pedigree go to grass, I go in for the animal."

Smith's Bull Wins.

When we got through and looked at our marks, the other two had Smith's bull second. I had him first. So we talked it over, and finally, as they didn't care much about it, they altered the figures and gave Smith the first premium, which I think was right.

And the Old Mare.

Smith had a great time over old Nance. It turned out that each of the other two committee men had friends whose mares were to be judged, and they pretty soon picked out their favorites, So he kept still and let them talk, and they soon got into a quarrel, and then they appealed to Smith, and he kinder sided with one, but thought old Nance was the best mare, and finally, to keep the other from getting first, they sided with him, and he went in for both of theirs. Smith says he saw some queer things on that committee.

You see we got our premium, but you don't see, perhaps, Col., as well as I do, that it wants something more than merit to be sure of winning.

Gets Irreverent.

The State of New York is a great State, the biggest in the Union, and the New York State Agricultural Society is a great institution, but if there ain't some of the allfiredest big humbugs crawling around its Annual Fair, then I'm a teapot.—John Plowhandle.

The "new agriculture" is coming more and more on California ranches. The grain harvester has long been the most progressive of his class in the world. The California orchardist has put up the most attractive pack of fruits. The dairyman is now installing the milking machine. Co-operative marketing of the products has been more intelligently managed and more successful in this State than in any other. Let the good work go on.

From official sources it is learned that the demand for meat products in this country this year is about one-fifth less than in 1907. Trade papers had conservatively estimated the falling off in business at about 15 per cent, but from the office of the Armour Company in Chicago comes the declaration that the decrease in sales amounts to more than 20 per cent.

Irrigating Hose

12oz. Canvas Coated or Plain. Good for several seasons.

1¾ Inch
2½ "
4 "
6 "
9 "

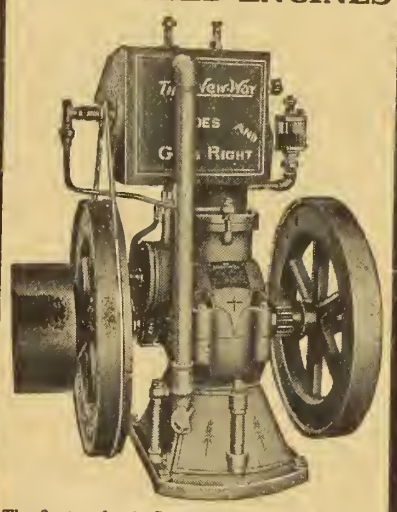
3 Inch

Galvanized or Brass Couplings. Prices on Application

Tents, Stack Covers, Picking Bags

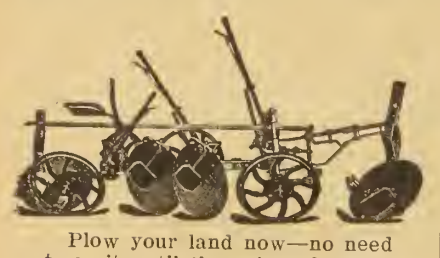
The Wm. H. Hoegee Co.
INC.
138-140-142 So. Main St., Los Angeles
Both Phone Exchanges 87

THE NEW WAY AIR COOLED ENGINES



The first and only SUCCESSFUL AIR COOLED Gasoline engine manufactured
HENSHAW-BUCKLEY & CO.
Distributers for California Nevada and Arizona
San Francisco 219-221 Spear St. Los Angeles 335-337 E. Third

EMERSON DISC PLOWS

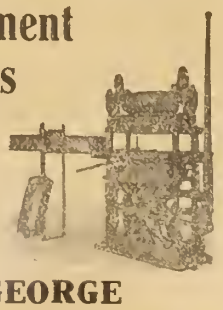


Plow your land now—no need to wait until the rain softens it. The Emerson Disc Plow will plow it, and you will get larger crops next year.

Some Disc Plows are better than others—the Emerson is the best. Let us tell you why it is the best. Write us for iuformation.

Newell Mathews Co.
Los Angeles and Market Streets.
LOS ANGELES, CAL.

Power Cement Brick Press



Buy direct from manufacturer and make your own brick and save one-half the cost.

Price, $300.00

A. F. GEORGE
811 So. Spring St. - Los Angeles, Cal.
HOME F1215 BROADWAY 1873

With the Citrus Growers

CITRUS CULTURE IN THE SALT RIVER VALLEY, ARIZONA.

AMONG the various lines of development resulting from assurance of irrigation water in the Salt River valley, citrus culture will be no small item. There are many acres of land on both sides of the river which are free from frost, have a good depth and appear to contain the necessary elements for successful citrus culture.

Already there is sufficient bearing acreage to assure the success of the industry and invite future plantings. Last year associated shipments from Phoenix reached nearly 120 cars, mostly oranges, but containing a few lemons and pomelos. Besides this several groves contracted for and successfully supplied the Harvey meal system of the Santa Fe route with its enormous traffic of tourists and commercial passengers.

The fruit ripens earlier than that of California and reaches the Eastern markets in prime condition for the Christmas trade. This, of course, is an important item in many ways since it insures good prices and is disposed of largely before the California fruit reaches the same markets.

There are those in California who fear that the development of this industry will come into competition with and perhaps interfere with California's market, but there appears to be little danger of this. Experienced California shippers have long ago warned the producers against premature shipping of unripe fruit for the sake of getting into the Christmas market. There is no doubt of the demand for fruit at this time, but the arrival of green, unsalable fruit to supply it is later a detriment to the brand which such fruit bears, and the market had far better be left to those who can get into it with satisfactory stuff.

The acreage, too, which can safely be planted in Arizona need not alarm the producers of California by its magnitude. Just how much there is of it is still to be determined and it is probable that many acres will be planted which are not adapted to citrus fruits and will do far better in other crops. This has been the history of all citrus belts and though Arizona growers are planting cautiously it is not probable that there will not be some mistakes in selection of soils and location. Some of the laud owners are already familiar with citrus culture and are prepared to cope with its whims and others are employing California experts or making trips into that State to prepare themselves for the new enterprise, or are otherwise protecting themselves against mistakes in planting and field practice. Fertilizing, cultivation and general care will not be slighted and every indication points toward rapid and successful development, thanks to an intelligent and industrious class of growers and a willingness to learn from the experience of California and Florida.

While the quality of the Arizona orange is still somewhat undetermined it is quite certain that it can be made to attain a fine texture, will keep well and meet the most fastidious demands in the matter of flavor.

Grapefruit is very popular and seems well adapted to conditions. It matures to a good size and a flavor which is fully equal to the famous Florida product. Large plantings of this fruit were made last spring and the indications are that it will receive nearly as much attention as the orange in future planting.

Contracts are now pending to have the fruit packed by an experienced packer from Riverside. Proper and approved machinery will be installed and a good pack insured. This party is fully aware of the necessity of careful picking and handling, and his contract will insist upon careful work in the field. Though this may seem to many a bit imperious at the present time it will be of infinite educatioal value for future guidance.—B. J. Jones, Phoenix.

KANSAS CITY RUMPUS.

Kansas City fruit dealers seem to have tried a game of freeze out on the Exchange handling deciduous green fruits. Then the Exchange came back with partial car sales. Regarding the conditions, the Chicago Packer says:

As a result of the sale of less than carlots of deciduous fruits in the market this week by the California Fruit Growers' Exchange at the same price at which carlots are sold there may be interesting developments in this section of the country regarding future distribution of the California fruits, both deciduous and citrus. It appears that the local trade has been buying practically all of its green fruits from California from the California Fruit Distributors, but that this spring the local representative of the California Fruit Growers' Exchange made an effort to sell some carlots of green fruit, but not meeting with success he announced to the trade a few days ago that he would sell any number of packages at the same price that carlots were being sold for and it was even declared by some of the dealers that the exchange delivered the fruit from the cars to the stores of the different dealers on the street. In some circles this selling of less than carlots by a concern which is generally understood to handle carlots exclusively is being strongly condemned and it was intimated this week by some in the trade that the exchange's efforts in this direction would likely interfere with its distribution of oranges and lemons next season.

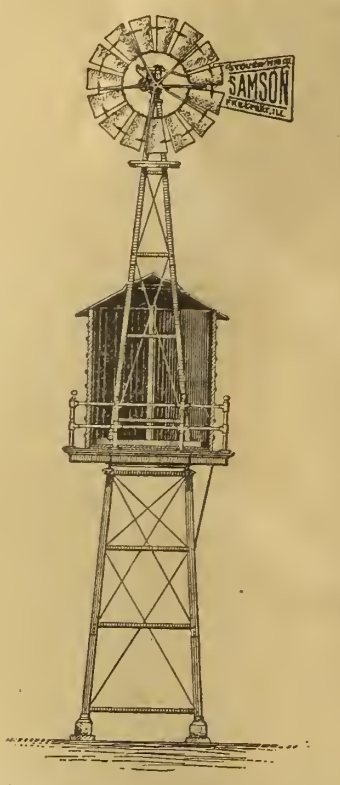
Heretofore the exchange has not sold any green fruits to local dealers, but this season the exchange's representative here has made some effort in this direction, but, according to reports, did not succeed in making any sales of carlots. Failing to sell carlots he began offering less than carlots at the carlot price and this appears to be the cause of the disturbance at this time.

The exchange's local representative, Mr. Bragg, stated this week that he had been forced to sell in less than carlots because the dealers here who buy carlots and supply the trade had not made any purchases from him, although he had repeatedly offered cars, and, in fact, it appeared to be his opinion that the local dealers were making an effort to keep the exchange out of the market. He admitted that he was selling less than carlots at the carlot price but that he was forced to do so in order to get business.

In reply to this explanation of why the exchange was selling in less than

SAMSON WIND MILLS

Have double gears, removable bearings and center lift, which double the life of the mill. They will last longer, pump more water and give better satisfaction than any other WIND MILL.



This is an up-to-date Sub-structure, Tank and Wind Mill outfit complete; substantial, economical and attractive. We build all kinds. Write us or our general agents for full information and prices, description &c., before purchasing.

The STOVER MFG. CO.
FREEPORT - ILLINOIS
30 California Avenue
CRANE CO., LOS ANGELES and SAN FRANCISCO
General Agents for California

Oranges and Lemons

When the right varieties are properly grown and planted, are money makers. Our new booklet on Citrus Culture tells all about the standard sorts, planting, cultivation, irrigation and packing the crop. Over 100 illustrations and something like 50,000 words of text. The price is merely nominal, namely, 25 cents. May we have your name for a copy?

San Dimas Citrus Nurseries
R. M. Teague, Prop.
San Dimas, Cal.

PIPE

Before Ordering Pipe Elsewhere Get Our Prices

80,000 ft.	½ in.	Pipe
95,000 ft.	¾ "	"
65,000 ft.	1 "	"
150,000 ft.	1¼ "	"
150,000 ft.	1½ "	"
90,000 ft.	2 "	"
30,000 ft.	2½ "	"
10,000 ft.	3 "	"
20,000 ft.	4 "	"
1,000 ft.	5 "	"
3,000 ft.	6 "	"
10,000 ft.	4 Screw	Casing
5,000 ft.	3½ "	"
2,000 ft.	3 "	"

All this pipe is guaranteed to be as good as new. We give you the same guarantee as you can get with new pipe.
For prices and general information address
Weissbaum Pipe Works 135 11th St. San Francisco

carlots dealers here stated that there was no effort to keep the exchange out of this market. The only reason, it was asserted, why the exchange's principal competitor, the California Fruit Distributors, was given the business, was that the Distributors handled a large share of the California green fruits and was, therefore, in better position to fill orders at all times. As one dealer put it, "There is no good reason why we should buy from the exchange when we have been buying heretofore from other concerns and have been getting entirely satisfactory service. The concerns from which we have been buying have been able at all times to give up just the selection of fruit we want and when we want it and at the lowest prevailing market prices."

It is asserted that the exchange distributes comparatively few cars of deciduous fruits and for that reason is not always in position to supply just what the dealers want and this appears to be largely the reason why other concerns are favored. Whether the efforts of the exchange to force sales of deciduous fruits on the local trade will affect its trade in citrus fruits here the coming fall and winter is an interesting feature of the present situation and it was predicted here this week that in case the exchange persisted in doing a less than carlot business that the interested dealers would favor other distributors hereafter in the trade in oranges and lemons.

It was reported in the trade here this week that in case the exchange persists in its present method of splitting up cars and selling them at the carlot price that the matter will be brought to the attention of the Western Fruit Jobbers' Association for the purpose of having the association condemn any such plan. If the association should take such action it is thought likely that the exchange's business in various western markets might be hampered to some extent.

BETTER CARE OF ORANGE GROVES.

There is one thing that this paper wishes to call the attention of orange owners and care-takers to, and that is the better care of their groves, says the Exeter Sun.

A ride over the orange grove part of the county adjacent to Exeter will convince any one of the reason for this advice. To be sure a large number of the orchards are in the very pink of shape, but on the other hand there are quite a number in bad order.

Many of these which look bad now have been cared for to the best of the ability of the men in charge, but the trouble seems to have been they were not cared for at the proper time and the result is a bad looking field and trees showing the effects thereof.

Some of these groves are cared for by their owners and there is little excuse for their looking the way they do. Others are cared for by men who do it by the acre. Usually these men are the very best of experienced caretakers but in many instances they have taken on their hands more than they are able to do. They can only afford to keep a certain number of horses and at the time when nearly all of the orchards need attention they are at work in one or two and the rest must go until they can get to them which is often so late that they take considerable harm.

Other excuses are often put up for the difference in the fields but when tho road passes through two fields and one is full of grass and the trees showing yellow while the other is perfectly clean and the trees showing black and thrifty it seems like there can be nothing else but lack of attention to blame. These poor fields and groves are the bane of the country. Many prospective purchasers or planters look at them and shake their heads. They do not understand the cause and go away saying to themselves or friends that they will try some place where it looks better. There are places where it is the pride of every one, both owners and caretakers, to have their groves look clean and nice. These are the show places of the country. The land about there sells for a third more than when the orchards are less clean.

Mr. Orange Grower, how is your field looking? Is it one of the kind that visitors shun, or one that they go out of the way to see?

FRUIT AS FOOD.

It may be positively asserted that even the modern housekeeper, intelligent above her predecessors though she may be, still fails to appreciate the value of fruits. Nothing among all the productions of our bountiful mother can compare in richness and beauty with their hues and flavors. Above all they give tone to the digestive organs, antidote biliary derangements, and afford an innumerable variety of dishes at once delicate and nutritious. Who rightly values the worth of the apple, or of the date, that fruit which for three-fourths of the year furnishes the staple food of an Oriental race?

Every breakfast table in the land ought each day to have a central dish of fruit, either cooked or in its native state. Oranges and melons, apples and grapes, figs and dates, currants and the royal line of berries, cherries and gooseberries, plums and pears, apricots and peaches, bananas and grape fruits, all are rounded in outline, exquisite in coloring and delicious to the taste.

In one respect all fruits are alike. They should be eaten only when perfectly ripe and as fresh as they can possibly be procured. The unfortunate denizens of large cities may be compelled to consume them after being hawked about the streets and plentifully sprinkled with dust, but that is the price they pay for other privileges.

At the recent annual meeting of the Highland Fruit Growers' Association, the following were elected directors for the coming year: J. L. Yarnell, L. C. Waite, S. G. Lamb, W. D. Wagoner and L. S. Steele. J. L. Yarnell was elected president.

CONFIDENCE IN PINCHOT.

Confidence in the work of Forester Gifford Pinchot was expressed in resolutions unanimously adopted by the Tri-Counties Reforestation Committee at its quarterly meeting held recently in the Riverside Chamber of Commerce rooms. The resolutions were submitted at the close of a lively debate, and were prompted by the press dispatches telling of the charges that had been preferred against Mr. Pinchot by Congressman Smith, who accused Mr. Pinchot of entering into a secret understanding with the city of Los Angeles to enable that city to secure valuable water rights in the Owens River. Not only will a copy of these resolutions be sent to the head of the Forestry Department, but also to Congressman Smith.

FRUIT FROM MESQUITE.

Prof. Mason is interested in the report from Benson, Ariz., that experiments are being tried there of grafting fruit buds on mesquite trees. The mesquite trees are trimmed to good shape, and then there are grafted upon them cuttings from fruit trees. Mesquite trees will grow without irrigation, as their long roots seek moisture at a great depth, and if the experiment proves successful it would open great possibilities for the desert country.—Holtville Tribune.

BENEFITS OF PANICS.

Every industrial collapse which the country has had has brought some needed financial improvement. The panic of 1837 compelled Congress to establish the independent treasury, in which the government, ever since that time, has had control of its own funds. The panic of 1857, by destroying many of the wildcat banks, compelled changes in the laws in many States which strengthened the banking system of the country. One of the measures of the Civil war legislation was the creation of the national banking system. The panic of 1873 forced the dominant party to pass the greenback redemption bill of 1875, which went into operation in 1879, which brought all the country's currency up to the gold level in that year, and which has kept it up to that line ever since. The panic of 1893 compelled us to stop buying silver for the dilution of our currency, and thus saved us from a worse catastrophe later on.

I am not calling the flurry of 1907 a panic. Unlike the convulsions just mentioned there has been no general dislocation in the country's industrial and financial scheme. We have neither wildcat State bank notes nor irredeemable greenbacks to combat now, nor have we debased silver. Every dollar of all sorts of American currency is worth one hundred cents in gold today. Our industrial and financial conditions are inherently solid.—James W. Van Cleave in American Industries for June.

Orange Seed Bed Stock
FOR SALE
Fine Fibrous Roots. Have about 30,000 left.
John M. Carse
Tel. Home 40. 121 No. Wilson Ave., Alhambra, Cal.

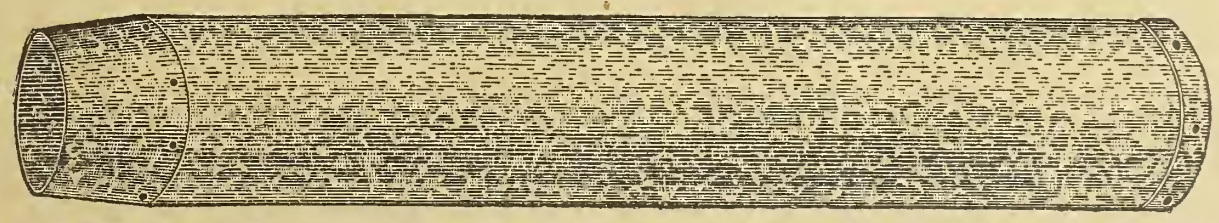
Orange Seed Bed Stock
Fine, Large, Healthy Stock For Sale Cheap. Call on or address
T. J. Locke, 27 Union Avenue, Alhambra, Cal.
P O. Box 168. Home Phone Black 177

Orange Seed-Bed Trees
Sweet and Sour Stock. Plant now.
SOUTHLAND NURSERIES
F. H. DISBROW, Proprietor
R. F. D. No. 1, PASADENA, CAL.
Phones: Main, 949 Home, 2520

When writing advertisers, mention Cultivator.

Citrus Trees
For Season 1908
Valencia, Eureka Lemons, Thompson and Washington Navels, Grape Fruit
C. L. McFarland & Co.
Riverside, Cal.

TENTS
Fumigating and Lemon Curing Tents our Specialties
Irrigating Hose, all sizes. Prices and Samples quoted upon application. Write your wants
Wagon Covers, Hay Covers, and Canvas Covers of Every Description.
Mellus Bros. & Co
Phones—Home, F 4871; S. S., Main 8590
250 East Fifth St., Los Angeles, Cal.


AMERICAN SURFACE IRRIGATION PIPE
SAVES WATER, GRADING AND TIME
The **only** way to **irrigate Alfalfa. Cheaper** than **Flumes.** This is only **one** of our **specialties.** We make **Riveted Water Pipe** in lengths of **ten feet** from **single sheets.** Let us **prove** to you that we make **Pipe** and **Tanks right.** WRITE FOR CATALOGUE.
AMERICAN STEEL PIPE & TANK COMPANY
FORMERLY TALLERDAY MANUFACTURING COMPANY
636-7 Pacific Electric Building Los Angeles, Cal

Deciduous Fruit Culture

GRAPE PACKING.

This is our first year on a California fruit ranch, and there are so many things we do not know. Your contributions to the Cultivator have been so very helpful to us. The article on grapes in the last issue was particularly interesting.

We have Sultanas, Flame Tokays, Muscats and Emperors. Most of our land, however, is in peaches, and it is our purpose to sell most of the available fruit green, drying what must be dried and making vinegar of the refuse.

We wish to put our goods up attractively and to make our label a synonym for good fruit, well packed. What sort of ribbons do you use on grapes, what colors, and how much? Do you pack the spaces with tissue paper, and do you use colors?

We are much dissatisfied with the coarse, unattractive paper which is all we have been able to buy for wrapping peaches.

We have not yet learned the addresses of houses where we may buy supplies of the sort we need. The ranchers of this valley are very unambitious, and for the most part buy their supplies in small quantities from the local packing-houses and take what is offered them and pay ruinous prices for inferior stuff.—Bee Josephine O'Mealey, Anderson.

Answer by Mrs. Sherman.

It is not always easy to relate the simple little things intelligently, perhaps, because we do not put them into words mentally, but simply do them. The grade of ribbon sells for $5.50 a thousand-yard spool. The order for grapes, Malagas and Emperors, eight-car pack, is as follows: Four spools of yellow like sample, 4 spools of white for blending, 2 spools of light pink, 2 spools of medium pink, 2 spools of light blue, 1 spool of medium blue, 1 spool of red, 1 spool of light green, 1 spool of lavender. The spools are strung on a home-made reel that allows them to turn easily. The ends of the desired colors are taken in the left hand and drawn out two yards, then folded back on themselves, again and again, until the loops are between five and six inches long; then the ribbon is cut from the reel and the ends tied tightly around the center of the folded ribbon, to make a "chou," the ends are left long enough to tie the ribbon to the stem of the grapes. The fancy bunches have often eight yards of ribbon on a crate, while the bunch pack is usually sufficiently decorated with a couple of yards to a crate. Sometimes the ribbon ends are left long enough to tie to the second bunch of grapes across the crate, and then a smaller chou is put on them. The variations are endless that suggest themselves while packing.

The colors are used singly, or two or three tints combined, often a dull-looking crate can be lightened into beauty by proper ribbons. Beefy tones can be killed by using blue and white ribbons, then the orange and amber tone of the grapes is accented to the eye, while a red or yellow ribbon would give the grapes a dingy look. The yellow and red ribbons come in to make a light-colored crate of fruit brighter. Tissue paper is not used in the grape crates, the bunches are cunningly put in to fill the spaces; indeed, we sometimes have to use more than one extra cleat, the packers get the fruit so high in filling the crates.

In packing peaches, the wrappers can be gotten in nice colors or in a good quality of white paper. The ranch name as well as the packer's name, should be on each wrapper. This printing can be done at the manufacturer's, and costs but a trifle extra.

Have the crate end of the grape boxes with your name or with the ranch name. The packers and the place of packing are required to be placed on the crate by the State laws. This box end should have something attractive on it. We have on ours in addition to our name and the ranch name, a picture of the brand.

VINEYARD FROM CUTTINGS.

TWO weeks ago I read the article about planting grapes—from cuttings and rooted vines. I send you photographs of my vineyard planted from the cuttings. It is three years old, and I have had it examined by expert vineyardists from Lodi and they pronounced it far ahead of anything they have in Lodi for the age. The berries will average 15 pounds to the vine. I will say that I intend to plant ten acres more this spring and I most certainly will set out cuttings. I had the photograph taken just a few days ago purposely to show you in fact that the idea of planting cuttings is a good one, and much better than rooted vines. If you feel like using the photo do so.

Your paper is a valuable one, and I cannot get along without it.—Robert Adams, Beaumont.

FRUITS AS MEDICINES.

In Modern Stories we find that fruits are divided by the famous French Dr. Dupoury into five classes: (1) acid, (2) sweet, (3) astringent, (4) oily and (5) mealy.

In the first he counts cherries, strawberries, raspberries, gooseberries, apples, peaches, lemons and oranges, and regards them as of great hygienic value.

Cherries he prohibits to those affected with neuralgia of the stomach.

Strawberries and raspberries he recommends to the bilious and gouty, and denies them to those affected with diabetes.

Of the sweet fruits he particularly values plums, especially for the gouty and rheumatic.

The small-seeded fruits, such as blackberries, raspberries, currants and strawberries are among the best foods and medicines. Their sugar is nutritious, their acid is cooling and purifying.

Grapes he awards the first place and thinks them the cure par excellence for the anaemic, dyspeptic, consumptive, gouty and bilious.

Bananas are recommended for the typhoid patient.

Lemons and tomatoes are cooling.

Lemonade is the best drink in fevers.

The juice of half a lemon in a teacupful of strong black coffee without sugar often cures a sick headache.

The apple is one of the best of fruits. Baked or stewed it generally suits the most delicate person.

Green figs are an excellent food and are laxative.

Prunes supply the highest nerve or brain food, dried figs contain heat, nerve and muscle food, hence are good for both cold and warm weather.

Sweet, ripe fruit in prime condition only is called a perfect food.

William W. Tracey will have charge of the United States plant introduction garden at Chico.

VITICULTURISTS TO MEET.

For the purpose of taking action looking toward the protection of the viticultural industry of California in any revision of the tariff which may be made, the Manufacturers' and Producers' Association of California has issued a call for a meeting of the wine grape growers of the State to attend a convention to be held in California Building Union Square, San Francisco, on Wednesday, July 22d, at 2:30 p. m. All interested in the subject are invited to attend. The association has called the meeting to insure proper recognition of the claims of this important industry in the hearings which are to be held before the Ways and Means Committee of the House of Representatives next November.

Imperial valley cantaloupe growers are feeling decidedly sore over the fact that while they received almost nothing for some of their larger shipments, the Eastern retailer, instead of being content with a reasonable profit, held for last year's prices, and what few sold cleared something like 400 per cent.

IT'S PENNY WISE

Policy to set out a good tree, costing good money, and then let the sun burn the bark or the rabbits gnaw it, when for $1 an acre you can get Yucca Tree Protectors that are practically indestructible. Write for free sample of the wrap. Yucca Manufacturing Company, 1380 Willow street, Los Angeles.

FRUIT TREES

We have the **LARGEST and BEST STOCK** of Deciduous Fruit Trees we have ever grown.

Armstrong Nurseries
ONTARIO, CAL.

EDISON PHONOGRAPHS, VICTORS, ZONOPHONES
Records and Supplies, delivered at your nearest railroad station upon receipt of full retail price. Write for particulars and ask for catalogue. Peter Bacigalupi & Sons, 1113-15 Fillmore St. San Francisco

Fertilizer Drills
Get the Best
Buy the Buckeye
7 Hoe 7 Inch or 8 Hoe 8 Inch

Will furnish set of plates when requested (without extra charge) for sowing peas or vetch.

Hawley, King & Co.
Los Angeles St. between 2nd and 3rd Sts. Los Angeles, Cal.

California Horticulturally

SUBDIVISION IN SACRAMENTO VALLEY.

ONE of the signs of the times, and a good one, is the cutting up of the big ranches in the Sacramento valley. It indicates a large increase in population with the consequent increase in land values, making the holding of land in large tracts unprofitable. The latest in this line is the reported sale of the Haggin tract near Sacramento city. This body of land, known as the grant, comprises over 40,000 acres of the best land in the upper country; it hangs like an incubus over Sacramento, withholding so enormous a tract out of settlement and cultivation and has done more than any other one thing to keep back the prosperity of the capital city. It is now stated, and with some appearance of credibility, that this tract has been sold to a syndicate and will be cut into small holdings and sold to actual settlers. If this is is the case it will add largely to the wealth and population of Sacramento.

THE DESTRUCTIVE OAK MOTH.

The oak moth (Phryganidia californica) is doing great damage to the live oaks around the San Francisco bay counties, and especially in the Berkeley section. This is one of the periodical pests and appears in great numbers every three or four years, only to be reduced by its natural enemies, of which there are a number. It then remains unnoticed for awhile when it again appears. This is aparently its year for being here and it has shown up in such force that many of the grand oaks about Berkeley are defoliated and great damage is being done, in spite of the efforts of the University people to hold it in check.

MONEY IN APRICOT PITS.

Very many of the by-products of the orchard, which were at one time rather a source of annoyance than otherwise, have now a commercial value and add that much to the value of the fruit crop. We remember when apricot pits were burnt to get rid of them, and they made very good fuel, too, but now there is an active demand for them, and apricot driers have no trouble in disposing of them at very good figures. They are now a real asset of the orchard and not a mere waste product. In their transit to the East, these pits become transformed into almonds, and as such masquerade in many of the choice confections which are found in the Eastern market. Perhaps, as the apricot pit is sweet and nutritious and in many ways equal to the almond, the deception is not so bad, especially as it helps out the California orchardist and does no one harm.

THE RUSSIAN THISTLE.

The Russian thistle, of which little has been heard of late, has appeared in Butte county, and the people there have taken energetic action against it. A delegation of farmers and fruit growers recently waited upon the Board of Supervisors there and explained the threatening danger of this pest unless it is exterminated, and upon this representation the supervisors issued instructions to the Board of Horticultural Commissioners to proceed at once with its eradication. With the supervisors at their back, the Horticultural Commissioners have the power to compel people on whose premises this dangerous weed is found to kill it out and keep it down, and it is evident that they intend to do it.

A NATIONAL APPLE SHOW.

The Washington State Horticultural Association is arranging for a great apple fair to be held at Spokane on December 7th to 12th, and is making a strong effort to get all the apple growing States to participate. Valuable premiums have been offered and invitations have been sent to all apple growers to compete. It will, undoubtedly, be a great event and the Pacific Coast will have a chance to show what can be done here in apples. California should be well represented and, if we were, there would be another revelation to the horticulturists of the country, as great as when we walked away with the prizes against the world for oranges at New Orleans. California can grow apples, she can and does grow the best apples on earth, but few know this and few believe it. If we prepare now to take part in this contest and do our best on that occasion, we shall walk away with the prizes against all comers, as we did in the orange case, and California's reputation as an apple State will be made and another great field of horticulture will be extended.

WANT THRIPS INVESTIGATION EXTENDED.

The State Board of Trade, which is ever among the first to move in the interest of the fruit growers has applied to Secretary Wilson for an increase in the force now engaged in the study of the thrips and its work in Santa Clara county. At the present time this work is being carried on by Dudley Moulton and Chas. T. Paine, his assistant, who are doing excellent work though limited in its field. The thrips, an insect so small as to be barely visible to the naked eye, is doing such serious and wide-spread destructive work that it threatens the future of the prune industry of the State. Its work, too, is not confined to prunes, but it attacks peaches, pears and all varieties of plums. It has totally ruined the crops in many orchards this season, and in a season of abundant fruit, they will yield nothing. Some means of checking this pest must be found, and it is to be hoped that this effort on the part of the Board of Trade will meet with success. There is little doubt of this, however, as the Department at Washington has ever shown an anxiety to be of service to the fruit growers of California, as is evidenced in the many investigations now being conducted here.

SLANDERING THE LADYBIRDS.

We hear frequent complaints to the effect that green ladybirds are doing great damage to melon vines, or cucumbers or to flowers or plants and asking for a remedy. It is to be regretted that the name ladybird is so frequently applied to one of the greatest of our insect pests, as it brings the true ladybird into disrepute and it is often charged with, and sometimes destroyed for, the sins of the pest which has recieved its name. The "green ladybird" is not a lady bird, nor does it belong to the ladybird family. Its name is Diabrotica, and in California we have two especially destructive forms of the pest, the Diabrotica vitta, the gueen and yellow striped beetle which attacks melon, cucumber and squash vines and sometimes attacks them in such swarms as to destroy the vines, and the Diabrotica 12-punctata, the spotted variety which attacks our fruit and flowers. They are much longer in proportion to their width than any of the ladybirds which are more spherical in shape, they have long feelers, while the ladybirds' are short and clubbed, and their habits are entirely different. Ladybirds are beneficial in all their stages, this pest is destructive in all, yet we have known people to destroy ladybirds which were doing good, because the Diabroticas were doing harm and they believed them all to be ladybirds. No effective remedy for the pest is known as it attacks plants and fruit at a time when applications of insecticides would not be safe, otherwise Paris green could be recommended. Hand picking in the early morning while the insects are somewhat dormant is the only effective method of checking them.

CHERRY FAIR.

The Salem Cherry Fair is postponed from last week till this and is being held today, tomorrow and Saturday.

The management sent out one of the neatest illuminated post cards we have seen in invitations to the show.

Walla Walla cannery opened on Royal Ann cherries on July 1st.

Placer Nurseries

We have now growing for next season's delivery a large stock of all leading varieties of trees and vines. We propagate only the best commercial sorts. Our trees and vines are the best that good care can produce and in their selection, propagation and growing we spare no labor or expense; and they are true to name. That is what you want.

Contract now the trees and vines you will want for next season's planting.

Write us.

Silva & Bergtholdt Company
Newcastle, California

TREE TANGLEFOOT

A Sticky Preparation Applied Directly to the Bark of the Trees

Will not injure trees. A band 5 inches wide and 1-16-inch thick cannot be crossed by any climbing insect pest. Remains sticky five to ten times as long as any other known substance. You can test it at slight expense, as no apparatus is required. Used by the carload in New England against the Gypsy and Brown-Tail Moths. In California it preserves prune orchards from the Canker Worm Wherever the Gypsy or Brown-tail Moths, Tussock Moths fall or Spring Canker Worm or Web Worm appear TREE TANGLEFOOT is of great value, and should be used when the caterpillars begin to crawl while they are very young.

Price 25c per lb. Liberal discount on quantities. The only safe and effective banding preparation. Send for testimonials.

THE O. & W. THUM COMPANY
Manufacturers of Tanglefoot Fly Paper — Grand Rapids, Michigan

Yaqui River Valley Lands
$12.50 PER ACRE

Alfalfa, wheat, corn, beans, sugar cane, oranges, lemons, limes, and other semi-tropical crops and fruits grown on these lands, rich alluvial and silt deposits.

The Finest Irrigation System in the West

An abundance of water at 50 cents per acre foot. Terms offered during the next ninety days are extremely easy. For information write

WM. H. CANNON & CO., Ventura, Cal.

When writing advertisers, mention Cultivator.

General Agriculture

NEED OF FARMERS' ORGANIZATIONS.

IN THIS day of combinations, the individual does not count. Unless a man can prefer demands, however just they may be, backed by the strength of numbers, he will receive scant attention. Let the individual go to a railroad, an express or other shipping company with complaints of unfairness and while he may be politely listened to, it is certain that he will get no redress; but let him go in the name of an organization, and the stronger the better, and he will be more than listened to, his demands will be carefully considered and, if they are at all just, you may depend upon it they will be granted. So it is in politics, and it is here that the farmer is most ignored, for he does not bring the force of numbers to back his just demands, while organized inferiority gets all it asks. The farmers represent the largest number of our population; they also represent the most intelligent and are the class upon whom the prosperity of our country primarily depends, yet in politics they have not the power of the Hod Carriers' Union, composed almost wholly of foreigners and men with no direct property interests in the country. And so it is all along the line. The citrus growers of the south have a strong organization and they get concessions as they ask them and are prosperous. There is no reason why the most important class of men in the country should be ignored while their inferiors carry everything, except that they cannot bring the force of numbers to back their demands. Organize, get your organization to affilliate with other organizations, make yourselves felt in trade, business, politics and soon the farmer will take his proper place at the head of our industrial forces, and get all that he justly demands and be prosperous as he should.

WHY FARMERS SHOULD BELONG TO THE GRANGE.

The above heading is the subject of a prize essay written by Miss Nina Taylor, of the Rockwood school in Multnomah county, Oregon. The grange there had offered three prizes for the three best essays on the subject mentioned. The essay is as follows:

"Every farmer should belong to the grange because it is a farmers' association.

"Men who work for wages at almost any business have business associations; the carpenters, the plasterers, the machinists, the plumbers, and men who work at all such trades have trades unions or associations. The grange is the farmers' association, and in the same way as the trades unions benefit the workers, the grange benefits the farmers, but to a greater extent.

"If all farmers unite and form a strong body they can send delegates to the state legislature and demand almost anything that would be good for the farmers in general, such as having new roads and bridges built or improving the country in any way.

"The grange also furnishes a place for the farming, dairying, gardening, and stock raising.

"Another reason is that in belonging to the grange a farmer can have his farm implements, his buildings, his stock and his household articles insured at a cheaper rate than in any other insurance company in the world. This insurance company is sure not to go bankrupt because it is a national organization, and there is such a large amount of insurance all over the country that if a very destructive fire did come in one part of the country the insurance could be paid without the slightest danger of the company going bankrupt.

"The grange has done many things for the good of all the farmers.

"It has been the means of getting free delivery of mail to all the country places. It is now working for a government road across the country.

"The grange also furnishes a good place for young and old people to go."

INEXPENSIVE PAINT.

Dr. J. L. Roberts of North Yakima, Wash., writes as follows to the Pacific Homestead:

"There is little or no excuse for farm buildings going on for years, or one year, without paint, when it can be supplied so cheaply as I have done very recently.

"I have painted my house (a small one) with a preparation of hydrate of lime and skim milk. No special proportion of each; simply take one or two gallons or more of skim milk and stir in the lime until it is about the consistency of thick cream—in fact, the above combination will look much like rich cream. The dry hydrate of lime is of a pink tinge, so the mixture will be the color of cream. When applied and dry, which will be in less than two minutes, it will be lighter. Apply with a whitewash brush or mop. The milk makes it a 'fast color.' I can lean against it with my best black coat and leave no mark on the coat.

"Many years ago I painted my father's prairie farm house with water-lime and milk. That left a light lead color and lasted for years. I have never tried pure lime, but I believe it would make a clear white paint.

"To make a red paint, put in venetian red.

"The limit to experiments would be at the end of the list. A few cents spent in experiments may result in dollars of value. Farmers who have cows ought to have plenty of skim milk, and lime is so cheap that every building on the farm could be made presentable with so little expense that it would pay in heart satisfaction, if nothing more.

"Of course, this is not intended for expensive buildings, but cheap buildings, sheds, etc., which are hardly ever painted. Just try it and see if some of your neighbors won't be calling to see if your place hasn't changed hands."

CALIFORNIA — RESOURCES AND POSSIBILITIES.

The Eighteenth Annual Report of the California State Board of Trade, now before us, is a document worthy of perusal by the homeseeker, the tourist, the political economist, and the general reader. It is replete with information of interest and value to every one desirous of adding to his knowledge of the Golden State and its vast resources, and the wonderful growth of her varied industries, since she entered the sisterhood of States, less than sixty years ago.

The work of the California State Board of Trade is for State development, and the institution is in a position to give full and accurate information in regard to the State in response to inquiries which come in numbers from every part of this country, as well as abroad. This information, as well as the reports and ilustrated literature regarding the various countries and districts, is given or sent out free to all inquirers.

The next session of the Farmers' National Congress will be held at Madison, Wisconsin. A fine program, many attentions from the citizens and an opportunity to see this college, should attract a large attendance. Geo. M. Whitaker, Washington, D .C., secretary.

Unorganized farmers may be successful as producers, but organization and co-operation are necessary for successfully marketing crops after they are made and prepared for the market.

Live Stock and Dairy

ADVANCED DAIRYING.

THE time surely has come for the formation of testing associations or clubs in this State. In the Middle West these farmers' associations are developing the native cows at small expense. One thing noticeable is the demand for improved blood. The sires are more carefully selected; the son of Tom Jones's best cow Mary is no longer good enough. It must be something a good deal better; something with a long name and a number, certified to by a good breeders' association. The testing brings about a number of things. It brings uniform cows for one thing, for the sires are too expensive to be used by merely one man for one season and then made into beef. A system of exchange is growing up; one after the other, the bulls are sent to the next club after one club has used them for a time. Any one having had aged, tested sires that have had to be made into bologna sausage knows how many fine bulls are sacrificed because no one wishes to pay for the transportation of a large animal when he can buy a calf and, even if he pay more for him, save on the transportation charges. Any man of enterprise, if he will watch his neighbors who have registered stock, can pick up five-year-old tested sires very cheap. If he has a grade herd he need not care for the registry papers. Many breeders do not like to let the old chap go with his papers, for fear it will be considered as cheapening their stock.

Love of Good Cattle.

Any one who really loves the breed he is interested in wishes others to have it as well as himself. It seems like a great waste to have a mature animal that has given good service sell to the butcher for thirty-five or forty dollars when there is good blood there to improve someone's common cows. Under a testing association the sires that have proved themselves superior could be passed on until too old for further use. The raising of grade cows where a registered sire is used proves very profitable. The grade milk herd quickly climbs into value. Cows seemingly good are offered at $35.00 a head. Yet we never have had to sell ours for less than $75.00, some for a good deal more. We have only one grade cow left and the neighbors at the upper ranch (where she is kept as a milk animal) are anxious to buy her at $80.00. We keep her as we do not care to risk a more valuable animal away from home and under any kind of care. The people do believe in improved blood after all; though they may scoff they will pay in cash for a good grade.

Registered Cows.

There exists in many farmers' minds the idea that pure breed cattle are delicate and require more care than common stock. This probably comes from the fact that the man who breeds fine cattle has the knowledge that care and shelter make the feed bill less and, therefore, the profits more. This is a correct view to take and even the man with scrub cattle would find it true of his poorer stock. As to being more tender there was never a greater mistake, for the advanced registry test when made for thirty, a hundred days, or for a year's time is a severe one. It shows that a cow has perfect digestion, for the least falter in her appetite shows in the amount of milk and the butter fat at once. There is a bulletin, indeed two of them, now no longer new, that should be studied by every one handling milk cows, Bulletins 51 and 66 of the Agricultural Experiment Station of the University of Illinois. Professor Fraser records two cow's performances at the pail. Eva and Janet come first. Eva gave nearly 50 per cent more milk than Janet and about 12 per cent more butter in a ninety-day test. She made this extra butter without eating any more grain than Janet and only about 8 per cent more roughage of hay and fodder. This statement is made without giving the decimals as they always seem to me to lessen the force of the amount by making one think of them and for grasping the amount of difference they count very slightly. Eva was so much the better producer that she made 1050 more pounds of milk and 12 pounds more of butter out of the additional 112 pounds of corn fodder and hay she received. With one cow the difference is not great, but in ten cows see how much the man who owned the Evas would outstrip the man owning the Janets in his profits.

Rose and Nora.

There are two other cows, Rose and Nora, that were both continuous milkers, remaining in milking for twelve months. When put on the full rations, Nora gained during the nine months of testing 161 pounds in weight while Rose gained 181 pounds. This gain in weight during the testing shows the feeder that the cows are getting all they can use in milk making. It is the test of feeding. All cows should be weighed once or twice a month and then the feeding be regulated according to the way the herd is gaining or losing in weight. Rose ate a little more food, 4.6 per cent than Nora. What did she do with it? She gave 139.5 pounds of milk for every 100 pounds that Nora made. While Nora was making 100 pounds of butterfat Rose made 180 pounds. This cow Rose like all great cows made this on her vigorous digestion and good assimilation and she lasted for years. I owned a cow of this type once, for like Rose she could keep it up. Rose did keep it up for ten years, making 384 pounds of butterfat yearly.

The best cow of whose production I have continuous records was Lady Kathleen. She produced as a heifer 277 pounds of butter, then went into the 300 pound class and after two years into the 500 pounds; then into the 600 pound class where she remained for four years. She was sold with the rest of the herd of older cows. This cow was a continuous milker never dropping below 15 pounds at a milking during eight years; she never was dry until after I sold her. She was then taken from a good feed and dried off by forcing her down in condition; she did go dry but never recovered from the shock of the thinning down and of the loss of her milk flow.

The cow accustomed to liberal feeding and then to being milked daily will suffer the same as a person would from a corresponding deprivation. Let any one have any disease that

GET ABOARD!

1908 SEASON OF

De Laval

CREAM SEPARATOR PROSPERITY

De Laval Cream Separators and farm prosperity almost invariably go hand-in-hand. The farming outlook was never before so promising as now. First and always best as they have been for thirty years the De Laval Cream Separators were never before so good as are the new and improved 1908 machines.

Midsummer, the most profitable separator season, is now nearly at hand. There was never a better time to make this most profitable of all farm implement purchases. It's high time to get aboard.

Why not see the nearest De Laval agent and order NOW?

DE LAVAL DAIRY SUPPLY CO.

108 So. Los Angeles St. LOS ANGELES
42 E. Madison Street CHICAGO
74 Cortlandt Street NEW YORK

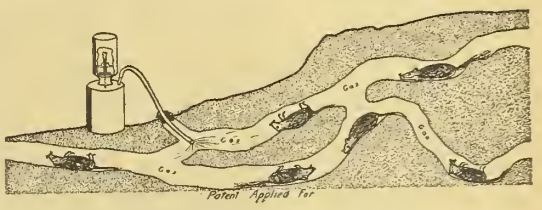
General Offices: 101 DRUMM STREET, SAN FRANCISCO.

107 First Street PORTLAND, OREG.
1018 Western Ave. SEATTLE
Box 1052 VANCOUVER, B. C.

KILL

Pocket Gophers, Moles and Squirrels

More than 500 feet of holes flooded with gas in five minutes, at a cost of three cents, no pumping required, kills them by the dozen in a single operation. Not an experiment, but a sure destroyer of the pests; just turn on the gas and the work is done. Guaranteed not to injure vegetation. No danger. Any one can operate it.



Fully guaranteed. Your money back if it fails to do the work. Sent prepaid on receipt of price, with supply of carbide for ten acres, ready for instant use $5.00; without carbide $3.50.

Patent applied for. Agents wanted.

Write today for catalogue and description.

W. H. Lamb, Director in Bank of Santa Cruz County and Hardware Merchant in Santa Cruz, Cal., says:

I am sole agent in Santa Cruz County for the Rodent Destroyer. Am selling them rapidly and have never heard of one that did not give satisfaction. THEY DO THE WORK. The owners of the patent are reliable people.

W. H. LAMB.

Peerless Rodent Destroyer Co., P. O. Box 307 Santa Cruz, California

Pioneer RUBBER SANDED ROOFING

WRITE FOR SAMPLES AND BOOKLET

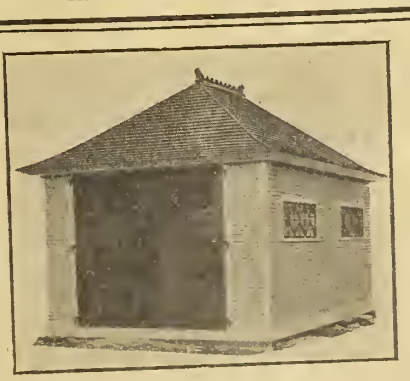
LET US PUT YOU IN TOUCH WITH OUR LOCAL AGENT IN YOUR COMMUNITY

Rubber Sanded Roofing is successfully used on flat as well as pitched roofs—residences, hotels, business blocks, out-houses; anywhere that a rain-proof, sun-proof roof is required.

Comes in handy rolls; easy to lay. No special tools needed. Everything in the way of nails and liquid cement for laps furnished in center of each roll, without extra charge.

Pioneer Roll Paper Co. Department 11 Los Angeles, California

Makers of Rubber Sanded and Rubber Flexine Roofing and Refiners of Asphaltum



The Barker Portable Cottages, Bungalows, Garages, Tent and Poultry Houses

These houses are correctly built of selected material and are so different from the ordinary portable houses as the aim has been to make them look like a permanent structure built on the ground. They have stood the test of years and are conceded by experts to be the best, cheapest and most practicable portable house made. Please investigate before purchasing or building. We also manufacture sanitary poultry houses of our own designs. Write or call at office and factory, corner of Topeka and Alameda Streets, Long Beach car line.

Pacific Portable Construction Company Los Angeles, Cal.

U S U S
For 16 Years the Best
STILL BETTER
1908

The market to-day is flooded with separators of every style and description, and all make "big claims!"
But the World's Record for clean skimming in 50 consecutive tests is held by only one Separator, and that one is the reliable
U. S. CREAM SEPARATOR
in competition with all other Standard makes. Is not this convincing proof of which is best? Dairymen, "get wise."
Send to-day for Catalogue No. 20
18 distributing warehouses in U. S. and Canada.
494
VT. FARM MACHINE CO., BELLOWS FALLS, VT.

Prompt Delivery Assured
California Customers from San Francisco warehouse. No delays. Address all letters to Bellows Falls, Vt.

Water Pipe Cheap

25 CAR LOADS NOW BEING UNLOADED

250,000 feet of this shipment is second-hand pipe, practically as good as new, and is now on sale at a big discount by the Adams Pipe Works, 2025 Bay street. Sizes and prices: ¼ inch 1½ cents per foot; 3-8 inch, 2 cents per foot; ½ inch, 2½ cents per foot; ¾ inch 3½ cents per foot; 1 inch, 4¾ cents per foot; 1¼ inch, 6 cents per foot; 1½ inch, 7 cents per foot; 2 inch, 9¾ cents per foot; 2½ inch, 15 cents per foot; 3 inch, 18 cents per foot; 3½ inch, 20 cents per foot; 4 inch, 32 cents per foot.

Oil well casing prices and sizes: 2 inch, 7 cents per foot; 2½ inch, 9 cents per foot; 3 inch, 13½ cents per foot; 3¼ inch, 15 cents per foot; 3½ inch, 17 cents per foot; 4 inch, 18 cents per foot. All pipe is carefully inspected, new coupling and new thread are put on every piece, every joint is guaranteed to be first-class, serviceable pipe. This pipe is sold in any amount; small orders are given the same attention as large ones. Mail orders promptly filled. To reach the Adams Pipe Works, take car marked Pacific Boulevard, starting east on 7th St. from Broadway. All lines will transfer to East 7th St. new line. Ask conductor to let you off at Bay St., and go east half-block. Phones, A1917, Broadway 1264. Los Angeles, Cal.

Don't Buy a Windmill

Without getting our proposition.
Write today for full information.

Arnott & Company, Inc.
112-118 S. Los Angeles St.
Los Angeles, Cal.

When writing advertisers, mention Cultivator.

wastes his flesh and then see how long it is, sometimes never, before he recovers fully the bodily tone that enables him to work to advantage. The food puts in the spirit and spring; the milk flow regulates the amount of food assimilated; suddenly stop all this and the cow goes to pieces. It is often argued that nature does not have an animal in milking for more than the short period of nursing her young. Yes. But we are a long way from nature ways. She expects the cow to run on green grass and the food to lessen in succulency and the cow to go dry at the same time. We keep up the feed and then we breed only the cows that are good continuous producers, for generations, yes, since Mrs. Noah took her lean old cow into the ark. Then, after we have subdued nature to the artificial education of the dairy, suddenly we try to plead nature's old fashioned way to the cow. Don't do it.

Two More Cows.

Professor Otis speaks of two Wisconsin cows that illustrate the difference between cows. In one man's herd the two best cows produced 419 pounds of butter per cow yearly. Adding the butter produced by the poorest cow in this herd to that of the two best, the record was lowered for the three to 313, or a reduction of 106 pounds in the year. In another herd the two best cows produced an average of 427 pounds yearly; adding the yield of the poorest cow, the average came down to 301 pounds, a loss of 126.

One poor cow in a herd may make a big difference after all. She eats like an ulcer into the profits. She hurts the pride even worse than she hurts the pocket when one comes to average her up on the test book. If a cow becomes thin when in heavy milking it is easy to give her a little more grain. When she grows fat check up on the grain a little. When the fat appears on the ribs the cow is overfed; she is not making good for the grain. When she is having all the green food she will consume, but little grain is needed for the 300 pound of butterfat cow. The cow that goes above that mark needs to be grain fed carefully so that the grain is not wasted, but consumed or rather taken up in milk forming.—M. E. Sherman.

MOLASSES AS FEED.

The feeding value and digestibility of molasses are discussed on the basis of work at the Massachusetts Station in a bulletin a follows:

For fattening beef cattle the authors believe that some 3 lbs. of molasses per day may be fed advantageously, especially during the finishing process when the appetite is likely to prove fickle.

When molasses was tested for horses two lots of two animals each were used and were fed for two periods of four weeks each, the rations being reversed during the second period. The grain ration consisted of 7 lbs. per head per day of corn and oats about 2:1, and the molasses ration of 4 lbs. of molasses and 3 lbs. of the same grain mixture. Both lots were fed 15 to 18 lbs. of hay per head per day. On grain and hay there was a total loss of 45 lbs. and on the molasses ration a total gain of 20 lbs.

"The several horses were in good condition at the beginning of the trial and no particular effect, favorable or otherwise, excepting a logy condition, was noticed from the 4 lbs. daily of Porto Rico molasses. The feces maintained their normal conditions in all cases. It is evident that the amount of molasses was out of proportion to the amount of grain fed.

"In spite of the many reports favorable to the use of molasses for horses, the writer is not inclined to recommend to northern farmers its indiscriminate use in place of the cereals and their by-products. As an appetizer and tonic for horses out of condition, as a colic preventive and for improving the palatability of rations, 2 to 3 lbs. daily of molasses undoubtedly would prove productive of satisfactory results."

Several rations containing molasses are suggested.

In a test of the value of molasses made with two pigs the maximum amount which could be fed with satisfaction was 57 oz. of molasses per head per day with 8 quarts of skim milk and over 40 oz. of hominy meal. After feeding for some twenty weeks the pigs were slaughtered.

"It was not possible to detect any abnormal condition of their internal organs, nor of their dressed carcasses. No particular study was made relative to the quality or chemical composition of the fat. It was noted that neither of the animals was excessively fat."

"If molasses is used for the nutrition of pigs, it must be mixed with foods reasonably rich in protein. If skim milk is not available, a combination by weight of two parts bran, one part gluten feed, one part corn meal and one part molasses; or one part tankage, four parts corn meal, and one part molasses ought to prove satisfactory. The writer sees no particular advantage under ordinary conditions for the northern farmer to employ molasses for pig feeding other than as an appetizer."

In a test of two lots of three dairy cows each molasses and corn meal were compared, the test covering two periods of five weeks each, separated by an interval of two weeks, the ration being reversed in the second period. The molasses was diluted with water and mixed with dry grain before feeding. On the molasses ration there was an average gain of 10 lbs. and on the corn meal ration of 67 lbs. The daily milk yield on the two rations was 18.04 and 19.65 lbs., respectively, the corn meal ration showing an increase over the molasses ration of 11.3 per cent. total milk solids and 13.1 per cent. total milk fat. The cost of 100 lbs. of milk on the two rations was $1.28 and $1.19 and the cost of 100 lbs. of butter $21.50 and $19.41, respectively.

Any particularly favorable effect of molasses upon the general health and appearance of the six milch cows employed in the above-described experiment was not observed. The feces from the molasses-fed animals were darker in color and softer than from those receiving the corn-meal ration.

"A daily ration containing nearly 4 lbs. of corn meal produced some 10 per cent. more milk and 11 to 13 per cent. more total solids and fat than a similar basal ration containing a like amount of molasses.

"The molasses ration seemed to produce milk with slightly less fat and solids-not-fat than did the corn-meal ration.

"A like amount of milk and butter from the molasses ration cost 8 to 11 per cent. more than from the corn-meal ration.

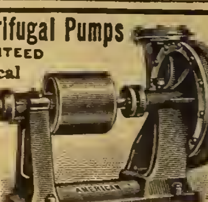
"Molasses did not produce any un-

EXCLUSIVE
Tubular
ADVANTAGES No 3
PERFECT OILING
In oiling the Tubular Separator all you need to do is to lift the cap and pour a spoonful or two of oil into the gear case once or twice a week. (See Cnt.)
The TUBULAR Oils Itself

The gears are all enclosed and spray themselves and the bearing which supports the bowl when in operation. No dripping of oil—no muss—no fuss—no oil holes to dig open—no hot bearings through inability to get oil to them. Perfectly dust proof. Economical in oil as it is used over and over.
We've been making Tubulars for 28 years. Let us send you Catalog No. 260 free, postpaid, that you may see why the demand for Tubulars requires the largest separator factory in the world to supply it. Simply because they are the best in the world. Send today.
The SHARPLES SEPARATOR CO., West Chester, Penna.
Toronto, Can., San Francisco, Calif., Chicago, Ill.

AERMOTORS

Send for FREE Catalog
Specially Adapted to Conditions in Southern California
WILL RUN IN A WIND SO LIGHT THAT OTHER MAKES STAND STILL.
NO WIND STRONG ENOUGH TO INJURE IT.
ADJUSTMENT FOR TAKING UP WEAR OF PINION.
WITH PROPER OILING, WILL LAST A LIFETIME.
HEAVILY GALVANIZED AFTER COMPLETION.
THOUSANDS OF REFERENCES.
COST NO MORE THAN OTHERS THAT ARE NOT AS GOOD.
Tanks Towers Pumps Distillate Engines
Smith-Booth-Usher Co
Machinery and Supplies
Successors to
S. J. Smith Machinery Co. and L. Booth & Sons
212-214 S. Los Angeles St., Los Angeles
Home, Ex. 1090—Sunset, Main 1090

American Centrifugal Pumps
GUARANTEED

Highest mechanical efficiency.
Saves 25% of power over all other pumps.
Give us your pump specifications.
Manufactured by
THE AMERICAN WELL WORKS
Aurora, Ill., U. S. A.
Branch Offices:
Chicago, Ill., First National Bank Building.
New York, N. Y., 2-4 Stone St.
San Francisco, Cal., 305 Market St.
New Orleans, La., J. H. Menge & Co.
Dallas, Texas. Joplin, Mo.

THE LAZY MILKMAID.

"I wish you'd turn to milk," she said,
"And save me all this clutter."
And Mooley winked the other eye,
And turned instead to butt her.

Anthrax Cure, Milk Fever Outfits. See O. J. Weber Co., 555-557 S. Los Angeles street, Los Angeles.

Creamery Supplies

Cream Separators — Milk Cans
Combined Churns — Milk Bottles
Babcock Testers — Brushes
Butter Moulds — Wrappers
Engines and Boilers — Milk Coolers
Pasteurizers
Milking Machines
Creamery and Dairy Supplies and Machinery of all Styles and Sizes
Send List of Goods Wanted and we will Quote Prices

O. J. WEBER COMPANY
555-57 S. Los Angeles St.
LOS ANGELES, . . CALIFORNIA

MORE MILK—MORE MEAT

I can positively testify to the merits of Lilly's Best Fly Killer. This is the first year that I have not had to fight grub in my cattle. I used it at first last summer having little faith, but the results quickly converted me. My cattle gave more milk, and kept in better flesh on less feed as a result, and I kept them in the stable all night.
A. F. CHAPMAN, Monohan, Wash.

For Sale by Dealers

CUTTER'S
Anthrax and Blackleg
VACCINES

Are given the preference by 80% of California stockmen because they give better results than others do.
Write for prices, testimonials and our NEW booklet on Anthrax and Blackleg
The Cutter Laboratory
Berkeley, California

SOUTH BEND ORCHARD CULTIVATOR

Acknowledged the best, 5 feet wide. Spring teeth if wanted. Horizontal lift. No neck weight.
AGENTS WANTED
Steel and malleable iron. Dust proof wheels.
ARNOTT & COMPANY, Los Angeles, Cal.
Write for Catalog. 112-118 S. Los Angeles St.

VENADERA HERD
OF REGISTERED JERSEYS

I have for sale a number of richly bred young bulls, some of them from cows that have high official yearly records.
GUY H. MILLER,
Route 3, Modesto, Cal.

John Lynch Breeder of Registered **Shorthorns**
MILK STRAIN
Box 321 — Petaluma, Cal.

When writing advertisers, mention Cultivator.

favorable effect upon the flavor of the milk. . . .

"As an appetizer for cows out of condition and for facilitating the disposal of unpalatable and inferior roughage and grain, 2 to 3 lbs. of molasses daily undoubtedly would prove helpful and economical."

When a commercial molasses feed was compared with wheat bran and gluten feed, the total milk yield of four cows on the former ration was 7,357.4 lbs. and on the bran and gluten ration 7,639.6 lbs. According to the author's calculations, there was an increase of 6.8 per cent. total solids and 6 per cent. total butter fat on the bran ration as compared with the commercial feed ration.

In a test with another commercial molasses feed the average daily milk yield on the molasses feed was 16.76 lbs. and on the bran and gluten feed 18.61 lbs., the bran and gluten ration being superior by 13.2 per cent. total solids and 14 per cent. total butter fat.

HOW TO MILK PROPERLY.

The milker should observe strict personal cleanliness. When milking he should wear a special suit of washable overalls and jacket or a long washable apron with sleeves. It is necessary that he should have three or four changes of milking suits or aprons. The hands should be washed and the finger nails be cut close and well brushed. After milking one cow he should thoroughly cleanse his hands before milking another, because this insures greater cleanliness and prevents the transmision from one cow to another of such diseases as infectious garget and cowpox. The practice, which is too common, of wetting the teats with the milk, and milking the cow entirely by stripping, cannot be too severely condemned. The milking should be done with the full hand by producing a wave of pressure that begins at the upper part of the teat or the lower part of the quarter and passes down over the teat to its lower end; this is produced by the successive closing of the thumb and fingers in a grasping manner. This involves no pulling or friction, and every drop of the milk can thus be removed from the udder. By using the stripping process in milking the friction and pulling causes scales and dust particles to fall into the milk.—Portland Oregonian.

CHAMPION TROTTING STALLION OF THE WORLD.

After several weeks of cabled negotiations, Cresceus 2:02¼, champion trotting stallion of the world, has been sold by M. W. Savage, of Minnesota, to one of the most prominent of Russian horsemen, Tshemerzin by name, and a resident of St. Petersburg, for $25,000.

The closing of this deal is the culmination of a series of interesting incidents extending over the past three years, and is the result of very persevering efforts on the part of a group of Russian horsemen to get possession of the great son of Robert McGregor.

Since the stallion has been quartered at the Savage farm there have been several attempts to buy him by the same subjects of the czar. Persistency finally won; Mr. Savage was induced to put the price of $25,000 on Cresceus, and when the Russians acceded to his terms there was little for him to do but to accept.

Wood Soled Boots and Shoes. Boots, $3.25; Shoes, $2.00. O. J. Weber Co., 555 South Los Angeles St., Los Angeles, Cal.

LUMP-JAW.

Lump-paw is a germ disease called actinomycosis. It is a mold germ, and will live on the grass. Where the disease is in the glands, it is best to have a qualified veterinarian dissect the tumor and gland out entirely and it will heal up nicely. But where it is in the bones it is hard to treat and it would be best to give chloride of potassium 2 drams twice a day for eight days, and then wait about two weeks and repeat. This will cure it as a rule in the glands and reduce it when in the bones long enough to fatten and market the animal, which is the best way to do when the disease is in the bones. One animal left in a herd with a case in the bones running will give it to a great number in a herd in one season. It should be tied up or kept by itself.

Away back when the writer was a boy, artichokes were planted for a winter and early spring pasture for hogs. Years ago they went out of use, however, though they seem now to be coming in use again. They are richer in food elements than potatoes, and are said to yield more tons of feed to the acre than potatoes or sugar beets. Any fair corn ground will produce them. Plant in the spring cultivate lightly, and turn the hogs in when the ground is not frozen in the winter and spring; they will do the rest. If not pastured too close, enough artichokes will remain in the ground to reseed it.

Dehorning the calves is much nicer and more humane than taking the horns from older animals. A little caustic potash, that may be had at any drug store, dampened and rubbed carefully and well on the horn button of young calves, say from one day to two or three weeks old, will do it nicely—the animal will never grow a horn. And the operation is no more painful than a slight burn. Don't let it touch the bare fingers.

The carelessness displayed by some farmers in handling young colts is inexplainable, since so much of the future usefulness of the animal depends upon its first handling. The colt should be broken early, and it should be broken right—won by kindness and taught as a thing of life—sensitiveness and intelligence.

More than half of the animal body is water. A fat calf is about 65 per cent. water, a medium fat yearling is 60 per cent. a fat two-year-old is 52 per cent., while a fat sheep may be only about 43 per cent. water.

Almost any kind of pasture is good for the ewes and lambs now, except that it must be high ground. Wet, sloppy pasture will not do for sheep of any kind at any time.

Hog raisers should never use scrub males. In this progressive age they should not use scrub sows, but even Uncle Threadbare is unable to find an excuse for using a scrub male.

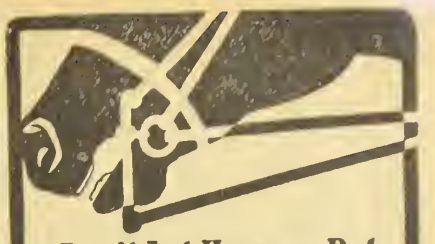
If the sows are short of milk for their pigs, a slop of middlings and bran is a milk-increasing feed.

THE WHOLE THING.

"What part of speech is 'woman,' pa?"

"Woman isn't a part of speech, my son. She's the whole speech."—Home Herald.

Cream Separators, all sizes, all prices. O. J. Weber Co., 555-557 S. Los Angeles street, Los Angeles.



Don't Let Harness Rot

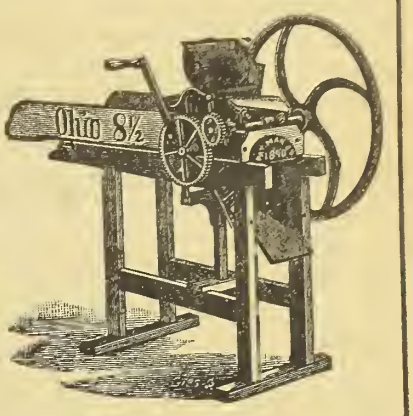
Don't let wind, rain and sweat eat the life out of it. To make harness last, soften it occasionally with

EUREKA Harness Oil

Goes right down into the leather and fills the pores before moisture (which rots it) gets in. An application of Eureka Harness Oil renews the life of the harness. Use it often. Made by

STANDARD OIL CO.
(Incorporated)

Ohio Feed and Ensilage **Cutters**
Hand and Power. All SIzes.



This cut represents the Ohio Hand Feed Cutters, made in two sizes with 8½ and 10½ inch knives. They are light, but very strong and serviceable. Will cut hay, straw and dry, hard corn fodder, consequently they are the best general purpose hand machines manufactured. ***Catalogue of Full Line Free on Application. Write to***

Pacific Implement Co.
133-153 Kansas St. San Francisco Cal.
or ***Arnott & Co.***
Los Angeles, Cal.

3 STROKE SELF FEED HAY PRESS

2 men can run it.
3 tons in one hour.
Easy draft.
Smooth bales.
Will save its cost.
Shipped on trial.
SATISFACTION GUARANTEED.
414 E. 10TH ST.
THE AUTO-FEDAN HAY PRESS CO. TOPEKA, KANS.
BRANCH OFFICE, 1521 W. 12TH ST., KANSAS CITY, MO.
Ask for Catalogue **No. 28**
1521 West 12th St., Kansas City, Mo.
Agent, John Schilling, Jr., Davies Warehouse 2nd and Central Ave., Los Angeles, Cal.

Wanted ***FIRST-CLASS WORKING FOREMAN***

For Large Dairy of Pure Bred Jerseys.
Only good experienced men need apply.

Geo. A. Smith, Corcoran, Cal.

Live Oaks Farm

Frank A. Meacham, Proprietor.
Importer and breeder of RED POLLED CATTLE, SHROPSHIRE SHEEP, RAMBOUILLET SHEEP, HORNLESS AMERICAN MERINO SHEEP. Both sexes for sale. Take electric car at Petaluma or Santa Rosa for LIVE OAKS STATION. Address all mail to
Petaluma, Sonoma Co., Cal.

Berkshires--Shorthorns

My Berkshires took every blue ribbon and Gold and Silver Medal in the female classes. Choice pigs at low prices. G. A. Murphy, Perkins, Cal.

Thoroughbred Poland China Swine
Black Minorca and Barred Rock Poultry
High Grade Stock of Best Strains.
Young Stock For Sale
M Bassett — ***Hanford, Cal.***

The Whiting Jersey Stock Farm Company

Is making the very best strains of blood fresh from the island of Jersey a specialty.
Whiting Jersey Stock Farm Co. Heber, Imperial Co., Cal

Geo. C. Roeding, Fresno, Cal, breeder of
Thoroughbred Holstein Bulls and Heifers
Thoroughbred Berkshire Boars and Sows

POLAND CHINAS FOR SALE

18 head of thoroughbred Poland Chinas of both sexes, some of them weigh 150 pounds. W. R. McCaslin, R.F.D., Oak Park, Sac. Co., Cal. Roosevelt Ave

California Cultivator

ESTABLISHED 1889
Subscription price One Dollar per year.
Payable in Advance

Thursday, July 16, 1908

Address All Communications to
CULTIVATOR PUBLISHING CO.
115½ No. Broadway, Los Angeles.
733 Merchants Ex. Bldg., San Francisco.

Copy for Change of advertisement must be in office on Saturday preceeding date of issue. New advertising copy should reach the office not later than Tuesday to insure insertion.

CULTIVATOR PUBLISHING COMPANY
H. A. PERKINS, EDITOR AND GEN. MGR.

C. B. MESSENGER - - - - Associate Editor
F. H. THOMAS - - - Advertising Manager
H. G. HUTCHINS - - Subscription Manager

EDITORIAL CONTRIBUTORS:

J. W. MILLS - - Deciduous and Citrus
JOHN ISAAC - - - - Horticulture
J. B. NEFF - Walnut Culture and Irrigation.
Mrs. M. E. SHERMAN - Live Stock and Dairy
Q. A. LOBINGIER - - Vegetable Garden
S. S. TWOMBLY - - - - - - Poultry
W. E. FOSTER - - - - - Pigeons
L. M. FALL - - - Law Queries
RALPH E. SMITH - - Plant Pathology
S. A. PEASE - Plant Diseases and Injurious Insects

Entered at the Post Office at Los Angeles, California, as Second-class matter.

Contents

CHANGING WHEAT FIELDS INTO ORCHARDS, Cover.

AT THE COUNTY FAIR, 51.

WITH THE CITRUS GROWERS.—Citrus Culture in the Salt River Valley; Kansas City Rumpus; Better Care of Orange Groves; Fruit as Food; Confidence in Pinchot; Fruit from Mesquite, 52, 53.

DECIDUOUS FRUITS.—Grape Packing; Fruit as Medicine; Viticulturists Meet, 54.

CALIFORNIA HORTICULTURALLY.—Subdivision in Sacramento Valley; Destructive Oak Moth; Money in Apricot Pits; Russian Thistle; National Apple Show; Thrips Investigation, Slandering Ladybirds, 55.

GENERAL AGRICULTURE.—Need of Farmers' Organizations; Farmers Should Belong to Grange; Inexpensive Paint, 56.

LIVE STOCK AND DAIRY.—Advanced Dairying; Molasses as Feed; How to Milk; Champion Trotting Stallion, 57, 58, 59.

EDITORIAL.—Help Appreciated; Save the Rakings; Mills Moves; Support Dairy Industry; Bryan and Kern; Crop Notes, 60.

AGRICULTURAL NOTES OF THE PACIFIC COAST.—Northern, Central, Southern, the Coast, 6.

POULTRY.—Kaffir Corn; Poultry Brevities; Roup; Balanced Food; Value of Hen Manure; Talk on Geese, 62, 63.

SMALL FRUITS AND VEGETABLES.—Soils for Garden Crops; Squashes for Home Gardens; Peppers, 64.

ORNAMENTAL GARDEN.—Beautify the Yards; Chrysanthemums; Lily-of-the-Valley; Bulbs after Flowering; To Destroy Dandelions, 65.

QUERIES AND REPLIES.—Potatoes Planted "In the Moon;" Onions on Heavy Land; Pruning Tomatoes; Fertilization of Tomatoes; Onion Sets; Dry Land Pasture; Air Pump; Old 'Cots; Squash Bugs; Flavored Milk; Wax for Floors; Pruning Raspberries; Fullers Rose Beetle; Alfalfa for Pigs; Peas for Cover Crops, 66.

VETERINARY.—Warts, 71.

CALIFORNIA FARM NAMES, 67.

HOUSEHOLD.—Hurtin' Bizness; On the Deacon's Trail; Recipes; Homely Hints, 68, 69.

PRODUCE MARKETS.—Los Angeles Market; San Francisco Market; Citrus Markets, 70, 71.

HELP APPRECIATED.

In speaking of the effort to exterminate the white fly in California, State Horticultural Commissioner Jeffrey recently said in the Los Angeles Times:

"In behalf of one of the largest horticultural offices in the United States, I wish to thank the California Cultivator and other agricultural journals for the appreciative treatment given the efforts to destroy the Florida white fly in this State. The task has indeed been herculean, as the Cultivator states, and the detail involved and the actual physical labor expended mark these campaigns unique in the history of insect extermination. After another year of vigilance, if the destruction of this pest is as certain as it now seems, more attention will be given to the introduction of enemies of the white fly. If such enemies are found they will be sent to Florida, with the view of lessening the amount of pest there and thereby securing further immunity from its introduction from Florida. If the white fly is extirpated at Marysville and Oroville the achievement will silence the critics who said it could not be done, and it will mark a new era in the handling of large insect infections."

In conversation later with Mr. Jeffrey we were informed that he has the strongest hope that this campaign against the white fly has succeeded in the complete extermination of this pest. Sure it is the work was energetically taken up and carried out by the commissioner and deputies and we doubt not the appreciation above expressed for the support of the press is equally as hearty on the part of the larger fruit interests for the work of the commissioners.

And while this appreciation for the workers in the field is being expressed, let us not forget the sacrifice made on the part of the people at Marysville and Oroville, who were compelled to stand by and see the trees that they had regarded with affection for so many years destroyed that this pest might be wiped out of existence. To be sure all did not do this with perfect willingness, but it was done, and the loss was very great. It is fitting that those who sacrificed in this way should be remembered.

Let us hope that this work will be followed until absolute certainty exists as to the complete destruction of the dreaded pest. Mr. Jeffrey and his deputies will, we believe, be sufficiently alert to accomplish this.

SAVE THE RAKINGS.

A close estimate on the value of manure rakings from the dairy yards of this country is that it will aggregate a total valuation of $648,000,000.00. Such a vast sum seems almost inconceivable as coming from such a source, and the figures should be valuable as setting the dairymen to thinking how that which is so often freely wasted can be handled more economically. Too often this waste product is considered in the light of a nuisance rather than a wealth builder. It has been taken from the farm and should be returned and as carefully conserved as possible. Our farms have been under cultivation, many of them, for years, and should, year by year, increase in fertility. Rather, they have decreased, and instead of building them up we have moved on from State to State and now vast hordes of our people are even crossing the line into Canada for the rich native soil there offered. Such a wasteful scheme is almost unthinkable, but is continually followed and with, apparently, a good conscience on the part of those who are wasting our patrimony. No surer way of paying off the mortgage or of increasing the bank account is to be had than by being careful of this which is so often wasted. "If we, here in America, shall teach the world how to use land without abusing it, we will have written a new page in history."

MILLS MOVES TO MARYSVILLE.

J. W. Mills, who has been in the employ of the State University as director of the Pomona Experiment Station and later of the Citrus Experiment Station, and also in charge of Southern California field work for many years, has given up his connection with the State work and has moved with his family to his own ranch, "Linda Vista," east of Marysville, Yuba county. Mr. Mills' connection with soil investigations and practical field work with both deciduous and citrus fruits for all these years, has fitted him to take up this work on his own farm in a way which we believe will be a complete success.

His ranch consists of ninety acres of beautiful Sacramento loam land. One of his principal crops will be alfalfa, but he will plant as soon as possible five acres of oranges and now has about fifteen acres of table grapes in bearing. The knoll on which the house will be built is surrounded by trees and vines which have been planted for several years in anticipation of the home being built. From this knoll a beautiful view is obtained of a sweep of country and this gives the name to the ranch. It is in the township of Linda and the beautiful view from the knoll makes up the name of "Linda Vista."

We wish for Mr. Mills complete success in his new home and are glad to announce that he will continue as contributor to the citrus and deciduous departments of our paper.

SUPPORT THE DAIRY INDUSTRY.

The State Creamery Operators' Association has adopted a button bearing the inscription, "Liberal Legislative Support for Dairying." Several thousands of these buttons have been ordered and will be distributed among the friends of progressive dairying and it is hoped that they will aid in securing legislation in this State favorable to the dairy interests.

BRYAN AND KERN.

The brilliant leader of his party was easily and quickly nominated by a most enthusiastic following at the Democratic National Convention last Friday. But little opposition was developed and practically Mr. Bryan was nominated by acclamation. The platform, so far as the two main planks of interest are concerned, goes farther than that of the Chicago convention, but it is doubtful whether in the last analysis the labor plank will be much more satisfactory to those demanding a restraint of court injunctions. The tariff plank, as might well be expected, is stronger and more definite. The old, old issue of "tariff" is again to the front.

CROP NOTES.

The average condition of barley on July 1 was 86.2 per cent of a normal, as compared with 89.7 last month, 84.4 on July 1, 1907, 92.5 on July 1, 1906, and 88.3, the ten-year average on July 1.

The acreage of Irish potatoes is estimated as 3,198.000 acres; that is, 2.4 per cent, or 74,000 acres more than last year. The condition of the crop on July 1 was 89.6 per cent of a normal, as compared with 90.2 on July 1, 1907, 91.5 on July 1, 1906, and 91.6 the ten-year average on July 1.

The condition of the apple crop on July 1 was 57.6, as compared with 66.0 on June 1, 44.0 on July 1, 1907 and 62.3 the ten-year average on July 1.

The average condition of the corn crop on July 1 was 82.8 per cent of a normal, as compared with 80.2 on July 1, 1907, 87.5 on July 1, 1906. 85.6 the ten-year average on July 1.

Shop Talk

A SUGGESTION.

A subscriber at Kingsburg, renewing for the paper, suggests that where items of interest are published the name of the county follow so readers can locate the neighborhood.

California is a wonderfully large State, and withal a comparatively new one. Its development began in '49 and is now but fairly started. New postoffices and towns are appearing every day. It is difficult for an average reader in the northern portion to locate many towns in the south and the same difficulty obtains throughout. Until one attempts to thoroughly familiarize himself with the geographical location of the various counties and towns, the immensity of the State is seldom appreciated. As will be noted in "Agricultural notes" of North, South, Central and Coast, we endeavor to follow the suggestion.

POULTRY BOOKS.—When remitting renewal of subscription, if interested at all in poultry, don't forget the books which we have recently advertised, and which may be ordered through this office. For a very little in addition to the price of the paper we can supply you with the ones which interest you most. The list follows, but if possibly one is wanted which is not mentioned, write us and we will quote price by mail, if obtainable. The remittance must come direct to the office, but may be for either a new subscription or a renewal.. In the event that the **Cultivator** subscription is already paid up and you desire to order a book separately, it will be sent at the regular price, as quoted.

Diseases of Poultry, by D. E. Salmon, 50 cents. With **Cultivator** one year, $1.25.

Leghorns, 50 cents. With **Cultivator** one year, $1.25.

Ducks and Geese, 50 cents. With **Cultivator** one year, $1.25.

Turkeys, 50 cents. With **Cultivator** one year, $1.25.

Money in Squabs, 50 cents. With **Cultivator** one year, $1.25.

How to Grow Chicks, by T. F. McGraw, 25 cents. With **Cultivator** one year, $1.00.

Reliable Poultry Remedies, 25 cents. With **Cultivator** one year, $1.00.

CHANGE OF ADDRESS.—In notifying this office of change of mailing address, please bear in mind that the old postoffice address must be given, as well as the new. Our records are such that it is almost impossible to find a name on our lists unless this information is given.

Agricultural Notes of the Pacific Coast

Northern California

Harvesting is in full swing at Gridley.

Sutter county apple crop will be heavy.

State farmers institutes will be held October 8th, 9th and 10th at Davis.

The crop of hops in the Bear River section indicates a big output this fall.

Some orchards of Sacramento valley were recently injured by severe wind storm.

People of Capay valley in Yolo county are planning for a harvest festival July 29th.

An election of trustees of Drainage District No. 1 of Butte county will be held July 13th.

The soil survey which was discontinued in the Sacramento valley has again been resumed.

G. A. Murphy of the Sunnyside Stock Farm, Perkins, Sacramento county, makes a shipment of his fine Berkshires to Honolulu this month.

A special train carrying railway officials and managers of fruit interests recently visited Stockton looking after fruit prospects.

The biggest output of green deciduous fruit ever shipped out of the State is the prediction. Fifteen thousand cars are estimated.

Stock cattle in Tehama county are now commanding one-half cent more than stock ready for the butcher. This is said to be a condition not prevailing before for years.

It is reported that at the coming October State farmers' institute at Davis the question of the separation of the Agricultural College and the State University will be discussed.

The Pacific Fruit Cooling Company of San Francisco is installing a precooling plant at Newcastle. It will cost about $15,000. Other plants will be erected in the near future.

Suisun and Green valley fruit growers are having trouble on the labor question. An effort has been made to fix upon a scale of wages so as not to be held up by the labor combination.

The effort to bring the Petaluma Keepers' Association and the Santa Rosa Poultry Keepers' Asociation under one organization, has not yet succeeded, though the two organizations are affiliating.

The recent creamery pay day at Ferndale brought out the following figures for June delivery: Capital, 25 1-4 cents; Central, 26; Eel River, 25; Cream City, 26; Grizzley Bluff, 25; Pioneer, 25; Riverside, 25.

The wine grape growers of the Barry district recently perfected an organization which will look after the interests of the members. It will dispose of its crop, ascertain market conditions, and solicit bids. They hope to receive $15 per ton this year.

A lawsuit of long standing was recently decided in San Francisco in favor of a grain grower who sold in 1900 21,000 sacks of grain to the McNears, but after the grain had been delivered on platform at shipping point it was seriously damaged by rain. The purchasers refused to take it, hence the suit which is now favorable to the grower.

Central California

The Lodi yield of Tokays from present indications will be good.

Some of Lodi's Tokay grapes were shipped last year to Tampa, Florida.

Thompson seedless grapes will be a fair crop in Fresno county this year.

The Russian thistle is more abundant this year than for several years.

The dried fruit market, especially that of prunes, remains decidedly flat.

Raisin producers are hoping for about three-cent basis on the coming crop.

First deliveries of apricots at Sanger, Fresno county, were about July fourth.

Three immense grass fires occurred in the neighborhood of Bakersfield on July fourth.

A few prune orchards of Santa Clara valley have been damaged by leaf folding caterpillars.

Grape growers about Santa Cruz report a light crop or at best an average for this season.

Armsby & Company are buying some of the 1907 hold over raisins at a price of 2 1-4 cents.

Santa Clara pack of cherries is about finished and apricots are filling the packing houses.

The better varieties of plums have sold over the San Joaquin valley at from $40.00 to $50.00 per ton.

Mountain View, Santa Clara county, reports prunes as showing up much better than was anticipated earlier.

The Lodi Chamber of Commerce participated in its first annual meeting and banquet to the growers and packers of grapes in that district.

The people of Exeter have secured the use of a large car barn for holding the coming Tulare County Citrus Fair, which will be held at Exeter in December.

At the recent orange growers' meeting at Lindsay it was decided that hereafter oranges should be picked by labor by the day rather than by contract work.

The Tulare County Grange is endeavoring to work up interest in the establishing of a county park. A parcel of fine land of about 100 acres has been selected.

The Spreckles Sugar Company has issued instructions to their employes to locate in the town of Spreckles, which has caused the Salinas people much uneasiness.

Fruit buyers at Fresno assure the fruit men of that section that there will be abundance of capital to handle the coming fruit crop. Large quantities of Eastern money have been brought here for this purpose.

County Entomologist Morris of Santa Clara county reports extensive investigation as to pear thrips, and that while individuals are comparatively easily killed by spray the increase is so rapid that they are very difficult to handle.

The wine manufacturers and producers of California recently held a meeting to consider ways and means to protect the wine and grape industry of California. A meeting at which it is hoped all wine growers of the State will be present, is called for Wednesday, July 22, at San Francisco.

Southern California

Ventura county bean farmers are in the midst of an irrigation campaign.

A Riverside rancher has secured 20 sacks of oats per acre this season.

Orange county apricot cutters began work on the Monday following the Fourth.

Bee inspector Pleasants, of Orange county, is busy these days inspecting apiaries for foul brood.

The Gold Buckle Fruit Association of Highlands closes its orange season with a banquet and social evening.

Farmers near Las Posas, Ventura county, are irrigating this year, a new supply of water having been secured.

One fruit company at Colton will handle 1200 tons of apricots. The highest price has been about $15 per ton.

One man has made an experiment with peanuts in Imperial valley, planting forty-five acres to the small Spanish variety.

Apiaries of Orange county will produce a good flow of honey this season which is of fine flavor, but reported rather darker than usual.

The Gregory Fruit Company at Colton is running full time on apricots and as soon as possible will take up the canning of peaches.

The expectation was that Gifford Pinchot of the Forestry Service would be in Southern California by this time, but owing to ill health his trip is deferred until October.

More than twenty-five square miles of brush and timber land were burned in Willow Canyon near Redlands, San Bernardino county, last week. Over 300 men turned out to fight the fire.

The Walnut Growers' Association of Southern California held an important meeting in Los Angeles last week, the principal discussion being on the subject of protection for walnut industry.

The Union Sugar Company opened its 1908 campaign last week at Santa Maria, Santa Barbara county. The Santa Maria Times claims that some beets will run as high as 25 per cent sugar.

Eight hundred more date palm slips are on their way from Algiers and will be planted near Indio. They were secured in Africa by Bernard G. Johnson, who has made several trips to Algiers for similar importations.

The fruit investigation heretofore carried on by G. Harold Powell and his corps of assistants has resulted in such great benefit to the orange industry that an early investigation of the causes of lemon rot and of the losses in shipment will be taken up.

The lima bean situation of Ventura county is in better condition at this season of the year than it has been for several years. Old stock is almost all cleaned up and the acreage for new crop larger than last year. The crop is reported exceedingly promising.

The decision of Judge Welborn in the water rate case gives assurance to water users of the Imperial valley that they will not be compelled to pay unjust water tax. On the other hand, it is claimed the affairs of the California Development Company are in a somewhat muddled state as a result of the decision.

The Coast

Milton, Oregon, is harvesting its grain.

Rain is badly needed in Eastern Washington.

Crops at Grover, Colorado, were recently damaged by hail.

Hay harvest at Walla Walla, Washington, is practically finished.

Cove, Oregon, is busily engaged shipping 200 tons of cherries.

Coeur D'Alene will have an immense crop of very fine fruit this season.

The Palouse Washington creamery now has 103 patrons on its pay list.

Lewiston county, Idaho, will harvest ten million bushels of grain this season.

Farmers of Eastern Oregon are many of them riding to town in automobiles.

Ewartsville Grange held a live stock show near Pullman, Washington, last week.

Pendleton, Oregon, has shipped during the last twelve months 412 carloads of live stock.

Vines at Lewiston, Idaho, are full of young fruit and a heavy crop of grapes is promised.

Yellowstone county Fruit Growers' Association has just been organized at Billings, Montana.

Fall wheat never looked better than it does at the present in Palouse county, Washington.

Production of grain at Walla Walla, it is thought now, will fall 25 per cent short of normal years.

The midsummer fair held at Davenport, Washington, is proving a success, with a good stock display.

Riddles, Oregon, Fruit Growers' Association has been organized to look after the interests of its members.

Milton, Oregon, cherry crop will be a record breaker and owners are concerned as to labor supply to handle it.

Midsummer meeting of the State Horticultural Society of Oregon, will be held at Dalles the end of this month.

Lewiston, Idaho, fruit growers have been swamped under such an immense crop that they were unable to get sufficient labor to properly harvest it.

The reserve supervisor of Bitterroot National Forest, Idaho, has enlisted students of Idaho University as forest rangers during the summer vacation.

Reclamation Service engineers are investigating as to the feasibility of irrigating a tract of land of about 15,000 acres near Glenwood Springs, Colorado.

A woman at La Grande, Oregon, stood in line 36 hours in order to file a homestead on land thrown open to entry in Blue Mountain National Forest Reserve.

Machinery for the immense packing plant of the Union Meat Company at Portland, Oregon, is on the way from the East, and one of the finest packing houses in the land is promised.

A tour of the wheat growing sections of Eastern Washington shows that the crop will be exceedingly spotted, running from the biggest crop ever in some sections to an almost complete failure in others.

PER 2 BUSHEL SACK **$1.90** PER 2 BUSHEL SACK

Buy the World's Famous Egg Food No. 4

MIDLAND

IF YOU WANT EGGS
YOU WILL FEED NO OTHER.

Used by the largest and best breeders in the country. Thousands of poultrymen are using it, and it is the acknowledged standard of the world. Haphazard feeding is no longer profitable. Try Midland Food and be convinced.

Petaluma Incubators and Brooders

The acknowledged standards of perfection. All poultrymen who have used these machines have supreme confidence in their ability to hatch and breed. Hence their ever increasing popularity. Winners of the Gold Medal at the St. Louis World's Fair for the greatest hatch, with 40 different makes of incubators in competition. How's that?

St. Louis, Mo., Dec. 8th, 1904.—Petaluma Incubator Co., Petaluma, Cal: My dear Sir—The awards have been held up owing to a controversy between the Exposition officials and the national commission, but today I am able to state the award of a gold medal on your Petaluma Incubators has been confirmed. You are at liberty to make use of this in any way you see fit and in due time the diploma will be issued and the medal obtainable. Congratulating you upon this evidence of the merits of your incubators, in which there was very great competition, I beg to remain, yours very truly, J. A. Filcher, Commissioner.

And Now Comes New Reward for Merit

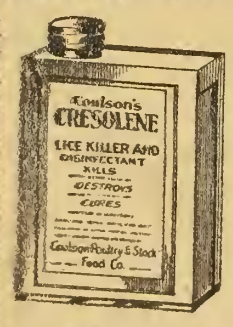
Read the following telegram received from the Lewis & Clark Exposition at Portland:
"Petaluma Incubators and Brooders just awarded Gold Medal at Lewis & Clark Exposition."

WRITE FOR CATALOGUE 47—A BEAUTY

Petaluma Incubator Co.

Main Office and Factory, Petaluma, Cal., Box F.
Los Angeles, 636 South Main Street.
San Francisco Office and Salesroom, 83 Market St.

When writing advertisers, mention Cultivator.



Coulson's Cresolene

**LICE KILLER
DISINFECTANT
AND DIP**

Dilute With Water Before Using

CRESOLENE is a powerful disinfectant, insecticide, and germicide obtained from coal tar. It is non-poisonous, and non-corrosive and will do no harm to the most delicate skin.

It mixes readily with water, forming a milky emulsion, and can be diluted from 50 to 100 times it own bulk, in accordance with the different uses to which it is put.

Thus when you purchase 1 gallon of CRESOLENE you can make up to 100 gallons of the best disinfectant for use with stock, poultry, dogs or as a general disinfectant and insecticide.

This reduces the cost to 1 1-4 cents per gallon which is cheaper than anything else on the market.

PRICES: Quart can, 50c; one-half gallon, 85c; gallon, $1.25.
Freight paid on orders of one gallon or more.
Manufactured by

Coulson Poultry and Stock Food Company
Petaluma, California
Germain Seed Co., Los Angeles, Distributing Agents for So. Cal.

Little Chicks should be fed on **Excelsior Chick Food**

prepared from clean, sound grains, seeds, beef scraps and charcoal in proportions to make a well balanced ration and produce strong, healthy chicks and keep them continually growing. For sale by all dealers and grocers. Take no other.

Excelsior Cereal Milling Company

242 Central Ave., Los Angeles

Black Langshans Well, we won again at Los Angeles. Two firsts, one second, one third on five birds shown. Best stock ever in show room in California. Eggs, $2.00 to $5.00 per 13, $10.00 to $20.00 per 100.

White Rocks Large and vigorous. Improve your stock with a setting or get a fine flock with an incubator lot. Eggs, $1.50 to $2.50 per 13, $8.00 to $12.00 per 100.

S. C. White Leghorns Order eggs now, we have plenty of them. Have had all winter, great big white ones. Eggs, $1.00 to $2.00 per 13, $6.00 to $10.00 per 100.

Phone East 815 **Foster's Poultry Yards, 128 W. Avenue 41, Los Angeles**

When writing advertisers, mention Cultivator.

Profit in the Poultry Yard

We solicit short articles of a practical nature from the fancier and utility breeder, giving their experience with poultry. All inquiries pertaining to feed, management, disease and its prevention will be answered through these columns.

KAFFIR CORN AS POULTRY FOOD.

KAFFIR corn has characteristics to recommend it as a poultry food. A native of South Africa it has adapted itself to climatic conditions similar to those existing in California. Its drouth resisting qualities recommend it especially to those living in localities too dry for the best development of corn. It will produce a crop on less rain than is required for corn, and is not affected so disastrously by hot winds.

Kaffir corn yields best on rich lands and responds to generous treatment, but its culture is not limited to soils of certain classes and qualities. It may be grown on a variety of soils as adobe, light sands and poor uplands. When corn has once been stunted by drouth or hot winds it never recovers. Not so with Kaffir corn. It may remain stationary and curled for days and revive if it gets moisture.

Yield of Kaffir Corn.

The yield, of course, varies with the character of soil and the season. The Kansas Station found as a result of several years' investigations that the red variety invariably out-yielded both White Kaffir corn and Indian corn.

The average yield per acre of these three at the Kansas Station for four successive years was as follows:

	Grain Bushels	Fodder Tons
Red Kaffir corn	58.25	6.05
White Kaffir corn	32.55	5.33
Indian corn	45.50	3.07

Composition of Kaffir Corn.

The analysis shows that Kaffir corn compares favorably with corn in the amount of nutriment it contains as illustrated by the fact that Kaffir corn contains 9.927 per cent of protein; 74.92 carbohydrates and 2.97 of fat, while Indian corn contains 10.50 per cent of protein, 69.60 of carbohydrates and 5.40 of fat.

The most marked difference occurs in the relative per cent of fat in the two, Indian corn being much richer in this constituent than Kaffir corn.

In using this grain as poultry food it is not necessary to thrash it but the heads may be dried and fed without thrashing. Kaffir corn should be fed with some substance rich in protein as bran, coocanut oil meal, oil cake meal, etc., as it runs low in this substance and also in fat. It lends itself readily to combinations with cocoanut oil meal, a substance rich in protein and fat.

To those poultrymen living in the interior valleys and on irrigated lands Kaffir corn offers a valuable addition to the list of poultry foods that may be grown.—S. S. T.

POULTRY BREVITIES.

Bone fed in some form is necessary in egg production.

Feather pulling is a vice caused by overcrowding and idleness.

Whoever undertakes to raise late chickens must expect to fight lice.

The food is responsible for the health, growth and flesh of poultry.

Where alfalfa can be easily grown, give the hens a generous supply, as it is the cheapest source of protein material to be obtained in California.

Most chicken coops are too close, too heavy and too inconvenient to clean.

Poultrymen can greatly lessen their work by having large runs or yards and many of them.

Movable chicken houses are useful if so built that they will not come to pieces when moved.

More young chicks die from overfeeding and sour fermenting food than from any other cause.

The floors, roosts and nests of chicken houses should be easily removable for cleaning and disinfection.

It does not necessarily harm hens to feed them improperly balanced rations, but it is a decided waste of food. Wasted food is wasted money.

The disinfection of a house or cleaning out of mites or lice is much more easily accomplished and the work more thoroughly done, if the house can be quickly and easily moved.

The placing of 20 to 40 chickens in a small yard (say 50x100 feet) and keeping them there from 8 to 12 months in a year, is one of the means of intensifying the propagation of intestinal parasites of all kinds.

A large area as a yard or pen will not become infested with intestinal worms or other parasite as quickly as a small area.

The fewer the birds and the shorter the time the birds are kept in a given place the less danger of infestation.

The above often explains why small flocks with wide range are apt to maintain health and vigor much better than large flocks closely yarded.

Roup.

Kindly give a remedy for roup. A friend tells of a cure in liquid form. About a quart was put in the chicken coop and the chickens then shut up in the coop so they were forced to inhale it. Can you tell me what it is? —S. S., Hollywood.

Kerosene oil is highly recommended as a roup cure. A thin film is formed on a disk of water, the head of the affected bird is dipped into it and held there for an instant then removed and wiped dry. Kerosene oil may be injected into the nostrils and the sick birds fed on corn soaked in kerosene oil. Potassium permanganate may be used in the drinking water enough to color the same a pink color.

Birds that have once suffered from roup fail to develop satisfactorily and are often stunted, worthless specimens, and I have found the cheapest treatment to be the destruction of all badly affected cases and disinfection of houses.

Don't have roup. Prevent it. It is a contagious disease and efforts should be directed to keeping it out by keeping quarters clean, birds in a healthy, vigorous condition and adopting the rule that no new birds shall be introduced into a flock until convinced that they are free from dis-

ease. I am not familiar with any remedy the fumes of which will cure roup.—S. S. T.

Balanced Food.

I have taken the Cultivator a good many years and like it very much. I am interested in poultry and appreciate your article on balanced feed in a recent issue. I wish you would give us more of it. Would like to know the "balance" when Egyptian corn and cocoanut meal are used. What you gave was for hens; how would it be for pullets? I am trying the dry feed on 900 pullets.—G. W. P., Hollister, Cal.

I am pleased that readers of the Cultivator are taking interest in the scientific feeding of poultry, as I look on it as one of the important factors on which the economical production of eggs and meat depends.

A combination somewhat as follows of Egyptian corn and cocoanut oil meal will give a fairly well balanced ration and satisfactory results:

		Protein	Carbo-hydrate	Fat
7 lbs.	Cocoa oil meal	1.15	2.97	0.70
15 lbs.	Egyptian corn	1.245	9.63	.45
1½ lbs.	Beef scrap	.81	0.035	.045
		3.205	12.635	1.195

This mixture yields a nutritive ratio of 1-4.75, i.e., every pound of nitrogenous material is combined with 4.75 pounds of starchy material and fat. Experience has shown that such a relative proportion gives satisfactory results. I have added the meat scrap to this ration because it has been amply demonstrated that better results follow in way of egg production when part of the protein of a ration comes from meat.

Skim milk may be substituted for the meat, but with less satisfactory results, is the general experience of poultrymen. Skim milk is a valuable poultry food.

Seven pounds of cocoa nut oil meal, fifteen pounds of Egyptian corn and five pounds of wheat bran will make a hopper mixture that will conform somewhat closely to requirement. Feeding standards simply serve as guides to correct feeding and must be modified for different localities.

Where foods rich in protein are abundant and cheap it is sometimes profitable to feed a narrow ration; i.e., one rich in protein. When such substances are costly we may find it advisable to make the ration wider, i.e., rich in starch; in either case we waste a certain amount of food, but owing to the condition of the market may justify the waste. Make the basis of the ration the material easily and cheaply obtained and balance this with the more costly substances.

In developing pullets feed a ration rich in nitrogenous material, and in mineral matter; bone, flour, etc., are good material to supply mineral substances for young birds, and the addition of bran will be advisable.

In addition to the ration outlined above, the hens should be supplied with plenty of green food and mineral matter.—S. S. T.

THE VALUE OF HEN MANURE.

Hen manure of good quality is richer in plant food than ordinary barnyard manure, and where any considerable number of hens are kept in connection with an orchard, the value derived from the fertilizer adds materially to the profits from the flock. A five-pound hen will produce in a year about ninety pounds of manure, this at $7.50 per ton, which is a fair valuation, giving twenty-nine cents for the manure per hen per year, or twenty-nine dollars on a hundred. This is a strong argument in favor of hens in the orchard.—S. S. T.

A TALK ON GEESE.

Goose breeding in this country is not so extensive a branch of industry as is the breeding of turkeys. Why this is so I do not understand. Geese are more easily reared and cheaply fed than any other fowl; being grazers, they will grow to full size on grass alone.

They can be fattened for market in a very few days. I never feed longer than twelve or fourteen days before marketing.

Our flock of 200 goslings this season, when dressed and ready for market, ranged from twelve to fourteen pounds apiece.

Geese are very intelligent and can be taught to do your bidding with very little trouble.

They are easilly fenced in. A little brush laid along under the pasture fence will keep them where they belong.

Geese are water fowls, and it is quite essential that there should be a small pond or stream of water in their pasture.

To insure safety from pollywog poisoning, give salted water every morning before going to pasture.

I have fattened geese almost entirely on raw apples and raw turnips, cut fine, and this is a very good plan when grain is high-priced or scarce.—Farm Journal.

The sex of the future chicks cannot be distinguished by examination of the eggs. Round eggs, pointed eggs, and other-called indications, have been tested hundreds of times, not only by experimenters, but also by poultrymen and farmers, the result being that nothing is known in advance of hatching, so far as the sex is concerned. Mating birds of different ages has also been a subject of experiment in controlling the sex, but no satisfactory results have been obtained. Eggs for hatching should be kept on racks in a cool place, and turned half round three times a week until used under the hen. They should hatch even if kept a month.—American Stock Keeper.

There is a limit to the profit-earning of a chicken, and it must be sold when that limit is reached or before. Unless a bird is growing into money, or laying eggs, or hatching chickens, it is a dead expense. Just about this time is the time to clean up and get rid of everything that is not needed for next season's breeding. We have written of this matter before but all mortals are so prone to forget or to postpone duties that ought to be performed at once, that we will be pardoned for reiterating the advice.

Clipping off the flight feathers of a wing to prevent a fowl from flying over a fence causes it to look misshaped or one-sided. There is no necessity for cutting off the feathers. The object can be attained by cutting off the inner web of four or five of the long flight feathers, so they can not hold against the air and the wing will retain its place, and the outside of the same will not be disfigured. Do not destroy the wing by clipping it after the molting season on such fowls as are intended for selling or showing.

Lettuce is an excellent food for young geese and ducks. Usually there is more in the garden than the family uses. This can be fed with profit. It pays to raise it for young waterfowl, and all kinds of poultry like it.

FEED YOUR PULLETS

As well as your Laying Hens, on

Coulson's Egg Food

It will bring them to maturity in health and vigor and ensure you lots of eggs in the Fall when prices are high. It can be fed moistened as a mash, or dry in hoppers. Manufactured only by

Coulson Poultry and Stock Food Company
Petaluma, Cal.

GERMAIN SEED CO., Los Angeles, Distributing Agents for Southern California

Send for our Free Book, "Poultry Feeding for Profit"

When writing advertisers, mention Cultivator.

For More Eggs Feed

Egg-More

Not a strong tonic and stimulant, but a little fed daily with good grains will keep hens healthy, make them molt early, feather out quickly, and lay lots of eggs when scarce and high. If not sold by your dealer, we will prepay freight on 25 lbs., $1.90; 50 lbs., $3.60; 100 lbs., $7.00. Send for free booklet.

West Coast Mill

705-709 Griffin Ave. (S. P. Track) Los Angeles, Cal.

Mammoth Bronze Turkeys---S. C. White Leghorns

From our large, vigorous White Leghorns, the largest eggs produced by any Leghorn breeder in the West. $1.50 for 15, $7.00 for 100 and $60 for 1000.
To make room for young stock we must dispose of a large number of this year's breeding birds. They are two years old and the pick of our flock and must be sold at once. Write us your needs. The price is right.

STUHR-WILLIAMSON POULTRY COMPANY
878 Bandini Ave. Home Phone 1490 Riverside, Cal.

Trap-Nested White Wyandottes

That won 22 ribbons out of 25 and 6 Silver Cups and a carving set and a cut glass vase. All the National White Wyandotte Club Ribbons. Second on 10 pullet pen, contest open to all breeds. Mammoth Bronze Turkeys, winners of 5 blue ribbons, all at Los Angeles County Poultry Association Show, December 7, 1907. White Wyandottes were judged by H. Berrar of San Jose, Cal., and W. W. Browning of Ogden, Utah. Hens and Pullets, $15, $20 and up.
MISSION VIEW POULTRY RANCH, MRS. C. D. HUBBARD, SAN FERNANDO, CAL.

Now is the time to hatch **BANTAMS**
Golden Sebright, Buff Cochin, and Light Brahma Eggs, $2 per 15. Prize winners.
M. E. Dillingham Box 67, San Gabriel, Cal.

HOMERS
Prolific Breeders
Winner of 1st pen at Breeders' Show
Satisfaction Guaranteed
C. E. Bunker
San Jacinto, Cal.

Two things cause expense in the poultry business. The first is loss or waste; the second feed. Prevent waste and make a pound of feed produce the greatest possible gains and you have solved the mystery of profits in the poultry business. Cleanliness is more than half the battle in preventing loss. Keep the lots, the yards, and the houses as clean as you can and you will find that the losses of last year will be reduced fifty per cent.

Baldwin's White Leghorns

First prizes San Jose '06, and State Fair '07. Three 1sts and special, San Jose, '07. $50 cup best display Petaluma '07. Send for free '08 Catalogue and price list. Good breeding stock for sale cheap to make room.
Frank E. Baldwin
46 Washington Ave. - San Jose, Cal.

White Wyandottes Exclusively

Good, White, Typical Birds. Stock and Eggs For Sale.
W. A. SEYMOUR
470 No. Beaudry Ave. Los Angeles Ca

An Income for Life

May be had by planting a grove of **Eucalyptus** trees. We are headquarters for all varieties of **Eucalyptus Seed.** Also carry a good assortment of trees in flats. Write for our 1908 seed catalogue. It describes the kinds and tells what the wood is best suited for. Don't delay. Do it now.

GERMAIN SEED COMPANY

326-328-330 S. Main St. Los Angeles, Cal.

Poultry Supplies

Best of All Kinds at Lowest Prices

West Coast Seed Co.

707 So. Spring St., Los Angeles, Cal.

Crimson Winter Rhubarb and **Berry Plants Our Specialty**

1000 choice Navel Oranges, together with a few other Citrus Trees. April and May are best months to plant Rhubarb for heavy Crops next winter. It has never been equalled as a money maker. $1.50 per dozen, $6 per 100, $40 per 1000. Pedigreed plants.

J. B Wagner

The Berry and Rhubarb Specialist **Pasadena, California**

EUCALYPTUS SEED

Eucalyptus rostrata, the Red Gum
E. corynocalyx, the Sugar Gum
E. tereticornis, the Forest Red Gum
E. globulus, the Blue Gum
E. citriodora, Lemon-Scented Gum
E. cornuta, the Yate Tree
E. polyanthema, the Red Box
E. leucoxylon, Victorian Iron Bark

and Many Other Valuable Sorts

I shall be pleased to correspond with prospective buyers and give particulars as to prices on the seeds I am offering. Trial packets of any variety 15c each, 2 for 25c, or twelve for $1.25. Also young trees of many varieties for sale. Send for circular and cultural directions.

THEODORE PAYNE

NURSERYMAN AND SEEDSMAN

Home Phone A2480

345 S. MAIN ST., LOS ANGELES

Eucalyptus

We have made a specialty of eucalyptus for the past ten years. We are no mushroom concern. We are prepared to accept contracts for raising eucalyptus for next season's planting. Take advantage of our **Low Prices on Contracts. Do It Now.** Twenty of the leading varieties to be seen at our nursery.

Saint & Warner

Sycamore Grove Nurseries

4584 PASADENA AVE., LOS ANGELES

Burbank Crimson Winter Rhubarb

Plants and Seed for sale in any quantity. Warranted the genuine article. Orders filled promptly

A. L. Fratt, Ventura, Cal.

When writing advertisers, mention Cultivator.

For the Season of 1908-09

We Shall Have to Offer

Pedigreed Fruit Trees

SEVERAL NEW FRUITS AND NUTS OF IMMENSE VALUE TO CALIFORNIA

Eucalyptus Trees

BY THE 1000 OR 100,000

NO BETTER STOCK GROWN

Please send us your name and address, and you will get all particulrrs. We are now taking contracts for ***Eucalyptus Trees*** in large quantities.

Leonard Coates Nursery Co. Inc.

Morganhill, Santa Clara Co., Cal.

Eucalyptus Seed

We are headquarters on all varieties of this seed. Be sure and get our prices on high quality stock. 80 varieties, your selection, 15c per pkt. Or we will mail postpaid, 1 pkt. each, E. Rostrata, Globulus, Tereticornis, Rudis, Corynocalyx, Leucoxylon for 50c with Cultural Directions.

MORRIS & SNOW

555 South Main **Los Angeles**

Pacific Seed Co.

C. Bagnall, Prop.

GROWERS AND IMPORTERS OF

Grass, Vegetable and Flower Seeds

All Kinds of Bulbs and Onion Sets

609 J St., Sacramento, Cal.

Send for Catalogue. Please mention Cultivator.

STRAWBERRY PLANTS

Strong one-year-old plants for August planting; Brandywines, $2.50 per M. Klondike, Lady Thompson, A-1, Excelsior and Midnight, $3.00. A full line of this season's plants later. New catalogue ready in September, giving full description of our improved strawberry plants and other small fruit.

G. H. HOPKINS & SON ***Burbank, Cal.***

Balfour, Guthrie & Co.

IMPORTERS OF

THOMAS PHOSPHATE POWDER

AND

NITRATE OF SODA

SAN FRANCISCO FRESNO LOS ANGELES

WRITE FOR PAMPHLET AND PRICES

Small Fruits and Vegetables

SOILS FOR GARDEN CROPS.

For peas and beans a light, loose soil, well-prepared, but not necessarily a very rich soil, is needed. The application of well-rotted manure may be made the year before or the fall before, but care should be taken not to apply too much fresh manure, as it promotes too much growth of foliage at the expense of pods. The principal thing in raising peas or beans is to get the ground in a mellow condition and keep it in that condition by cultivation.

Lettuce, too, requires a mellow soil rather than a rich one. This plant, however, will stand a richer soil than peas or beans. Since its value as a food lies in its growth of foliage, fresh manure may be applied to the bed with good results the spring or fall before it is planted to lettuce. Care should be taken not to apply too much, as too rank a growth may effect the flavor and tenderness of the leaves.

Radishes require a rich, deep soil, quite mellow and reasonably rich in potash. The application of well-rotted manure of wood ashes at the rate of two tons per acre is advised by many successful gardeners.

SQUASHES FOR HOME GARDENS.

A great advantage of the squash is that a few hills will produce enough for the average famliy. Therefore, they can be planted in some spot tnat would remain unused otherwise. Or they can be grown among tbe corn.

The summer varieties are mostly bush forms. The running squashes are late and long-keeping kinds. The soil should be as rich as possible, that their growth may be hurried, as they should blossom before mid-summer to be at their best. Compost is better than much manure, which makes the plants run to vine.

Give each hill of the bush variety a clear space of four feet and a clear space of seven feet to each hill of the running kinds. Put 10 to 12 seeds into each hill, planting about an inch deep.

As squashes are great sufferers from striped cucumber beetles in their early stages, it is best not to thin the plants till the danger from these pests is over. When the squashes have attained sound growth and it is clear which ones are the best, thin down to three plants in a hill.

Do not allow the running varieties to root at the joints, for the stems will be almost sure to try to make new root, which will prevent them from making fruit. If the plants run too much to vine after flowering, pinch them back so that the surplus strength shall go into the fruit.

If one fruit sets much earlier than the rest, it is generally best to take it off, as that will make the rest of the crop more uniform.

PEPPERS.

Peppers are another vegetable that has not yet found a place acording to its merits in the average farmer's garden. They are easily grown in any ordinary good garden soil. Fifty years ago the tomato was hardly thought of as a vegetable fit to eat. But its use has now become wellnigh universal. In fact, of all culinary vegetables it is now considered one of the least dispensabie. Everybody wants tomatoes. Everybody likes them. Peppers up to a few years ago were used sparingly as a condiment. With the introduction of the newer large varieties has come a demand and a use for them that was not thought of before. Our large foreign population, especially of the Latin races, consumes large quantities of peppers, even of the older and more pungent sorts. But the use of peppers as a table vegetable or relish in the way that green onions or radishes are eaten is steadily on the increase, and even now has reached large proportions. The new large varieties are so mild that they can be eaten almost like an apple or a tomato without causing any "smarty" sensation whatever.

IMPERIAL VALLEY CANTALOUPES.

We must have peppers in the home garden. The good woman wants some in the late summer or early fall for mixing in her various compounds known as chow-chows, picallillies, etc.; and for these purposes she may want both the hot and the mild kinds Long red cayenne leads among the hot kinds. It is conical in shape, three or four inches long. Among the small, pungent kinds, most of which make a very ornamental plant besides, we have Tabasco, Red Cluster and Coral Gem Bouquet. Ruby King is an old standard mild pepper, red in color. Other mild red sorts are Large Bell or Bullnose, Sweet Spanish, Sweet Mountain, Spanish Monstrous and the long Procopp's Giant. Among mild yellow sorts all very handsome, too, we have Golden Queen, Golden Dawn and Golden Upright. Elephant's Trunk is a very long, bright scarlet sort, rather irregular, and, therefore, not particularly popular.

Kesosene emulsion will kill vine borers in the squashes. In order to start new roots, cover the joints of the squashes with fresh soil.

The Ornamental Garden

BEAUTIFY THE YARDS.

Flowers are not only beautiful to look upon, but their influence is wholly refining, the cost of a few seeds is trifling and the labor involved becomes not labor but a keen and health-giving pleasure. There is no good excuse why every householder with a yard should not beautify it, not necessarily with costly flowers like orchids and some others, but according to his means, if with but a few violets, pinks, geraniums and nasturtiums. A town is judged by strangers by the appearance it presents. If, in passing through the predominating streets he notes dirty alleys, heaps of refuse and tin cans and ill-kept yards, he judges the town and its people accordingly. If on the other hand, he finds cleanliness, nicely kept lawns and gardens gay with flowers he is impressed with it as a prosperous, inviting town, peopled by wideawake, progressive cultured inhabitants. Impressions count for a great deal.

The same applies to the home ranch. It reveals the character of the owners. Go out and walk past your own home and read your own character. Does it look good to you?

CHRYSANTHEMUMS.

Chrysanthemums grown for exhibition blooms should not receive liquid manure after the flowers begin to expand their petals. The application after that time would not be likely to benefit the flowers, and would undoubtedly have a tendency to promote "damping" of the petals. Raising chrysanthemums from seeds is a favorite phase of gardening with many cultivators, amateur and professional. Seeds may be purchased at times, but generally the results are disappointing unless some special "strain" specially selected can be procured. It is in the power of most gardeners to save seeds from fine varieties that will be likely to produce something of value. The plants likely to produce seeds are not those specially grown for exhibition, but those grown for border decoration. A little thinning of the terminal bunch of buds is advisable, and cross fertilizing with other kinds can be easily accomplished. The disc or "center" should be showing in the flowers otherwise seed will not be available. The usual plan adapted by growers of seedlings is to grow a few plants of special varieties together for seed purposes. The petals of the flowers are cut off with scissors, and as the pollen ripens it is transferred to other plants to assist in the fertilization and also to cross the varieties. The seed ripens about December or January and should be cleaned and reserved for sowing until spring.

THE LILY-OF-THE-VALLEY.

The lily-of-the-valley is a very easy flower to grow, being, when once a good bed of it is established, almost able to take care of itself. The way to start a bed is to procure early in the spring a few sods—say a piece a foot square, cut out deeply and carefully with a spade. Having removed from the mass all the grass roots, these sods should be set out in a rich mellow soil, from one to two feet apart, in a partially shady place. If no weeds are allowed to invade this plot, the lilies will spread rapidly and soon result, by filling up the vacant spaces, in a fine bed of them.

Truth to tell, if kept well watered, they will produce blossoms the same season without seeming to notice the change of situation, while the original beds, if the holes where the sods came out are only filled up with rich dirt or dressing, do just as well if not better than before. All the attention that the bed needs after that is to keep the grass out of it and give it an occasional top dressing of manure in the fall.

BULBS AFTER FLOWERING.

The custom of having flower beds occupied the whole year through, first with flowering plants and then with bulbs, is now almost universal. Many beds are often started early with pansies, followed later by the various bedding plants now in use. Later the beds are re-made and are filled with bulbs, so that they are filled the whole year through. Bulbs can be had at such a low price and are so beautiful when in flower, that their use seems to be more popular every year. They may be set there at once on being dug up from the beds, preserving the tops unless they are ripened and dead, as the tops, so long as green, help toward perfecting the bulbs for further flowering the season to come. When the bulbs are ripe, which the dead tops indicate, they need not be planted at once unless desired, but may be spread out to dry for a day or two, tops and all, then the tops cut off and the bulbs kept in a dry closet until fall and then be planted.

TO DESTROY DANDELIONS.

Use two pounds of sulphate of iron to one gallon of water. Sometimes one-half ounce of sulphuric acid is added. The solution is sprayed over the dandelions and grass. The former is killed but the grass is left uninjured.

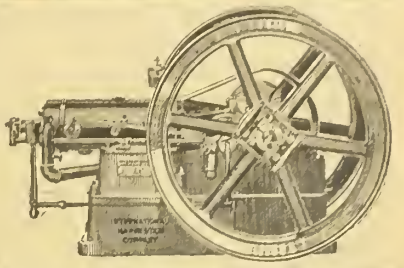
To exterminate ants from the garden or the house when they become a nuisance, round out the earth about the mouth of the ant hill; pour into this some bisulphid of carbon—say a tablespoonful will be sufficient—lay a brick over the hole, and cover it with dirt. This will exterminate the ants in that nest. The same preparation can be poured into rat holes, the homes of gophers or any kind of vermin which is injurious to the welfare of your country place. Use this with care, as it would poison human beings as well as animals if they drank it.

Roses should be picked as freely as possible with as long stems as the growth will permit, merely leaving an outward growing eye or two for safety on the stem below the cut. Where all blooms cannot be picked, the plant should be gone over daily and all faded flowers removed to a point at least two eyes below the flower. This is the only means of assuring later bloom from "hybrid perpetuals."

An effective emulsion for destroying the plant lice found on sweet peas, golden glow, etc., is made by dissolving a five-cent cake of Ivory soap in 6 or 7 gallons of hot water.

The striped bug on melons can be kept in check by using air slaked lime freely. This does not injure vines and should be used in time, as irreparable damage is often done in a very short time.

The GREAT AMERICAN DESERT is DISAPPEARING



THE great ranges are fast being taken up by individual settlers, and thousands of prosperous farmers are taking the place of the few cattle kings that were monarchs of the ranges a score of years ago.

It is the story of the magic touch of water upon the dry land.

I. H. C. Gasoline Engines in Irrigation Enterprises.

If you have not kept yourself posted on irrigating matters, you will be surprised at the important part I. H. C. gasoline engines are taking in the reclamation of these waste lands.

Hundreds of settlers and farmers have no other means of getting water upon their lands than these engines.

These settlers and farmers are cultivating all sizes of farms, from garden spots to "forties" and "eighties" and quarter sections and even larger tracts. They are among the most prosperous farmers in the irrigated sections. They are raising grains, alfalfa and other grasses—vegetables, fruits, etc.

They find that with an I. H. C. engine they can get water in large quantities upon their land, and that they can get it dependably and economically. They find the I. H. C. engine method of pumping more direct, more profitable and more satisfactory than any other means heretofore employed.

I. H. C. gasoline engines are simple, dependable and powerful. They pump water economically, and you will find that they run with very little attention.

If you have an irrigation problem it will pay you to investigate and see what an I. H. C. gasoline engine will do for you.

Vertical engines in 2 and 3-Horse Power.

Horizontal engines (Portable and Stationary) in 4, 6, 8, 10, 12, 15 and 20-Horse Power.

Also, gasoline traction engines, pumping, sawing and spraying outfits.

Call on the International local agent, or write the nearest branch house for catalog and colored hanger.

WESTERN GENERAL AGENCIES: Denver, Colo., Portland, Ore., Salt Lake City, Utah, Helena, Mont., Spokane, Wash., San Francisco, Cal.

INTERNATIONAL HARVESTER COMPANY OF AMERICA, CHICAGO, U. S. A.
(Incorporated)

Paid Semi-Annually

7%

Assured Profit

We offer you Cane Sugar Lands in Mexico. Perfect title. Give 50-year contract to cultivate for you, guaranteeing 7%, paid semi-annually, until crop profit exceeds this amount. Offer these lands for cash or on easy terms.

A Life Income from Land

Sugar Plantations produce the greatest continuous yield of any known crop. Tropical Mexico stands today unmatched in soil, climate, water. We own over 9000 acres in the heart of the best section—near Tampico. You become a land-owning profit-sharer in this project. We do all the work for you.

Sugar Plantations the Most Profitable Crop in All the World

GOOD LIVE AGENTS WANTED

One Acre Should Produce $203.52 Annually
Five Acres Should Produce $1017.60 Annually
Ten Acres Should Produce $2035.20 Annually

Free Trip to Property Communities or syndicates buying 50 acres or more, may send representative to property at our expense

Tampico Sugar Company

Los Angeles California

References: Citizen National Bank

501 Union Trust Building

Before You Build or Repair
Send for Samples and Prices of
J-M ASBESTOS ROOFING

You know what Asbestos is—the indestructible, fireproof mineral—that wonderful non-conductor of heat and cold. Then think what a roof of this means to a building. Protection against fire; protection from heat in summer and cold in winter; absolute protection from all weathers, lasting as long as the building itself, and yet

IT NEEDS NO PAINTING OR COATING

Isn't that the kind of roofing you want? It certainly is the "cheapest-per-year" roofing made. We warrant it absolutely, and the price is right. It comes all ready to lay. Nails and cement included. *All you need is a hammer.*

Write today for Free Book No. 41

We'll send samples and prices also. You'll get helpful hints from the book, whether you buy roofing or not. Ask for it. We want you to have it anyway.

H. W. JOHNS-MANVILLE CO.,

203 East 5th Street *Los Angeles, Cal.*

Queries and Replies

Questions to be answered in this department should be received at this office one week before reply is expected. Write plainly on one side of the paper and sign full name and address. Unsigned communications receive no attention.—Ed.

Potatoes Planted "In the Moon."

In replying to a query regarding planting of potatoes, Mr. Lobingier showed his lack of faith in the influence of the moon on vegetation. This has occasioned the following reply from Mr. E. A. Beard of Anaheim:

I noticed in your reply to the question in the July 2nd Cultivator, that you denounced belief in the influence of the moon as having an effect upon crops. While I am not a believer in many superstitious sayings, such as throwing a stone over your head and a wart will disappear, or kissing a mole off of a fair maiden's cheek, I have observed that vegetation makes a more thrifty growth in the first part of the new moon than it does in the dark of the moon and am of the opinion that crops such as potatoes, peanuts, etc., should be planted in the dark or decrease of the moon and alfalfa, corn, etc., should be planted in the light of the moon or about new moon. Has any one else an idea?

Onions on Heavy Land.

Will you kindly inform me whether red, heavy land, that sub-irrigates, and is very moist the year around will raise Bermuda onions to a success. If so, will it be best to fertilize and how?—E. W. L., Sultana.

Generally speaking, heavy land of any kind is not considered ideal for onions. The fact that this soil is moist may make an exception in the case. It is always best to fertilize for onions if you want a good yield. Well rotted stable manure is always safe, but you cannot always get it. Manure from the cow corral, which is usually tramped up very fine, thus enabling you to thoroughly mix it with the soil is also good. Pure ground bone is a good fertilizer for almost every crop. Use from 800 to 1200 pounds per acre—well cultivated into the soil before planting.—Q. A. L.

Pruning Tomatoes.

Please tell me how and when to trim up Earliana tomatoes for fall and winter crop. They are just getting ripe now.—R. E. S., Riverside.

I have never practiced that method of getting fall and winter tomatoes, but have been successful by sowing the seed the latter part of July and even as late as August 1st, and growing precisely as for the early season's crop. If I were to try to bring in a late crop from old plants I should cut back the old plants freely about August 10th and depend on the new growth to produce the fruit. Do not water too freely until the new growth starts.—Q. A. L.

Fertilization of Tomatoes.

Please tell me what to put on tomato plants to obtain best results?—Mrs. J. P. W., Palms.

Generally speaking, nothing is better than stable manure. To answer this question satisfactorily, I ought to know something of the character of the soil. Pure ground bone is a good commercial fertilizer, applied at the rate of 500 per cent or 600 pounds per acre. The most wonderful results I ever saw in tomato growing were obtained by a Scotchman who worked in the Dunbar Iron Works among the mountains of Pennsylvania. He planted the tomatoes 18 inches each way and trained them to a single stock tied to stakes and after they were about a foot high he covered the ground six inches deep with fresh stable manure. But he was an accomplished gardener as well as ironworker.—Q. A. L.

Onion Sets.

Please inform me through the Cultivator how onion sets are obtained. Also onion seed and oblige.—A Subscriber.

Onion sets are obtained by sowing the seed very thickly which prevents their development into full grown onions. It is a business requiring experience and skill and in California, especially the selection of suitable soil. No inexperienced person should attempt the work in a commercial way as the chances for failure are 100 to 1. And for a few sets for the home garden, unless one grows them for the pleasure in the work, it is cheaper to buy at the seed store.

Onion seed is produced by planting well ripened, selected onions and giving them special care. As a business it is even more exacting in its requirements than growing the sets. There is no royal road in growing good onion seed, and it is because it requires a special brand of honesty on the part of the grower as well as experience and ideal conditions that good onion seed is never sold at low figures.—Q. A. L.

Dry Land Pasture.

I have a farm in the Sulphur Spring valley, Arizona, but I have no water on the place for irrigation. Although it is good land of a sandy loam, it makes very poor pasture for lack of moisture. I would like to ask your advice as to what kind of shade trees I should plant. I could give them a little water at the start. What would make the most rapid growing hedge? Is there any kind of grass I could sow to increase the pasture? I don't know the name of the grass that grows on the land.—A Subscriber.

A grass for such conditions is hard to find. Paspalum has been recommended, but tests show it to be far from perfect. Salt bush is often used and with fair results .

We do not know your winter temperature, but think the red gum or Eucalyptus rostrata would answer for the trees.

Air Pump.

Can you tell me anything about the air pump and where it can be procured?—W. M. D., Corning.

We do not know exactly what is meant by air pump, but assume that the air-compresser water lift is meant. Almost any irrigation machinery dealer advertising in the Cultivator can supply information regarding these pumps or "air lifts."

Old 'Cots.

I have four large apricot trees, (say 15 years old) in my back yard, which have not borne a hat full of fruit for the last four years. They used to bear abundantly. I take the same care of them now as then, only better. They are vigorous and healthy. What is the matter with them? Can I put new business life into them or have they got too old to be useful any more?—W. H.

Cut the trees back at once two-thirds so as to retain their symmetry at the top and allow sufficient to remain to make good tops. This is the best treatment for trees of this kind and by adding abundant stable manure they will also be benefited.

Sometimes severe summer pruning will stimulate trees to throw out vigorous fruit buds, thus giving a heavier crop the succeeding summer. These trees being so old probably need this stimulus.

Squash Bugs.

Please give remedy for destroying pumpkin bugs, or the striped green bugs which destroy pumpkin and other vines.—W. L. H., Fowler.

As will be noted in Mr. Isaac's department this week, this is a most perplexing pest to handle. Hand-picking is suggested as the remedy, but in a large field this, of course, would be impossible. Paris-green poisoning, while not satisfactory, is perhaps the best remedy. The most practical way of protecting vines where it can be done is to stretch over them frames covered with netting.

Flavored Milk.

I have a cow four years old with second calf. She is in good condition, in a clean place. Her milk tastes old after it stands a few hours, also the butter. Have changed feed and am now feeding clean alfalfa together with oat and barley hay, some potatoes, bran and alfalfa meal, and still the milk tastes.—Subscriber, Santa Clara.

We feel sure the cause of your trouble is not in the feed or in the condition of the cow, especially as you do not mention that the milk has a bad flavor when first drawn. We think the trouble comes from bacteria developed in the milk after being drawn. To destroy this, give a very thorough scalding, or better, a steaming of all utensils used for the milk. Any crevice or place where the bacteria may be allowed to lodge should be given such a temperature as to destroy all life. We believe this will correct your trouble, although if the cow has range in the pasture it is barely possible mustard or some other weed may be the cause of tainting the milk.

Wax for Floors.

Will you kndly give formula for mixing wax for waxing floors and furniture?—E. S., Fullerton.

Potash, 1 part.
Water, 4 parts.
Yellow beeswax, 5 parts.
Hot water, a sufficient quantity.

Emulsify the wax by boiling it in the water in which the potash has been dissolved; stir the whole time. The exact amount of boiling is determined by the absence of any free water in the mass. Then remove the vessel from the fire, and gently pour in a little boiling water, and stir the mixture carefully. If a fat-like mass appears without traces of watery particles, one may know the mass is in a fit condition to be liquefied by the addition of more hot water without the water separating. Then put in the water to the extent of 200 to 225 parts, and reheat the compound for five to ten minutes, without allowing it to reach the boiling point. Stir constantly uutil the mixture is cool, so as to prevent the separation of the wax, when a cream-like mass results which gives a quick and brilliant polish on woodwork, if applied in the usual way, on a piece of flannel rag, and polished by rubbing with another piece of flannel.

We would also refer the inquirer to the paint stores which keep this ready-made and probably far cheaper than one could mix for any small quantity. In other words, it would be like manufacturing varnish, when it can be bought so much more satisfactorily. At least the writer recently bought for 45 cents a small can which was sufficient to go over a stairway and is still in the house to use on furniture whenever needed. This is the common floor wax.

Pruning Raspberries.

Should we cut back the new shoots on our red and black raspberries now?—E. M. S., Reedley.

Yes This will cause them to throw out side branches which can be shortened back in the fall. This method will give larger and more fruit.—T. A. L.

Fullers Rose Beetles.

Responding to a recent query, Mr. S. A. Pease of San Bernardino writes:

"If the Fullers rose beetles are working under ground on strawberries or raspberries, the treatment is carbon-bisulfid, a small quantity poured in holes made with a picket pin or similar instrument 14 inches apart and same distance away from the roots.

Alfalfa For Pigs.

If any of your subscribers have had experience in raising hogs on alfalfa pasture, I shall be pleased to hear from them through the columns of the Cultivator, giving their experience and the results.

In this connection I wish to know the number of pigs that can be carried per acre from time of weaning, say for six months, and what would be their weight at that time provided they were hardened up for three weeks by a grain ration, and what would be that ration?

I am taking it for granted that the alfalfa would be well set and that the pigs would be supplied with an abundance of pure water.

My idea is to divide the alfalfa into small fields by portable fences, moving the fence when the alfalfa is eaten down and thus rotate from lot to lot, harrowing and irrigating each lot as soon as the hogs are taken off. I hope that those having experience along these lines wil give it.—W. R. Porter, San Bernardino.

Will our subscribers who have tried raising hogs on alfalfa favor this subscriber and others with their experience?

Peas for Cover Crops.

For the last two years I have sown Canadian field peas as a cover crop on my grove; both years had a good growth, but last January my peas were attacked by a small green fly, I suppose the pea weevil, and were partially destroyed before I noticed it. I at once set to work and disked them under. Now, would you advise me to sow peas again, or should I try vetch or some other cover crop?

My peas were sown early in September and disked uuder early in February both years. I may also say a neighbor a quarter of a mile away had about half an acre of garden peas destroyed in same way.—J. C. K. W., Redlands.

We do not think this was the weevil, but more probably the aphis, which attacks the young tender growth sometimes in such vast numbers as to almost cover the upper part of the plant from sight. They may appear again next season in the same way, but they are controlled largely by weather conditions. The vetch is an admirable cover crop, and even preferred by some to the pea, so if the seed can be secured it would be perhaps as well to make the change. Of course the pest can be destroyed by a weak kerosene emulsion spray, but in a cover crop this would hardly be practicable, and even with the garden crop is of slight value owing to the great rapidity with which the few that are left multiply and again stock the field. The pest is also kept largely under control by distributing the common ladybird which has been successful with the melon aphis of the Coachella Valley and kept it largely under control.

Warranted to Give Satisfaction.

Gombault's Caustic Balsam

Has Imitators But No Competitors.

A Safe, Speedy and Positive Cure for Curb, Splint, Sweeny, Capped Hock, Strained Tendons, Founder, Wind Puffs, and all lameness from Spavin, Ringbone and other bony tumors. Cures all skin diseases or Parasites, Thrush, Diphtheria. Removes all Bunches from Horses or Cattle.

As a Human Remedy for Rheumatism, Sprains, Sore Throat, etc., it is invaluable. Every bottle of Caustic Balsam sold is Warranted to give satisfaction. Price $1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. ☞Send for descriptive circulars, testimonials, etc. Address

The Lawrence-Williams Co., Cleveland, O.

FARMERS' BOOKS

Order Through the Cultivator

FEEDS AND FEEDING.—By Prof. W. A. Henry. Is a thorough, accurate and reliable handbook for students and stockman, giving most practical and useful knowledge on plant growth and animal nutrition, feeding stuffs, feeding animals and every detail pertaining to this important subject, indispensable to every owner of live stock. 658 pages. 6x9 inches.
Cloth $1.00

AMERICAN GRAPE GROWING AND WINE MAKING.—By George Hussmann of California. With contributions from well known grape growers, giving wide range of experience. The author of this book is a recognized authority on the subject. Illustrated. 269 pages. 5x7 inches.
Cloth $1.50

STANDARD OF PERFECTION.—By the American Poultry Association and used as the standard for judging all shows. The thing for dealers in fancy stock.
Cloth $1.50

PERFECTED POULTRY OF AMERICA.—This is the most recent publication, and is one of the finest poultry books ever issued. It contains full page illustrations of all breeds and varieties of poultry, turkeys and water-fowl. On many of its pages are represented the feathers from each section of the fowl. Gives the information necessary for the selecting of the best specimen in your flock.
Cloth $2.50

A. B. C. AND X. Y. Z. OF BEE CULTURE.—By A. J. and E. R. Root, the leading authority on Bee Culture Its reputation is known to all Beekeepers. 536 pages.
Cloth $1.50

CAMPBELL'S SOIL CULTURE MANUAL.—By H. W. Campbell. The originator of the "Campbell System of Dry Farming." A complete guide to scientific agriculture as adapted to the semi-arid regions. Of great value to all Western ranches. 320 pages.
..... $2.50

Cultivator Publishing Company

Your Eastern Trip

SOUTHERN PACIFIC

May be arranged so that you may travel by way of

New Orleans and the Sunset Route

San Francisco and the Ogden Route

Portland and the Shasta Route

Enjoying the balmy air of the South or the cool and bracing air of the North.

Personally conducted excursions every day from Los Angeles via all routes without change to principal eastern points.

City Ticket Office:
600 S. Spring St., cor. Sixth
Southern Pacific

California Farm Names

IN SPEAKING of the Cultivator plan of writing ranch names, the Livermore Herald says:

"It is noticeable that wherever a place bears a name over its gateway it is invariably a better kept place than its neighbor which does not. The custom seems to arouse the pride of every member of the family and every workman on the place. Every country home should be named for identification if no other purpose."

Apparently our subscribers are pleased with the plan. While many places have been named for years, the effort has not been made to establish the name in the minds of others. Some have painted the name over the gateway, some chisled on a big boulder, burnt on wood or otherwise marked so that neighbors soon learn it.

In sending in the name, a few notes add to the interest. What does the name mean? Or if coined from other words, mention the fact as Miss O'Mealey does in the following:

"Kanova Ranch," owners Mrs. P. J. O'Mealey, her daughter, Miss Bee Josephine, and Mr. J. S. C. Richardson, Anderson, Shasta county. Miss O'Mealey writes: "We have purchased this eighty-acre ranch five miles west of Anderson, which we have named 'Kanova,' a composite name made from Kan-sas, my birthplace, O-hio, our old home, and Nova Scotia, the former Richardson home. Our fruit packages all bear the ranch name and it is part of our address. We are most heartily in unison with you regarding the choosing of ranch names."

"The Orange Hague," owner, P. Ting, Plano, Tulare county. "As you request names for our homes I take pleasure in saying we have named ours 'The Orange Hague.' The word 'hague' is German and implies a bush, and as the orange tree has somewhat the appearance of a bush I thought the name appropriate. The Cultivator is improving all the time. We find it instructive and interesting."

"Roselawn," owner John F. Digmun, Norwalk, Los Angeles county. "I think your suggestion regarding the naming of the farm, especially where a person intends making it his home, is very good. Our place of twenty-five acres is named 'Roselawn' because we have the front yard and fences set to roses. The farmers will take more interest in their homes and farms when the public begins to talk of them under their individual names. Still better, let them market their produce under the farm name. Many Eastern farmers do this and it is general throughout Europe."

"The Gables," owner, Frank Mead, R. F. D. 1, Sutterville Heights, Sacramento county. "I have as yet seen no names from Sacramento county, but there are many ranches already named in this county. The name selected for our ranch is because of the architectural feature of the home and out-buildings. They are all constructed on the style of the English gable throughout. 'The Gables' is three miles from the capitol at Sacramento and within a half mile of the Sacramento river and fifteen minutes walk to an electric car line. I have twelve acres set to 3500 vines of table grapes; 100 almonds, 350 French walnuts and assortments of all kinds of trees for family use." We note from the letter head used by Mr. Mead that he was formerly a contractor and builder, and we hope that soon he will write us again on letterheads from "The Gables."

"Linda Vista," owner, J. W. Mills, Marysville, Yuba county. On a high knoll in Linda township Mr. Mills has chosen a most appropriate name for his beautiful view. The place is one mile from the electric line and four and a half miles almost directly east from Marysville. It is covered with beautiful live oaks and underlaid at a depth of 12 to 20 feet with a vein of water bearing gravel. Mr. Mills has just returned to the old homestead on which he was born after years of experience with the work of the State Experiment Station.

"Vista Grande," owner C. LeRoy Kennedy, Mountain View, Santa Clara county. "The ranch is given this name because of the magnificent view to be had of valley, hills and dales from our porch and windows."

"Maygrove Ranch," owner, A. T. Kenyon, Charter Oak, Los Angeles county. Mr. Kenyon has a beautiful embossed letter head and uses the finest grade of stationary. He writes "The name 'Maygrove' is taken from my wife's first name, May , and our ranch is an orange grove, which, combined, makes 'Maygrove'."

"Paulheim Ranch," owner, E. V. D. Paul, Ukiah, Mendocino county. Mr. Paul is growing some delicious cherries as the Cultivator force can testify.

"Sunnyside Ranch," owner, P. N. Warner, Sanger, Fresno county.

"El Verde," owners, Mr. and Mrs. Fred J. Smith, Pomona, Los Angeles county. This ranch is well named as the writer knows having walked over its magnificent stretch of green lawn and rested under the big trees of the grounds.

Mrs. Smith has taken the name of this ranch to use on the brands of her unfermented grape juice product, which is now commanding a market all over the United States.

"Alta Vista Ranch," owner, L. F. Sternmann, Wrights, Santa Clara county. "I have accepted your suggestion and we have just named our nome place 'Alta Vista Ranch'."

"The Swastika Ranch," owner H. C. Porter, Alpaugh, Tulare county.

"Green Mountain Farm," owner, G. S. Tranzettel, Ukiah, Mendocino.

"Shady Oaks," S. D. Phillips, Bachelor, near Saratoga Springs, Lake county.

* * *

In sending in names be sure and spell out name of ranch and of owner plainly. Make the letters U and N distinct. Likewise the A and the O are often confusing. In a straight English sentence the connection quickly determines the letter, but in a strange name it is not so easy, no matter how good the writing. For instance, in the above Mr. Digmun while writing an excellent hand might easily confuse a typesetter and have his name appear Dignum.

In case of any error in the names a correction will be made, if subscribers will promptly write in the correction.

From E. V. D. Paul, of Ukiah, comes some extra fine cherries of a variety originated on his mountain orchard. It has fruited five years and both fruit and trees are unusual and have received the most complimentary endorsements from experts.

TEA.

SPECIAL NOTICE TO TEA DRINKERS—Why not drink the best. Kanawalla Ceylon Tea is the finest flavored tea grown. 5-lb. caddy, $2.50; 10-lb., $4.50, prepaid. Write for samples, F. W. SPARR, 114 E. Market St., Los Angeles.

Classified Liners

Rates 1½ cents per word per issue. No ad accepted for less than 25 cents. Our classified columns are the clearing house for the readers of the Cultivator. Here you can insert an ad for the small sum of 1½ cents per word per issue, and be sure that it will be read by thousands.

MACHINERY.

FOR SALE—GASOLINE DISTILLATE ENgines all sizes and makes, both new and second hand at bargain prices to close them out. Also electric and steam machinery of all kinds. Be sure and see us before buying We can save you money. BAILIE & BRANDT CO., 943 N Main St., Los Angeles, Cal.

FOR SALE—AT HALF ACTUAL VALUE No. 7 U. S. Cream Separator, good as new. One No. 9 machine new, to close out. K. B. Norswing, 5833 S. Main St., Los Angeles.

FOR SALE—SEVERAL NO. 1, 2 AND 3 horizontal centrifugal pumps, never been used. Can be bought cheap. N. W. cor MAIN AND BRUNO STS., Los Angeles, Cal.

POULTRY

BUFF ORPINGTONS—WOULD YOU LIKE the very best at the price of common stock? Sullivan's COMMONWEALTH STRAIN you may have at HALF PRICE FOR THE BALANCE OF THE SEASON. Write us and learn the reason; get record and illustrated catalogue FREE.—MR. & MRS. W. S. SULLIVAN, Agnew, Santa Clara Co., Cal.

KILLAMITE KILLS THEM—BEST INSECT powder made for fowls or plants. 50c for 2½ lb. sifting can, express prepaid by us if your dealer hasn't it. Regular 10c can free, postage paid, for 10 addresses of poultry keepers. WEST COAST MILL, 818 San Fernando St., Los Angeles, Cal.

FOR SALE—STOCK AND EGGS OF THE following standard bred poultry: Black and White Orpingtons, Brown and White Leghorns. J. J. Verkouteren, Route 3, Hanford, California.

PARTRIDGE WYANDOTTES—C. Andrews, 823 W. Franklin Ave., Hollywood, Cal.—1st cock, hen, cockerel and pullet; 3 cups, Poultry Breeders' Show, 1908.

FOR SALE—W. LEGHORNS AND PEKIN Ducks at a bargain. Leghorns first in laying contest. MRS. JOHN M. WARREN, Escondido, Cal.

INDIAN RUNNER DUCKS—DUCKLINGS 3 months old 50c; breeding stock 75c and $1.00 each. CLYDE J. MOSS, Corona, Cal.

EGGS FOR HATCHING.

ORPINGTONS, BUFF AND BLACK, THE winners of the lion's share of honors at the Los Angeles County and Breeders' shows this year. The birds that win in the keenest competition and lay eggs all the year. Birds that pay as they go. Handsome catalogue free. Guaranteed fertile eggs in any quantity. Proven breeding stock very reasonable. Write today. Orpington Reservation. ROSS & TATE, Altadena, Cal.

EGGS FROM MY PRIZE WINNING BARred Rocks; won all firsts, all seconds but one, and all specials on Barred Rocks at L. A. C. P. A. Show, 1907. Eggs from best pens, $3 per 15; $12.50 per 100. Stock for sale. CHAS. E. SMITH, Gardena, Cal. San Pedro Interurban car to Smith's Crossing.

MISCELLANEOUS.

ALL ABOUT IMPERIAL VALLEY—BRAWley News, Brawley, California, trial subscription three months, 25 cents.

WANTED—MALE HELP.

NINETEEN JOBS GOING AT PRESENT—Electricity, plumbing, bricklaying taught in few months; tuition back after two months; advanced students paid wages. Free catalogue. UNION TRADE SCHOOL & CONTRACTING CO., 120-126 E 9th St., Los Angeles, Cal.

CATTLE.

FOR SALE—TWO YOUNG JERSEY BULLS—For particulars address DR. C. S. LANE, Santa Barbara, Cal.

DOGS.

SABLE AND WHITE COLLIE PUPPIES—Sires, Brandane Wishaw Squire and Glen Fana Bounder, litter brother to Aufield Model. Dams, Ormskirk Gloriana and Presidio Nellie. $10 to $25; 2 to 8 months. GLENALPINE KENNELS, Grandville, Cal.

FARM LANDS FOR SALE.

FOR SALE—1 TO 10-ACRE TRACTS ON CAR line, between Riverside and new cement works; good for chicken ranches, alfalfa or gardening; will sell on easy terms; plenty of water on each tract. C. C. POND & N. R. BELL. Riverside, Cal.

FOR SALE—85-ACRE MOUNTAIN RANCH 40 acres cleared, balance heavy timber; good five-room house; old and young orchard; 75 inches water from Rock Creek, which runs through ranch. Bargain for cash. For further particulars address, FRANK CUMMINGS, Manton, Cal.

FOR SALE—A BARGAIN—20 ACRES ALfalfa; 2 wells; 12-H. P. pumping plant; 9-roomed house, barn, furnished complete, with cows, pigs and farming tools; family orchard; ¾ mile from town of San Jacinto. Address L. Box 37, or 'phone 676 Home.

FARM TO LEASE.

FOR RENT—THREE ACRES OF LAND FOR 7½ years, with 5-room house, barn and rock house. Perpetual and unlimited water, both domestic and for irrigation. Rent $19.17 per month. It is in the city of Los Angeles on the Los Felice Road, west of Pigeon farm. On the above I have for sale all of the fencing, all the plumbing, over 30 hen yards with houses and faucets in every yard. 700 White Leghorn hens and chicks, 5 incubators, 13 brooders with runs; brooder house and other buildings; a cow, horse, harness and wagon. This is an extra good chance for some one and only $1400, terms easy. Address I. S. CROWFOOT, Route 5, Box 139, Los Angeles, Cal.

TREES.

FOR SALE—1,500 EUREKA LEMON TREES and 1,000 Washington navel orange trees, true to name. Also street and ornamental trees. Clean, healthy stock only offered. GEO. B. WARNER, SANTA ANA, CAL.

What MORE Could You Desire In A Savings Bank?

20,000 Depositors
Strong Directorate
Capital and Surplus
Over
$900,000
Resources
$10,000,000

GERMAN AMERICAN SAVINGS BANK

Tallest Building in Los Angeles

SPRING & FOURTH STS.

Heart of the Business Center
Model Banking Facilities

Plan to Visit

Yosemite Valley

This Season

It Is a Quick, Comfortable Trip

—VIA—

YOSEMITE VALLEY RAILROAD

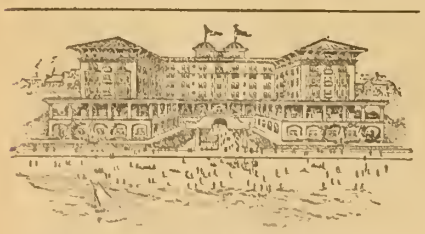
An ideal outing in the Sierras amid the grandeurs of Yosemite. Cost reduced to popular prices. Ample hotel and boarding-camp accommodations. Write for descriptive folder.

For Tickets and Connections see
Southern Pacific or Santa Fe
OR ADDRESS
H. H. VINCENT, General Agent
553 South Spring St., Los Angeles, Cal.

Yosemite Transportation Company

Operating Stages of Merced Canyon Route. El Portal to Yosemite Valley.

D. K. STODDARD, Manager
El Portal, California



Hotel Virginia
Long Beach

The Most Magnificent Beach Hotel in the World.
American Plan. Moderate Rates.
D. M. LINNARD

TURNING DEFEAT INTO VICTORY.

She (in tones of rejection)—Well, George, to be plain with you——

He—But you can never be that, never, never, you are too beautiful.

She—Well, then—yes.—Boston Transcript.

Household Department

HURTIN' BIZNESS.

"Don't you know you're hurtin' biz'ness," said the red fox to the hound,
"When instead of sleepin' peaceful you come snoopin', sniffin' round?
What's the good of all your barkin'?
What's the use of all this fuss?
What were chickens ever made for if they weren't made for us?"

"Can't you see you're hurtin' bizness?" said the South Sea savage chief
To the fearless missionary who was sitting on the reef;
"I have seven white men captured that I want to sell as meat;
What were white folks ever made for if they weren't made to eat?"

"Don't you know you're hurtin' bizness?" said the robber in the jail
While the stubborn sheriff listened to his almost tearful tale;
"Those who make and sell the jimmies, don't you see, are losin' trade
While you foolishly confine me where no getaways are made?"

"Can't you see you're hurtin' bizness?" said the devil to the man
Who was steadily progressing on the live-and-let-live plan;
"You are keepin' men from fallin' who, if sorely pressed, might fall;
Why, if all men done as you do I would have no job at all."

—Chicago Record-Herald.

ON THE DEACON'S TRAIL.

DEACON ZEALAND'S wife had been ailing for several weeks, but was not considered in a serious condition when he went to the village one day to return and find her dead.

Her last hours had been smoothed by the hands of Harriet Short, a maiden lady of two score years, who lived near by and kept house alone.

The deacon was naturally affected when he came face to face with death. His wife had left him many messages, all of which were duly delivered.

He was asked not to mourn for her, as she was better off. The dying woman had named $35 as the limit price on her tombstone. Her patch work bedquilt was to be given to Mrs. White, her black shawl to Mrs. Brown, her poplin dress to Mrs. Smith, and she disposed of other things to other persons. In brief, she had died in a businesslike manner and provided for everything.

When Miss Short seemed to have finished telling everything, there was still more to come. While the deacon was wiping the tears from his eyes on the roller towel, she said:

"There is another message,—a very special one—but I do not wish to tell you about it for a couple of weeks yet."

"Did she want me to send her shoes to her sister Mary Ann? They both have the same sized feet."

"No. It was something far more tender and sacred. I couldn't really speak of the affair now without becoming overcome, and so we will please drop it."

Two weeks later her nerve had been restored. The deacon came over after milking time and sat on the front steps with her.

For a few minutes they talked about Farmer Johnson's oxen running away and tipping over a load of hay, and then the visitor suddenly inquired:

"Oh, by the way, wasn't there another message left by Jane for you to give me?"

"There was, deacon, there was; but I've been thinking whether I really ought to tell it to you or not. If Jane hadn't seemed in her right senses when she died, if there was the slightest doubt in my mind, wild horses couldn't drag the message out of me."

"But what on earth can it be?"

The old maid turned her head away.

"Harriet, don't keep a man in suspense," pleaded the deacon. "She didn't want me to marry her sister, did she?"

"She did not. She never hinted such a thing. In fact, her sister is not the woman to make you a wife, and Jane knew it. Please don't look at me, deacon. Look right at that hog on the other side of the gate. I was asking Jane if she didn't think she could eat some milk toast when her eyes filled with tears and she said:

"'Harriet, I have known you for twenty long years. I know what a hand you are to put up peach pickles and make soft soap, and I don't believe you have made a loaf of heavy bread in the last ten years. It will be for you—for you'"—

"For what, Hattie?"

"Must I tell it just as she did?"

"Just exactly. Don't leave out a single word."

"Then she said it would be for me to see that your future life was not made lonely. I know I hadn't ought to have told it; you said I must, and we have known each other so long, and I always thought so much of you"—

"Um!" said the deacon, as she failed to finish.

There was silence for a time. The old maid sighed, and the deacon sighed.

During the next three months it seemed as if the deacon was giving weight to his wife's last words, but all of a sudden he went off on a tangent. That tangent was the Widow Shipman.

He was seen hoeing in her garden because she had no one to hoe for her; he was heard to inquire after the health of her cow; he was seen carrying home five pounds of sugar and a jug of molasses for her.

Miss Short sat on her front steps five evenings running, and he never even stopped at the gate to ask her if the beetles and darning needles bothered her much. Then she threw herself in his way and looked at him reproachfully, and she followed the look by remarking:

"Deacon, do you know if the Widow Shipman has had one of her fits lately?"

"Fits? Fits? What kind of fits?'

"Why, epileptic, of course. I thought you knew. She has them every few weeks, I believe, and when they come on she grabs up the ax or any other thing handy and wants to chop things up. If you were working in her garden and she had one of them fits, she might split your head open before you saw her. I do wish you'd be careful, for my sake."

"Um!" replied the deacon, and he sauntered homewards to do some thinking.

It did not take the widow over a week to detect the change of temperature, and she wasn't a week longer placing the blame where it belonged.

As her cow had got a thorn in its nose, she was justified in calling in the deacon to extract it, and when the thorn had been removed, she planted another by saying:

"Dear me, I hope Miss Short is mistaken in thinking she has got cancer of the tongue. I know she's worried and don't want any one to refer to it, but it may only be a pimple, after all. We've all had pimples on our tongues."

"Um!" was the deacon's observation as he made a mental note. And next evening he took a quart of strawberries over to the widow and stayed to tea.

No matter how many widows and old maids are after a widower, he cannot with any decency marry until his wife has been dead a year. Deacon Zealand realized this and meant to abide by it, but he couldn't see any harm in looking around a little in advance.

Perhaps Miss Short would have captured him when it was time for him to be captured but for an unfortunate move of hers. She knew that he dropped in to see the widow of an evening occasionally, and she was dying to know whether the talk was all about the carpenter's dog biting an ear off of the minister's hog or whether it skirted the edges of love now and then.

Curiosity proved too strong at last. By going through her back yard, climbing a line fence, and walking up the widow's back yard, it was possible to arrive under the open windows of the sitting room and hear all the conversation.

One evening, when darkness covered the land and the busy hens had gone to their roost, Miss Short set out on her adventure. She had in the house an old coat and hat which had been given her to give away again to some tramp. She donned these and ambled on her way.

There is no doubt that a woman could climb a fence as well as a man if she practiced more, but she hunts for bargains in gloves and hosiery and lets the climbing go.

Miss Short got to the top without mishap. It was in maneuvering to descend on the other side that she did not allow for slivers. The first she knew she was caught on one and was hanging head downwards.

Any one who has even been in that position knows how uncomfortable it is. The sliver wouldn't give and her dress wouldn't tear, and after ten minutes of struggling, the victim had to call for help.

It was not one of the deacon's nights for calling on the widow after all. Mrs. Shipman was alone and heard the calls at once.

Unfortunately, she took Miss Short for a man, and picking up a club she lambasted her good and sound before proceeding to release her.

When she discovered the identity of the intruder, she exclaimed:

"Well, of all the things on the face of this green earth! Harriet Short, you were coming over to play the spy on me. Don't deny it. When I tell the people of this town" —

"But you mustn't never tell anybody."

"When I tell the minister and others that I caught you here in men's clothes, and that you"—

"You can have the deacon!"

"Oh, I can!"

"Yes. When he goes by my house in the morning, I'll make up faces at him."

"But he'll want to know why."

"Then I'll tell him that he is knock-kneed and toes in. Oh, please don't tell!"

"You'll let go of the deacon, will

you!" asked the widow, after thinking things over.

"I'll never look at him again."

"And if he asks you to mar—"

"I'll run him out the yard."

"Very well, Harriet Short, I'll keep the hat and coat as evidence against you, but let you go on those conditions. If you ever say a word or break your promise"—

But she never did.

Soon after the year of mourning was up, the deacon and the widow were married, and the deacon was replying "Um!" whenever the old maid's name was mentioned.—Cottonseed.

RECIPES.

Peanut Butter.

Use the Spanish peanuts. Roast in a moderate oven till light brown. Great care should be taken not to burn them. Rub off skins and grind in nut grinder. The secret of oily butter is slow feeding of machine, dropping one nut at a time, and the more revolutions

are made the better. Salt to taste after grinding.

Baked Apples.

So richly equipped in chemical elements is the apple that it is recognized as one of the easiest vegetable substances to digest and is, therefore, deservedly popular as a part of the daily menu. A baked apple is the most easily digested of any way of serving apples, but there are baked apples and baked apples. Just to put the fruit in the oven and to cook with a suitable heat to tenderness is by no means the worst way of preparing a baked apple, but there are various methods of seasoning and baking which serve variety, and variety serves the appetite most pleasantly.

One way is to peel the apples before baking. Core the fruit, fill the hollows with sugar and any preferred spice. Lay in an enameled baking pan, pour just enough water to cover the bottom, then bake in a moderate oven until tender, and delicately crisp on the surface. A bit of butter put on the top of each apple adds a savory flavor. Meanwhile take the cores and peelings, cover with water and stew for an hour. Strain, sweeten slightly, add a little grated lemon rind and pour over the apples. Whipped cream will be liked with these apples.

There are a great many changes to be rung on the baked apple filling. Any kind of nuts may be used. For a dozen apples a cupful and a half of meats will be required. Chop fine and mix with as much sugar. Fill the cavities and bake as usual. A half banana sprinkled with sugar and lemon juice makes a good filling. Figs and dates chopped and rolled in sugar, chopped nuts with chips of lemon or orange rind or honey and butter, are all appropriate and pleasant to the palate.

Honey Muffiins.

Sift together one and one-half pints of flour, two tablespoons baking powder, a small half teaspoon of salt. Work in two tablespoons butter. Beat and add three eggs, one teacup of honey and half a pint of milk. Bake in a hot oven.

Fruit Corn Muffins.

Take two cups of yellow cornmeal, one cup white flour, four teaspoons sugar, half teaspoon salt, two teaspoons baking powder, one tablespoon butter, two eggs, one and one-half cups of milk and one cup of any kind of fruit peeled or sliced. Bake in muffin pans in hot oven for twenty minutes.

Albany Breakfast Cakes.

Take three eggs, a pint of milk, half a teaspoon salt, two teaspoons baking powder and flour sufficient to make a thick batter. Beat the eggs very light and stir them into the milk. Have the flour sifted before measuring and add the salt and baking powder, then sift again and mix. Butter individual pie tins and half fill them with the batter. Bake in a quick oven.

HOMELY HINTS.

The dish towels will not only look better but will last twice as long if they are never allowed to become very soiled, for the hard rubbing required to get dirty towels clean again will soon wear them out, and the best and easiest way to keep them soft and white is to wash them out at least once a day in warm suds in which a little borax is dissolved, as the borax not only softens the water but purifies and disinfects. Both the towels and dish cloths should be boiled in the borax suds two or three times a week and then carefully rinsed and hung in the sunshine to dry. This last should be emphasized from a sanitary standpoint, as it is said that kitchen dish rags that are carelessly kept make fine breeding places for bacteria, which are frequently a menace to health and life. Save the dish cloths by using a whisk broom, a chain dish cloth or an old brush for washing the inside of pots and kettles and use bits of soft cloth for wiping the sides of the dish pan before you attempt to wash it, then these can be burned and there will be no grease to soil the cloth and make it grimy and dark-colored.

The Oldest Savings Bank in California

FOUNDED IN 1857

The Savings and Loan Society

101 Montgomery St., Cor. Sutter St., San Francisco

CAPITAL FULLY PAID $1,000,000.00

Exclusively a Savings Bank whose policy is for ***Conservatism*** and ***Safety,*** the result of ***50 years experience.***
Deposits may be made and withdrawn by mail.

San Francisco Savings Union

Founded June 18, 1862 Northwest Cor. California and Montgomery Sts., San Francisco

Conducts a Savings Bank Business Exclusively

Capital Paid Up, $1,000,000.00. Surplus, $1,123,462.30.

Total Assets, $27,508,850.00.

E. B. POND, President.
W. C. B. de FREMERY AND C. O. G. MILLER, ... Vice-Presidents.
LOVELL WHITE, Cashier. . . . . R. M. WELCH, Asst. Cashier.

DIRECTORS: John F. Merrill, Wm. A. Magee, W. C. B. de Fremery, H. C. Breeden, Jacob Barth, Fred H. Beaver, Wakefield Baker, C. O. G. Miller, E. B. Pond.

Every facility afforded for opening accounts and making deposits and withdrawals by mail. Correspondence invited.

Largest National Bank West of Denver and South of San Francisco

First National Bank

of Los Angeles, California

UNITED STATES DEPOSITORY FOR GOVERNMENT FUNDS

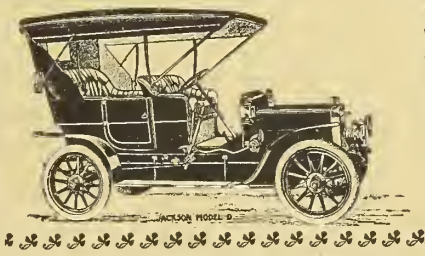
TOTAL RESOURCES, $16,000,000

ADDITIONAL ASSETS—One Million Five Hundred Thousand Dollars invested in the stock of the Los Angeles Trust Company and the Metropolitan Bank and Trust Co., and held by the officers of the First National Bank, as Trustees, in the interest of the shareholders of the Bank.

We are prepared to extend to the small depositor the same personal and careful attention that we do our largest accounts.

No Hill Too Steep FOR ***No Sand Too Deep***

Jackson Automobiles



RUNABOUT, 18 H. P. - $ 900
TOURING CARS, 24 H. P., $1350 and $1650
TOURING CAR, 35 H. P., 4 cyl., $2150
GENTLEMAN'S ROADSTER, - $2150

Send for Catalogue and List of Used Cars
Agents Wanted Where Not Represented

A. W. GUMP AUTO CO.
1118 S. Main St., Los Angeles

Woodbury Business College

809 SOUTH HILL STREET, LOS ANGELES

Strong, original, practical, SUCCESSFUL. Belongs to no "chain" or trust, class or clan—absolute MERIT its only alliance. Concentrated, enthusiastic, COMPLETE. A school of FORCE, CHARACTER, and INFLUENCE. Prestige of long experience, thousands of graduates—every one a WOODBURY testimonial and a vital force in the world. "BETTERNESS" its distinctive quality. "THE SUCCESS OF THE STUDENT" its slogan. Entire year—begin when ready. POSITIONS SECURED. Write for "CATALOGUE W"—it is illustrated, interesting, instructive, INSPIRING.

Cultivator Order Blank

_____ 1908

CULTIVATOR PUBLISHING CO.,
115½ No. Broadway
Los Angeles, Cal.

Gentlemen—Enclosed find $_____ for which please send the **Cultivator** for one year to the following, or credit on my account

from _____ 190— to _____ 190—

NAME	P. O. ADDRESS	STATE

Are you an old or new subscriber? _____

SIGNED _____

ADDRESS _____

When writing advertisers, mention Cultivator.

The Produce Markets

Los Angeles Markets

LOS ANGELES, July 15, 1908.

Butter.

A sluggish condition prevails in the butter market. Receipts are heavy and while there is no indication of weakening the sales are slow. Quotations are exactly as last week.

Wholesale quotations now are:

Creamery ex per roll................50
Firsts........ ....47½
Dairy........ 25
Cooking.... 25
"Butterine"...... .. ..15@20

Cheese.

Southern California..... ......14½@17
Northern fresh...... ....13½
Longhorn........ 17
Eastern singles...... 16
Cheddars........ 17
Imported Swiss...... ....28@30
Swiss..... 18
Oregon........ 15
Limburger.......... ....17½

Eggs and Poultry.

Some storage eggs are being placed on market and a firm condition prevails. Receipts are light.

Eggs local candled...... 25
Eggs case count...... ....21@22¾
Firsts fresh.... 23
Eastern fresh...... ....21@22

Wholesale prices..

Hens per lb.......... ....10@12
Young roosters per lb...............17
Fryers.... ....15@17
Broilers per lb...... ....15@17
Roasters......... 16
Old Roosters............ 7
Turkeys...... ....16@18
Geese... ....11@13
Ducks.......... 10
Squabs...... ....1.25@1.50

Live Stock.

The following quotations are f. o. b., Los Angeles, on all stock.

Hogs from 175 to 200 pounds..6¼ @6½
Prime steers........ .. ..4¼
Heifers...... ....3½@3¾
Calves per lb............ ....4½
Sheep ewes per head...... ..3.75@4.00
Lambs per head...... ....3.00@3.25
Wethers........ ....4.00@4.50

Potatoes.

Potato market is slightly better than last week, but still very unsatisfactory.

Wholesale prices are:

Sweet potatoes per bx new crop 2.00
White Rose new ....1.25@1.40

Onions.

Bermudas per 100....... ....1.00
Bermuda per crate........ 50
Silverskins new...... ....1.15@1.25
Crystal wax per crate.... ....1.25@1.50
Northern Red..... ....1.05@1.25
Garlic........ 7

Vegetables.

The following are commission house prices; deduct freight and commission to secure farm prices.

Artichoke per box....... 60
Asparagus per lb.......... ....8@9
Asparagus green per box....2.00@2.25
Beets per doz...... ....25@30
Bell peppers per lb...... 10
Beans limas per lb..... 4
Beans string............ ....2@2½
Cabbage sack....... ....40@50
Cabbage red per lb...................2
Celery per doz green hothouse..1.25
Corn per box 30
Chili peppers per lb ....7@8
Cucumbers per doz...... ....25@35
Cauliflower per doz........ 60
Carrots per doz........ ....25@30
Egg plant lb...... 5
Green onions doz bunches......20@30
Horseradish...... ....12½
Lettuce per crate.. ....60@65
Mint per box........ 40
Okra............ 9
Peas sugar per lb...... ....3@4
Parsley.. ... .30
Parsnips.... ....35@40
Rhubarb per box.... ....50@1.00
Rhubarb northern...... ......1.20@1.25
Radishes per doz.. ....15@20
New summer squash per box.... 15
Summer squash per box.............25
Salsify...... ....15@20
Spinach per doz.... ....15@17
Tuhnips doz bunches.... ....25@30
Tomatoes lug box...... ....1.25

Citrus Fruits.

Navels fy off bloom...............2.00
Navels ch.......... ....1.50@1.75
Valencias........ ....3.00
Grapefruit seedless....... ....3.00
Grapefruit seedlings...... .. 1.75@2.00
Lemons fancy...... ....2.25
Lemons choice........ ....1.75
Limes 15-lb box...... 75

Fresh Fruits.

Wholesale prices on the market are:

Red Astrachans new...... ......50@60
Astrachans packed box............1.25
Crab apples...... 75
Alexandria 4-tier...... .. ....1.35@1.50
Gravenstine 4½-tier...... ....1.50
Apricots per lug box........ 40
Cantaloupe st......... ....1.00
Cherries Oregon fancy........1.50@1.75
Cherries per lb........ ....7@8
Royal Annes...... ....1.10
Currants per box.... 85
Dewberries............ 4
Figs per box...... 85
Grapes Thompson seedless...1.00@1.25
Muscats per crate.. ....1.00@1.25
Pears per box........ ....2.00
Plums Burbanks per box...........75
Plums Sonoma..... ....1.00@1.10
Plums Satsumas.... 50
Plums Kelsey.......... ....1.00
Plums Wickson 90
Plums Tragedy...... 85
Plum peach........ 85
Silver prunes........ 85
Peaches per lug box...... ....1.25
Raspberries per crate.. 70
Strawberries per crate.... 75
Extra fancy........ 10
Blackberries per crate.... ....1.00@1.60
Loganberries per crate.... ....1.20
Goseberries..... ....8@12
Watermelons per lb........ ....1@1½

Dried Fruits.

Wholesale prices are:

Apricots........ ....7@9
Evap apples fy per lb........ ....7¼
Figs loose white...... 6
Figs blk...... 4
Peaches...... ....9@10
Pears.... ....11½@12½
Nectarines...... 14
Prunes........ ....4@4½

Beans Dried.

Wholesale prices:

Limas per ctl........ ... .5.50
Pink No 1...... ....3.90
Lady Washington 5.00
Small white...... ....4.75@4.80
Black eyes........ ... .3.55
Garvanzas.......... ....4.80@5.00
Lentils.... ....9@10
Bayou..... ....3.80

Nuts.

Almonds per lb.... ....15@16
Pecans polished.. ....16@17
Peanuts Virginia......... ....8½
Peanuts California.... ....8½
Walnuts No 1 SS.......................14

Honey.

Wholesale quotations:

Extracted Water White...... 7
Comb W W........... 16
Comb white........ 15

Hay.

Price paid to producers f. o. b. Los Angeles are as follows:

Barley No 1......... ....13.00@14.00
Barley No 2...... ....10.00@12.00
Alfalfa northern per ton....11.00@12.50
Alfalfa local...... ....12.50@13.00
Plain oat No 1.............15.00@17.00
Wheat No 1......... ....13.00@15.00
Wheat No 2...... ....12.00@14.00

Grain.

Wholesale selling price f. o. b., Los Angeles.

Wheat new per ctl..................1.85
Wheat in 100-lb sacks...... ......1.90
Kaffir corn...... ....1.80
Barley........ ....1.55
Corn Eastern sacked.... ....1.95
White oats.. .. ..1.90

Feed Stuff.

Selling price F. O. B. Los Angeles as follows:

Cracked corn......... ....1.95
Shorts........ ....1.80
Bran........... ....1.65
Oil cake meal............ ....2.50
Feed meal........ ....2.00
Rolled barley........ ....1.50

PAT'S REJOINDER.

Billy Craue brings this story from San Francisco to the Lamb's Club. A friend met a cheerful Irish citizen who had plainly suffered all that was the fate of the hardest hit. "Well, Pat, how are you making out?"

"Oh, Oi'm on me uppers yet, but I have a fine job in Honolulee, and fare paid. I sail to-morrow."

"Sure man, you'll never be able to work there. The temperature is a hundred in the shade."

Pat had endured too much cheerfully to be discouraged. "Well," he replied, hopefully, "I'll not be worruking in the shade all th' toime."

San Francisco Markets

SAN FRANCISCO, July 14, 1908.

Butter.

Butter advanced ½ cent last week and now remains at 22½ with a featureless market.

California extras per lb...... ......22½
California firsts...... ....21½
California seconds...... ....20½
Fresh packing stock...... ....19½

Cheese.

California young American fy....13½
Firsts...... 13
California flats fy...... 11
Firsts.... ....10½
Young America fy 14½
Eastern fy........ 16
Oregon fancy.......... ....11½

Eggs and Poultry.

Eggs advanced to 25 after last week's report and again sagged until now they stand at 23 or 1 cent lower than last week. Market is not strong.

Official quotations of the S. F. Wholesale Dairy & Produce Ex. are:

Fresh ranch eggs...... 23
Eggs firsts per doz...... ....22½
Eggs second per doz 18
Eggs thirds........ ....16½

Hens per doz....... ....3.50@5.50
Hens extra.. ....6.50@7.50
Young roosters.... ....5.50@6.50
Old roosters...... ....3.50@4.50
Fryers per doz.... ....4.50@5.50
Broilers per doz...............3.00@4.00
Geese per pair........ ....1.50@2.00
Goslings per pair........ ....2.00
Ducks young.... ....5.50@6.50
Turkeys per lb...... ....14@16
Pigeons.... ....1.00@1.25

Live Stock.

San Francisco prices gross weight:

Steers No 1........ ....3¾
Do second quality...... ......3¼@3½
No 1 cows and heifers..........3@3¼
Hogs 80 to 200 lbs.............6¼@6⅜
Hogs 200 to 300 lbs.............5¾@6
Calves per lb.......... ....3½@4½
Lambs spring......... ....4¾@5
Wethers No 1........ 4
Ewes No 1...... ....3½

Potatoes.

Wholesale market quotations:

New potatoes per ctl............75@1.00
do per box........ ....1.00@1.10
Early Rose new........ ....65@75

Vegetables.

Wholesale quotations:

Asparagus per lb...... ....5@7
Bell peppers.... ....4@6
Celery per doz...... ....35@50
Cucumbers per box..............60@75
Chili peppers per lb...............4@6
Corn per sk...... ....1.00@1.75
Egg plant per lb.... ....6@7
Green peas per lb...... ....2@3
Lima beans...... ....6@7
Squash per box...... ....40@50
Onions green per box...........70@75
Okra per box.......... ....2.00
Rhubarb per box....... ....50@65
Tomatoes per box.......... ....60@75
Tomatoes per crate............85@1.00
String beans...... ....2@5
Wax beans.... ....3@4
Garlic new.... ....4@5

Onions.

Onions red per box..............70@75
Onions yellow per box..........90@1.00

Citrus Fruits.

Navels...... ....3.00@3.50
Valecias fancy...... .... 2.25@3.50
Grapefruit seedless...... ....3.50@4.00
Grapefruit seedlings ....1.75@2.25
Lemons ch........ ....1.25@2.50
Lemons...... ....3.50@3.75
Limes........ ....4.00@5.00

Fresh Fruits.

Apples green per box...........50@1.00
Apricots per box...... ....20@40
Apricots ton...... ....17.50@25.00
Blackberries per chest.... ....1.50@3.00
Cherries white per drawer......35@60
Cherries Royal Annes..............3@6
Cherries Black.... ....3½@6
Currants per chest.. ....5.00@7.00
Figs per crate.......... ....35@50
Grapes per crate.... ....75@1.25
Gooseberries per chest...... ......1.00
Gooseberries per lb..... ....3@7
Loganberries.... ....2.00@3.00
Melons ponies.... ....1.00@1.25
Melons st...... ....7.50@12.50
Pears Bartlett per box.......1.00@1.25
Plums per box cherry...........30@40
Plums Clymans...... ....20@40
Plums Tragedy...... ....25@60
Peaches per box........ ....35@50
Peaches baskets....... ....30@50
Aligator pears per doz.......7.00@9.00
Raspberries per crate.... ....1.50@1.75
Raspberries per chest.... ....3.00@6.00
Strawberries per chest........2.50@3.50
Longworths per chest...... ..3.00@5.00
Watermelons per doz..........1.00@2.25

Dried Fruits.

1908 prunes being contracted for at 4 cents for Sinta Claras at 3¾c for outsides.

New crop contracts for future delivery, 25-lb. lots—Apricots, per lb.: Standards 6@6½; choice 6¼@6½; fancy, 7½@8c. ¼

PEACHES—Standards, 5@5¼; choice 5¼@5½; fancy 5@6½.

Apples (evap.)....... ....5@6
Apricots per lb st...... ....6@6¼
Apricots choice...... ....6¼@6½
Apricots fy ....7½@8
Figs white........ ....2¼@3½
Nectarines.... .. ..10@13
Plums pitted...... ....12@15
Peaches st........ ....5@5¼
Peaches ch.... ....5¼@5½
Peaches fy...... ....6@6½
Pears.......... ....5½@7
Prunes 4-size bag basis........2¾@3½

Raisins—1907 crop, f. o. b.: Clusters and Layers, 20-lb. bxs—Imperial Clusters, 6-crown, $2; Dehesa Clusters, 5-crown, $1.75; Fancy Clusters, 4-crown, $1.40; London Layers, 3-crown, $1.10; do, 2-crown, $1.05. Seeded, 25-lb. bxs—Fancy bulk, per lb., 5½@6c; Choice bulk, 5½@6c. Loose Muscatels, 50-lb. bxs—Standard, 4-crown, 4c; do, 3-crown, 3¾c; do, 2-crown, 3½c; Seedless. 3¾c. Seedless Sultanas—Unbleached, 4¼@4½c. Thompson Seedless—Unbleached, 4½@4¾c. Dried grapes, 3c.

Nuts.

Walnuts S S No 1 new crop......13¼
Walnuts No 2........ ....10¼
Almonds nonp..... ....11½@12
Almonds IXL...... ....10@11½
Ne Plus Ultra.. ....10@10½

Beans Dried.

Limas...... ....5.00@5.10
Pink...... ....3.25@3.40
Small white.... ....4.50@4.60
Large white.... ....4.40@4.50
Lady Washington...... ......3.45@3.50
Black eyes........ ....3.40@3.60
Red kidneys.......... ....2.75@3.00
Garvanzas........ ....2.25@2.75
Bayo........ ....3.25@3.40
Horse beans...... ....2.25@2.40

Hops.

Hops per lb........ ....4½@6½
Hops old fancy.......... ....1@3
Hops 1908 contracts.. ....10@12

Honey.

Clear white comb.... ....16@17
Amber ....12@15
Extracted w c...... ....7@7½
Extract light Amber...... ......6½@7
Beeswax No 1 per lb...... ......28@30
Beeswax No 2 per lb...... ......25@27

Hay.

As a matter of necessity, shipments of hay to the San Francisco market have been materially decreased during the past week, the total showing 2760 ton in comparison with 4290. The railroad yards were becoming so congested and the dealers found themselves at such a loss to know what to do with their consignments that many gave orders that shipments be discontinued for a while in order that the market might be cleaned up a bit. The situation here is uninteresting in every way, for consumers show no interest in the matter of filling up for the winter which is their general custom about this time of year. The dealers show no speculative tendency and the farmers seem to be in no great hurry to sell. They are gradually reducing their asking prices, however, so it may be that after a short time considerable quantities of hay will change hands.

There is very little to encourage the hay buyer at the present time for the trade outlook is a bit discouraging. There is very little doing in the export line, the movement of hay to coastwise points is exceedingly light and town trade is not more than two-thirds as heavy as it was a year ago. From all indications we believe that only at a very moderate range of prices will the regular hay buyers take on any quantity of hay for winter and spring delivery.

Although an occasional car of strictly gilt edge wheat hay sells for above quotations, yet the market shows no change from the range of last week, which we give as follows:

Choice wheat hay.... ......15.00@16.00
Good wheat hay........ ....13.00@14.50
Other grades same.... .....11.00@12.50
Wheat and oat........ ......11.00@14.00
Tame oat........ ....11.00@14.50
Wild oat...... ....10.00@13.00
Stock hay .... 8.00 to 10.00
Alfalfa........ ....9.00@12.50
Straw, per bale.. ....45@75

Grain.

Wheat No 1....... ....1.62½@1.65
Barley new....... ....1.27½1.30
Corn small yellow...... ..1.72½@1.77½
Oats white...... ....1.45@1.55
Oats gray....... ....1.50@1.55
Rye new crop..... ....1.47½@1.50

Feed Stuff.

Bran per ton...... ....31.00@32.50

Feed cornmeal per ton	39.00@40.00
Cracked corn per ton	40.00@41.00
Rolled barley per ton	28.00@29.00
Oil cake meal per ton	36.25@38.25
Cocoanut cake per ton	26.00@27.00
Middlings	34.00@35.00

Citrus Market

LOS ANGELES, July 15, 1908.

There is little doing in citrus market. Lemons are going forward as fast as picked, some selling very low, but as a rule commanding fair price.

Orange packing houses are being refitted for next season's pack.

Shipments.

Total shipments to date are 26,251 cars, of which 3642 were lemons. To same date last year, 25,060, of which 27770 were lemons.

NEW YORK, July 13.—Five cars Valencias, one sweet, two mixed, one lemon and one navel sold. Market very strong; active on good Valencias. Clear; hot.

	Avg.
NAVELS—	
Parrot S A Ft Ex	$2.90
VALENCIAS—	
Iris D M Ft Ex	4.30
Violet D M Ft Ex	4.15
Jasmine D M Ft Ex	3.90
Swastika L V W Brown	3.65
Aurora Edmund Peycke	4.10
Climax Edmund Peycke	3.75
Niagara Stewart Ft Co	3.20
Rescue Stewart Ft Co	2.30
Whittier A C Denman Sons	4.25
Whittier A C Denman Sons	4.05
Orchard Nat Or Co	4.05
Standard Nat Or Co	3.35
MEDITERRANEAN SWEETS—	
Dan Patch S B Ft Ex	3.75
Pony S B Ft Ex	3.10
Slover Mt. Grs' Ft Co	2.65
GRAPEFRUIT—	
Dan Patch S B Ft Ex	3.60
Slover Mt. Grs' Ft Co	3.50
Whittier (halves) A C D Sons	2.70
Cerrito (halves) L V W Brown	2.45
LEMONS—	
Independent Grs' Ft Co	2.80
Independent Grs Ft Co	2.30

CLEVELAND, July 13.—Four cars sold. Ten on track. Weather very hot. Market firm on good fruit.

VALENCIAS—	
Puritan S B Ft Ex Rialto	3.75
Tally-ho S B Ft Ex Rialto	3.65
Big R S B Ft Ex Rialto	2.35
SWEETS—	
Puritan S B Ft Ex Rialto	3.10
Big R S B Ft Ex Rialto	1.95
GRAPEFRUIT—	
Puritan S B Ft Ex Rialto	1.10
Tally-Ho S B Ft Ex Rialto	1.10
Big R S B Ft Ex Rialto	1.10
LEMONS—	
Lobster Cal Cit U	.80
Corona Beauty Q C Ft Ex Cor	1.20
Coyote K Ft Ex	2.35
Yacht S B Ft Ex Rialto	1.05

PITTSBURG, July 13.—Five cars sold. Ten on track. Weather warm. Market advancing.

VALENCIAS—	
Aurora Edmund Peycke	3.90
Conqueror Ind Ft Co	3.25
Orchid Altland Ft Co	3.45
NAVELS—	
Duck off bloom S A Ft Ex San Di	1.05
LEMONS—	
Lion S T Ft Ex Santa Bar	2.35
Eagle S T Ft Ex Santa Bar	2.00
Orchid Altland Ft Co	2.70

CINCINNATI, July 13.—Four cars sold. Two cars on track. Weather hot and muggy. Market weak.

NAVELS—	
H Grove off bloom S A Ft Ex S Di	3.40
Duck off bloom S A Ft Ex San Di	2.80
VALENCIAS—	
Pet S A Ft Ex San Di	2.70
Greyhound S A Ft Ex San Di	2.70
Stork S A Ft Ex San Di	1.15
Greyhound S A Ft Ex San Di	1.05

For Mehring Foot-Power Milking Machines see O. J. Weber Co., 555-557 S. Los Angeles St., Los Angeles, Cal.

LEMONS—	
Grove Q C Ft Ex Cor	1.35
Greyhound S A Ft Ex San Di	2.70
Duck S A Ft Ex San Di	2.05
Loma Limoniera Ft Co	1.75
Selected F W Blanchard	2.35
Silence Flagler Ft Co	2.25

PHILADELPHIA, July 13.—Market unchanged. Weather hot. One car navels, one seedling, one lemon and two Valencias sold. Three cars on track.

VALENCIAS—	
Whittier S T Ft Ex Whit	3.10
Pico S T Ft Ex Whit	2.57
Purity Tustin Pack Co	3.53
Old Oak Tustin Pack Co	3.40
NAVELS—	
Morning Glory off blo S A Ft Ex	1.40
SEEDLINGS—	
Native Sutherland Ft Co	1.12
Valle Vista Grs Ft Co	.87
LEMONS—	
Bridal Veil P & McKevitt	2.53

ST. LOUIS, July 13.—Three cars sold. Seventeen on track. Market will be no lower on lemons. Weather very hot.

VALENCIAS—	
Volunteer S A Ft Ex N Pom	3.45
NAVELS—	
Morning Glory off blo S A Ft Ex	1.45
LEMONS—	
Blue Jay O K Ft Ex	2.10
Coyote O K Ft Ex	2.10

BOSTON, July 13.—One car sold. Twenty-eight on track. Weather very hot. Market steady.

LEMONS—	
Pet S A Ft Ex San Di	2.50
Duck S A Ft Ex San Di	2.20
Greyhound S A Ft Ex San Di	2.25
MEDITERRANNEAN SWEETS—	
Slover Mt. Grs Ft Co	2.20

UNCLE ZEKE SAYS—

Most girls want tu be brides, but they hate tu be pointed out as sech.

Th' feller who kin look yeh in th' eye an make yeh believe him, sumtimes turns out to be a clever liar.

Lots uv wives kin boss their husbands an' at th' same time make 'em think they're not bein' bossed.

It's easier tu choose between two evils than it is between good an' evil.

A friend in need will never desert yeh—as long as there is enny prospect uv gittin' a loan.

There's sum consolashun in knowin' that even if worry does cause gray hair it doesn't necessarily make a feller bald.

War is a terrible thing—espeshally domestic war.

There may be bigger fish in th' sea than have ever bin caugnt, but they ain't enny bigger'n th' ones th' summer resorts advertise.

Luv kin always find a way, but sumtimes it's th' wrong one.—Journal of Agriculture.

BIBICAL CONUNDRUMS.

Why was Noah obliged to stoop on entering the arch?

Because Noah was a higher ark (hierarch.)

When did Moses sleep five in a bed?

When he slept with his forefathers.

Why was the giant Goliath very much astonished when David hit him with a stone?

Because such a thing had never entered his head before.

SHE KNEW.

"I hear you are going to marry Charley?"

"Yes; he asked me last evening."

"Let me congratulate you. Charley is all right. He is one of the nicest fellows I was ever engaged to."—Nashville American.

Veterinary

Dr. R. T. Whittlesey, veterinarian, of 714 East Seventh street, Los Angeles, will answer questions in this department. In writing of sickness or injury to any animal be explicit in giving symptoms and particulars. Always enclose full name and address, but if assumed name or initials are preferred they will be used.

If an immediate mail reply is wished enclose $1.00 for such service, but for replies in paper only, no charge is made if the answer will be of general interest.

Warts.

I have a Jersey cow with some bad warts on one teat. Can you furnish me any remedy for same? These do not seem to be ordinary warts as they are long in shape and have several sharp points to each. These completely cover the inside of the teat.—E. S., Fullerton.

Have the following made up: Arsenious acid, two drams; Lanoline, two ounces. Rub into warts once daily being very careful not to get any into milk as it is very poisonous.

SOMETHING NEW FOR THE RANCHER.

The Pacific Portable Construction Company, the advertisement of which appears in this issue, manufactures the most complete line of portable cottages, garages, poultry houses and servants' quarters of any firm on the Pacific Coast.

Mr. Barker, the manager of the firm, was for twenty years superintendent of one of the largest wood working establishments in New England. This work brought him in touch with the best builders and architects, where he had ample opportunity to study the designing and construction of portable houses. The portable house business is not new with Mr. Barker as he built them for a number of years in New England before coming to California.

The general design and architecture of these houses are far ahead of anything now on the market. They are also made convenient and substantial and at a price cheaper than one can build them themselves, as he buys his lumber in large quantities, has machinery and patterns, so that he is able to save where ever it is possible. If you are in need write for circulars and prices. Factory at Topeka and Alameda streets, Los Angeles, California.

A GOOD ROOF.

A good barn deserves a good roof as well as the home and other outbuildings. A roof to be "good" in California, must not only afford protection against rain, sun and wind, but also against destructive forest fires.

Realizing this last requirement, the H. W. Johns-Manville Company of Los Angeles, has had on the market for many years a Pure Asbestos Roofing which combines all of the needful qualifications.

This material is also prepared in suitable form for siding of buildings, so that the owner having his barn and other buildings completely covered with "J-M" Asbestos Roofing, is fully protected against destruction by fire from etxernal causes.

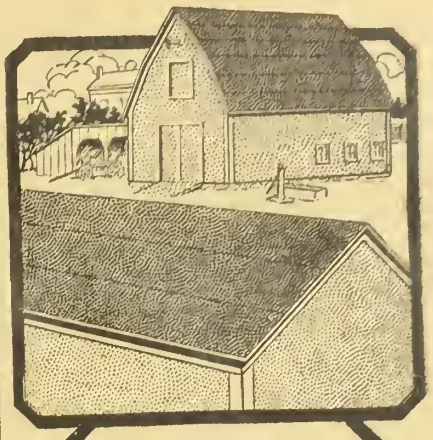
They carry a large stock of their extensive line of building materials at No. 203 East Fifth street, Los Angeles, where you are sure of a cordial reception.

Catalogues and samples of any of their line will be gladly sent upon receipt of request."

THE SURE RESULT.

Teacher—If you are kind and polite to your playmates, what will be he result?

Scholar—They'll think they can lick me.



The Guardian of Your Buildings

The finest thing about REX Roofing is the sense of security it gives. You don't have to worry about REX. You know that a building roofed with it, is roofed as well as can be, and protected as thoroughly as can be. The hardest storm cannot get water through it, nor blow it off; the hottest sun cannot melt it nor open its seams; falling sparks cannot ignite it.

REX
FLINTKOTE
ROOFING

is durable; it is good all through. Its body is high grade, long-fibre wool felt, heavy, dense and durable; the saturation or waterproofing is slowly worked in until the body is thoroughly impregnated with it—REX saturation will never dry out; the coating is of special rubbery, gummy compounds that unite with the body and the saturation.

WRITE for BOOK and SAMPLES, FREE

The book will tell you all about Rex Flintkote Roofing. The samples will enable you to test its properties.

J. A. & W. BIRD & CO.,
89 India Street, Boston, Mass.
Pacific Coast Agents: W. P. FULLER & Co., San Francisco, Sacramento, Oakland, Stockton, Los Angeles, San Diego, Portland, Seattle, Tacoma, Spokane.

DIVIDEND NOTICE.

San Francisco Savings Union. N. W. Cor. California and Montgomery streets.

For the half year ending June 30th, 1908, a dividend has been declared at the rates per annum of four and one-quarter (4¼) per cent on term deposits and four (4) per cent on ordinary deposits, free of taxes, payable on and after Wednesday, July 1st, 1908.

Depositors are entitled to draw their dividends at any time during the succeeding half year. A dividend not drawn will be added to the deposit account, become a part thereof and earn dividend from July 1st.

LOVELL WHITE, Cashier.

DIVIDEND NOTICE.

The Savings and Loan Society. 101 Montgomery St., Corner Sutter St., San Francisco.

For the half year ending June 30, 1908, a dividend has been declared at the rate of 4 per cent per annum on all deposits, free of taxes, payable on and after Wednesday, July 1, 1908. Dividends not called for are added to and bear the same rate of interest as the principal from July 1, 1903.

WM. A. BOSTON, Cashier.

TOO TRUE.

After our landlord had pocketed the thirty dollars which we pay monthly for our little apartment, he blushed painfully.

"Why do you color so?" I asked.

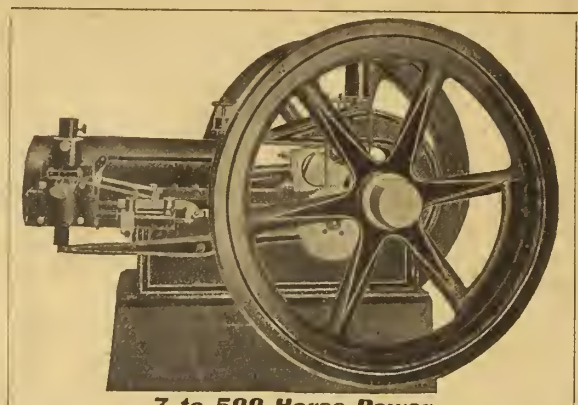
"Because I have a rent in my trousers," he murmured.

The Popular Western

Built In the West Best For the West

FACTORY AT YOUR DOOR

LONGEST LIFE LEAST FUEL FEWEST PARTS ALWAYS GOES



7 to 500 Horse Power

Irrigation Plants

Designed Constructed Installed

U. S. GOVERNMENT TEST

35 H. P. Western Engine Been Run 2 Years

RAN 87 DAYS DAY AND NIGHT

With One 20-Minute Stop to Lace a Belt

Send for the Copy of Test

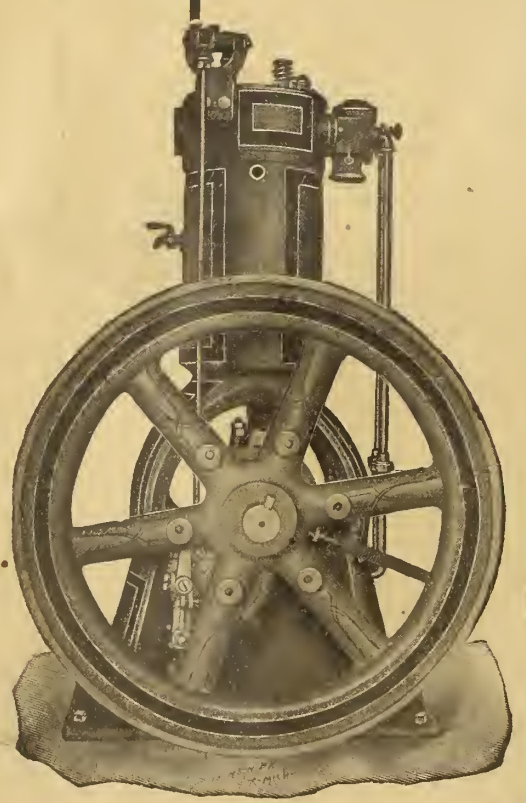
Western Gas Engine Co.

Works and Office:

908 to 932 No. Main St. Los Angeles, Cal.

Send for Catalogue.

That Small Engine You Have Wanted So Long



For a few weeks we will make special low prices on all our small engines.

HORIZONTAL AND VERTICAL
BE SURE AND SEE US

Norton Engine and Power Co.

201-3 No. Los Angeles St., Los Angeles, Cal.

THE

Latest Deep Well Turbine Pump

Guaranteed to deliver from 100 gallons per minute upwards, depending on the diameter and capacity of well, from a depth of 50 to 300 feet below the surface. Can be either belt driven or direct connected to electric motor as occasion requires.

Write for Catalogue 46B.

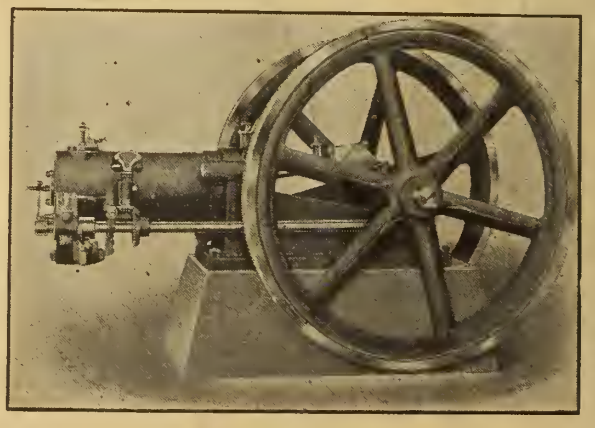
A deep well pump that has no valves or plungers to wear or get out of order, no gears, consequently no noise or breaking of teeth.

Compact, durable, always primed and ready to operate, constant flow, hence increased capacity of well.

This type of pump is fast taking the place of Vertical Steam, Deep well Plunger and Propellor Pumps.

Byron Jackson Iron Works

Main Office and Works:
Carlton Station
West Berkeley, Cal.



THE DOAK GAS ENGINES

Stationary, Portable, Hoisting and Marine

All sizes from 3 to 50 H. P. carried in stock at all times. If you want the best, the most reliable, the most economical and the simplest engine in the market, **write for our latest catalogue before you buy.** Take broad gauge local train and get off at Oak Street Station.

Doak Gas Engine Co.

Business Office: Rooms 86-87-88 Bacon Building, Oakland

Sales Office and Factory: 4th and Madison Streets, Oakland

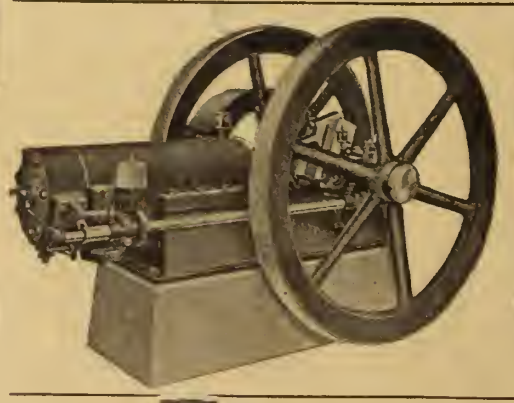
2 TO 50 H. P. HORIZONTAL

STOVER GAS ENGINES

The simplest and the best. We have had long experience installing pumping plants. We know our business. See us before you buy. 2 to 50 H. P.

LIVINGSTON & LEE

352 So. Los Angeles St., Los Angeles, Cal.



HERCULES DISTILLATE ENGINE

Heavy, Strong and Simple in Construction

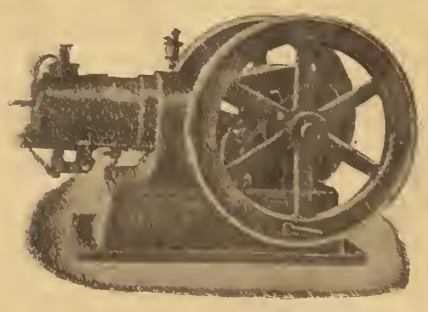
The Right Engine at the Right Price

Horizontal and Vertical; All Sizes. Buy direct from the manufacturer and save agent's commission. Send for our new Catalogue C.

The Hercules Gas Engine Works

Alameda, Cal.

Olds Gasoline Distillate Engines



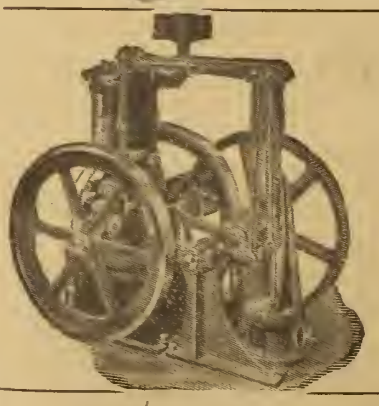
For all purposes, Stationary, Portable and Spraying. All sizes from 2 to 100 H. P. Simple, durable, warranted, are giving fine satisfaction to purchasers on the Coast. Prices and circulars mailed on application to

The Compressed Air Machinery Company

Dealers in all kinds of machinery

34 to 40 Jessie St., San Francisco, Cal.

SEND FOR BULLETIN NO. 15



A Handy Little Engine

Just the thing to run the feed cutter, the pump, the churn, the grinder, or anything on the ranch. It's well named

The Little Wonder

Write or call on

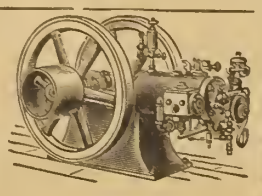
Wm. Gregory

602 No. Main St. Los Angeles, Cal.

A Gasoline Engine 35 H.P. and 2500-gal. Redwood Tank

Used short time; in good condition. For Sale at Half Price. A Bargain.

National Wood Pipe Co., 404 Equitable Bank Building Los Angeles, California



630.5
CA
Cal

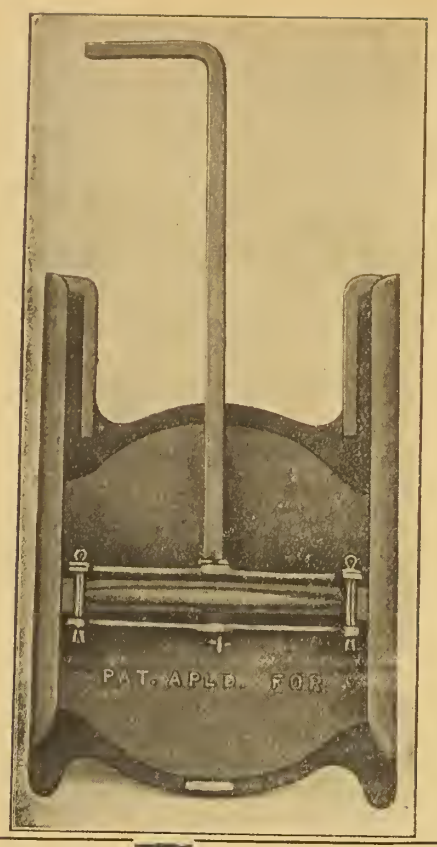
California Cultivator

Published Weekly — One Dollar a Year

Los Angeles — July 23, 1908 — San Francisco

Ornamental Growth Around the Home

Aside From the Attractiveness of Beautiful Forms of Plant Life, Trees and Vines Are a Material Aid in Maintaining a Comfortable Coolness During the Heated Term

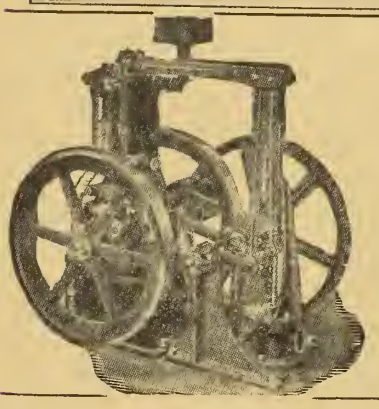


Pomona Pressure Gates

A Great Aid in Irrigation

These gates are made similar to the ordinary slide gates except that there is a locking device interposed to lock the cover in any desired position or to press the two faces together to make a WATER TIGHT joint, from either direction when closed. The parts are very simple, only a tapering screw with a split tapering nut socket. By turning the handle to the right tightens, and to the left loosens the cover or it may be removed entirely.

Pomona Mfg. Co.
Pomona, Cal.



A Handy Little Engine

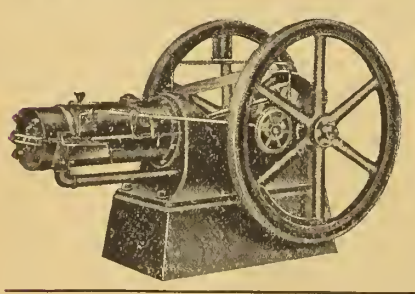
Just the thing to run the feed cutter, the pump, the churn, the grinder, or anything on the ranch. It's well named

The Little Wonder

Write or call on

Wm. Gregory
602 No. Main St. Los Angeles, Cal.

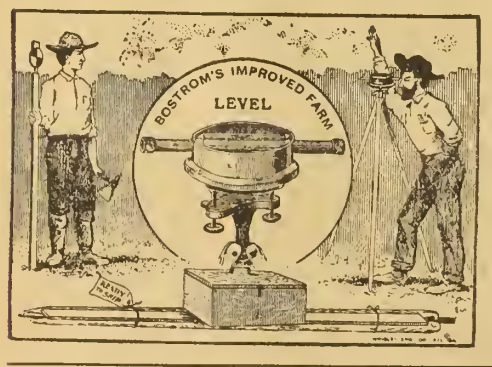
Commercial Gas Engines



Pump More Water

a given height with one gallon of No. 2 distillate than our competitors. Send for Bulletin No. 11 and see how we do it.

Commercial Engine Co.
953-955 No. Main St. Los Angeles, Cal.



BOSTROM'S IMPROVED FARM LEVEL

Used for irrigation and drainage work. Cheapest and best level yet invented for farm use. Has the latest patented improvements in simplicity and usefulness. Can be operated by any one. Price including telescope tripod and target rod $12.50.

PALACE HARDWARE COMPANY
531 Market Street, San Francisco
Coast Agents. Send for Circular

From photograph showing amount of

Ten-Inch Pipe

made by four men from 8 bbls. of cement in 9 hours — 280 two-foot joints, or 560 feet. This pipe was made with the

"K T" Moulds

An equal amount can not be made with any other tools in the same period of time. Write for "Brown Book" and price list. **KELLAR & THOMASON, Covina, Cal.**

500,000 Feet of

Water Pipe and Well Casing

All sizes, any amount. Special Prices while it lasts. Write or Phone for Prices.
Adams Pipe Works 2025 Bay Street, Los Angeles, California
Phones: F1917; Broadway 1264

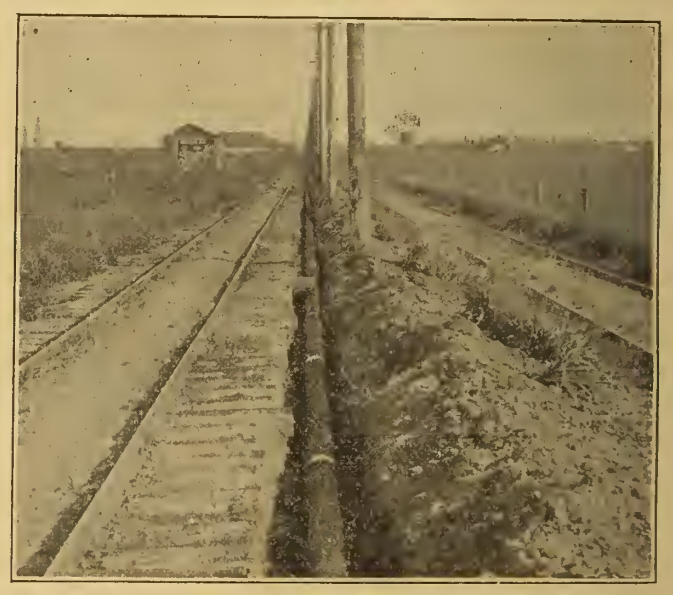
MONITOR ENGINES

Economy and Simplicity

Far in advance of competitive engines. Don't fail to personally inspect this engine before buying. Popular priced. Handsome illustrated booklet on request.

Arnott & Company, Inc.

112-114-116-118 South Los Angeles St. LOS ANGELES, CAL.



Wood Pipe

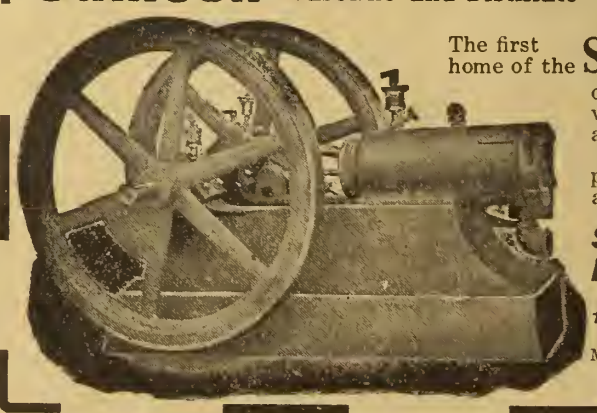
Made from California Redwood or selected Washington Douglas Fir

2 Inches to 10 Ft Diameter

National Wood Pipe Company

San Francisco Office
318 Market Street
Los Angeles Office:
404 Equitable Bank
Northern Office:
Olympia, Wash.
Salt Lake City:
Dooley Block
Address Nearest Office as Above.

Samson Gasoline and Distillate Engines



The first home of the **SAMSON** engine is a large one. It's second home, which is everlasting, is a happy one.

They may be compared with the sea—always ready to roll.

Samson Iron Works
Office and Factory:
1100 to 1198 Aurora St.
Stockton, Cal.
Market and 1st Sts., San Francisco
Branch: 920 J St., Fresno

A Railway on the Ranch

Saves Much of the Hard Labor

The equipping of the ranch with a ***Portable Railway*** is a very ***Profitable Investment*** and ***not*** very expensive.

Our booklet S. F. 60 gives several suggestions for applying it to the Dairy and Ranch.

Works at Koppel, Penn.

ARTHUR KOPPEL CO.

212 So. Los Angeles St.
Los Angeles, Cal.
Chronicle Building
San Francisco, Cal

Eastern Offices:
Pittsburg
New York
Chicago
Boston

When writing advertisers, mention Cultivator.

California Cultivator

Vol. XXXI—No. 4 Los Angeles, California, Thursday, July 23, 1908 Subscription $1 a Year

Questions and Answers on Hog Cholera

A Series of Instructive Replies Regarding This Dread Disease Issued by the Veterinarian of the Department of Agriculture of the Philippine Islands

THE Philippine Agricultural Review recently contained the following questions and answers on cholera. They were written by Dr. David G. Moberly, veterinarian of the Bureau of Agriculture of the islands. They are in no sense technical and for the crudest of the farmers of the Philippines. In the article there is such a fund of information that we give it in full.

HOG CHOLERA.

Question 1. What is hog cholera?

Answer. Hog cholera is a very highly contagious disease affecting swine.

Question 2. Does hog cholera exist in the Philippine Islands?

Answer. Yes. The disease has been found in every part of the Archipelago where hogs are raised.

Question 3. Is the disease of much importance here?

Answer. Yes. The loss sustained by this country through the death of swine by cholera amounts to many thousand pesos annually.

Question 4. Do all swine affected with cholera manifest nearly the same symptoms?

Answer. No. Many of the symptoms presented in different outbreaks and among different swine in the same outbreak are entirely different. This fact has led many veterinarians who have studied the disease to divide it into three forms.

Question 5. What are these three forms?

Answer. First, the septicemic form, which kills very quickly, and causes but little change in the tissues; second, the pulmonary form, known as swine plague, in which the principal changes are found in the lungs; and third, the intestinal form, usually spoken of as swine fever or hog cholera proper.

Question 6. Are all these forms of the disease ever present in the same herd of swine?

Answer. Yes; but usually they are not very distinct.

Question 7. What are the symptoms presented by hog cholera?

Answer. In the acute or septicemic form, the animal, without showing any previous symptoms, suddenly ceases to eat and becomes dull. Soon a very high fever is present, accompanied by rapid and labored breathing. Blood and mucus may pass from the nostrils. The animal vomits, staggers and falls down. Death usually takes place in from three to ten hours from the time the first symptoms are noticed. In the pulmonary and intestinal forms, which are less acute than the septicemic form spoken of above, the animals affected gradually lose their appetite and become depressed and weak. The back is arched, the head lowered and a short, painful cough is present. There is a moderate fever; a thin, watery discharge from the eyes and nose which later changes into a thick, sticky semi-fluid substance, which, upon drying, often completely closes the eyes; the breathing is rapid and of a pumping, panting character. The mucous membranes about the eyes, nose and mouth change to a dull, dirty blue, and red blotches appear on the skin, covering the underside of the body, the inner side of the limbs, and the area close behind the ears. The eyes are sunken, of a lead color, and often show irregular, reddish lines representing enlarged blood vessels. The animal is constipated during the first stages of the attack, but soon a characteristic greenish, ill-smelling diarrhea sets in. Death takes place in from three to ten days.

Question 8. If an animal that died from the effects of the septicemic form of hog cholera be opened, what changes from the normal would be noted?

Answer. In many instances no alterations can be seen without the aid of a microscope. In some cases on the membranes lining the thoracic and abdominal cavities small red spots can be seen. These red blotches might also be noticed just under the skin on some parts of the body, in the walls of the intestines, in the substance of the kidneys, and in the lymphatic glands.

Question 9. What changes in the tissue are found upon opening an animal dead from the effects of the less acute forms of the disease?

Answer. The changes mentioned above are present, and in addition the spleen is enlarged, soft and dark colored. Portions of the lungs may be very dark, nearly black in color, and upon cutting into these areas a bloody fluid mixed with pus is found. The mucous membrane lining of the stomach and intestines is much inflamed and reddened. In the lower portions of the small intestines, in the caecum, and in the large intestines numerous ulcers are found. These ulcers, which vary in size from one-eighth of an inch to 2 inches in diameter, project above the surface of the mucous membrane, are irregular in outline, and have a yellowish, black color. All the changes described above are not always found in every case examined.

Question 10. What, then, is the most important thing to look for in deciding whether the animal has died of hog cholera?

Answer. The ulcers in the intestines, for if the animal has died with cholera (other than the acute form) the ulcers will always be present to a greater or less extent.

Question 11. What should be done when swine commence to die of a disease supposed to be hog cholera?

Answer. The sick swine should be killed and burned. The well ones should be removed from the place where the sick ones were running, and should be divided into small lots and confined. They should be observed closely and if any show the least indications of not being well they should be removed from the rest. Each day all swine should be dipped in a 2 per cent solution of creolin, or some other similar disinfectant. If the facilities for dipping them are not at hand, they may be sprayed or washed with the same solution. The lots and sheds where the swine are kept should also be sprayed or sprinkled daily with a disinfectant. Healthy swine should not be allowed on grounds or in buildings where sick hogs have been until these grounds and buildings have been thoroughly disinfected. Often where the infected area is so large that it is impracticable to apply disinfectants it may be plowed and cropped, which will destroy all cholera infection the soil may contain.

Question 12.—How long after hogs are exposed to hog cholera do they commence to show the first symptoms of the disease?

Answer. From seven to fourten days.

Question 13. In an outbreak of hog cholera what percentage of the swine attacked by the disease recover?

Answer. About 5 per cent.

Question 14. How is hog cholera brought from one section of the country to another?

Answer. In most cases by sick animals being transported from one district into or through another.

Question 15. How is a non-infected herd of swine usually infected?

Answer. In the majority of cases this is brought about by an animal which has been exposed to the disease being purchased at some place more or less distant and immediately turned among the non-infected swine. In a few days the newly purchased animal is sricken with cholera and infects the whole herd. In some cases a stray or wild hog contracts the disease and in its wanderings infects all the swine in that section of the country. Infective material may be brought to the herd by carts or other conveyances which have passed through an infected district, or by carts which have been used to transport sick swine. The infection may also be carried to the herd on the feet of men, dogs or other animals. Birds often carry the infection a long way.

Question 16. How may birds carry the infection of hog cholera?

Answer. By carrying small pieces of flesh torn from carcases of swine dead of hog cholera and dropping this flesh where healthy swine will find and devour it.

Question 17. How should a healthy herd of swine be managed so that they may be kept free from hog cholera, even though this disease be present in the locality?

Answer. They should be confined by a double fence to protect them from diseased hogs without. No swine that have not been held in quarantine for at least four weeks, and found to be healthy at the end of that time, should be placed with the well ones. The caretakers of the healthy herd should not assist in the care of any other swine. Nothing should be taken into the inclosure where the hogs are kept that has been in contact with sick swine, or in an infected district. Isolate any animals that show the slightest ysmptoms of disease.

Question 18. Is there any cure for hog cholera?

Answer. No.

* * *

The recent investigation by the U. S. Department indicate that a cure is now very probable.

Riverside people are complaining because of rolls of butter which are often four ounces short of the two pounds weight which is supposed to make up a roll of butter. Unless this shortage of weight is plainly indicated on the wrapper of these packages we do not think the people of Riverside will have much trouble in securing a correction of the weights.

The preliminary estimate of the acreage planted in corn is 100,996,000 acres, an increase of 1,065,000 acres, or 1.1 per cent, as compared with the final estimate of the acreage planted last year.

Irrigating Hose

12oz. Canvas Coated or Plain. Good for several seasons.

1¾ Inch
2½ "
4 "
6 "
9 "

3 Inch

Galvanized or Brass Couplings.

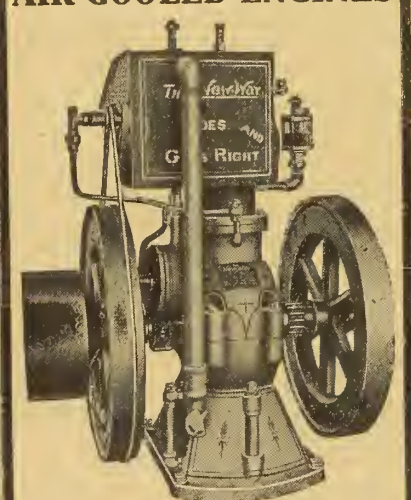
Prices on Application

Tents, Stack Covers, Picking Bags

The Wm. H. Hoegee Co.
INC.

138-140-142 So. Main St., Los Angeles
BOTH PHONE EXCHANGES 87

THE NEW WAY AIR COOLED ENGINES



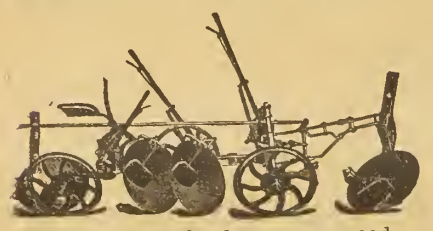
The first and only SUCCESSFUL AIR COOLED Gasoline engine manufactured

HENSHAW-BUCKLEY & CO.

Distributers for California Nevada and Arizona

San Francisco 219-221 Spear St. — *Los Angeles* 335-337 E. Third

EMERSON DISC PLOWS



Plow your land now—no need to wait until the rain softens it. The Emerson Disc Plow will plow it, and you will get larger crops next year.

Some Disc Plows are better than others—the Emerson is the best. Let us tell you why it is the best. Write us for information.

Newell Mathews Co.

Los Angeles and Market Streets.

LOS ANGELES, CAL.

Orange Seed Bed Stock

Fine, Large, Healthy Stock For Sale Cheap. Call on or address

T. J. Locke, 27 Union Avenue, Alhambra, Cal.
P O. Box 168. Home Phone Black 177

Orange Seed-Bed Trees

Sweet and Sour Stock. Plant now.

SOUTHLAND NURSERIES

F. H. DISBROW, Proprietor
R. F. D. No. 1, PASADENA, CAL.

Phones: Main, 949 Home, 2520

With the Citrus Gro[illegible]wers

HOW ORANGES ARE AUCTIONED.

THE following originally in a Boston paper and reprinted in a Tulare county paper, is an interesting account of the manner of handling of oranges in the Eastern auction:

A mile of boxed oranges in one long mass is the luscious spectacle to be seen almost any morning now within the walls of a big freight house that stretches its 600 feet of length into the Fitchburg terminal yards of the Boston & Maine railroad from the Charleston end of Warren bridge.

As a matter of fact the oranges daily on view would reach much more than a mile, say nearer two miles, if the boxes, piled high over nearly the entire floor space from end to end of the building were strung out in a double row three boxes high, instead of in 8 or 10 rows, as they are usually arranged.

Such a mammoth display of oranges may well excite the wonder of one who views it for the first time. The beautiful yellow fruit makes one's mouth water. It is not oranges alone that are to be seen, thousands of boxes of lemons are piled there, too, as well as great stores of golden-hued tangerines and large round grapefruit.

The big freight house is the special nabitat of the Boston fruit auction, and the great stacks of fruit piled within it come direct from California by fast refrigerator trains, to go under the hammer of the auctioneer.

This Boston fruit auction is a big institution in its way, and for many years nas been an important feature of tne commercial life of the city. Through it not only Boston, but most of New England, parts of Canada and tne Maritime provinces are daily supplied with fruit of different kinds. Every morning of the week throughout the year, with the exception of Saturday and Sunday, large consignments of oranges, lemons, tangerines, grapefruit, peaches, pears, plums, grapes, cherries and other pomological riches of California pour into the Boston market, each variety in its own season.

The auction business done there is vast in volumne every day. Two hundred and 300 buyers attend the auctions, and there is some spirited bidding. Thousands of tons of fruit are knocked down in the space of a few hours to the crowd of buyers, who dispose of it at both wholesale and retail.

In midwinter the season of California oranges, lemons, tangerines and grapefruit is at its best, and the sales of these constitute the whole business of the fruit auction.

The freight house is divided into two sections for the purpose of the fruit auction. On the lower floor, for the whole length of the building, the fruit is deposited and arranged in carload lots, according to grade and quality in long tiers six or seven boxes high, the top box of each tier being uncovered in order to show the size and quality of each lot.

The auction sales are held in a large, spacious hall in the second story of the freight house, added for this special business. There is a wide rostrum for the auctioneer at one end of the room, with an auction block above all.

Representatives of the Boston receivers of the fruit, to whom it is consigned by the California shippers, and the auctioneer's clerks sit at the desks keeping tab on the sales. In 15 or 20 rows of chairs that fill the b[illegible] hall is the crowd of buyers upon the business on hand.

[illegible]dy of the intent [illegible]ce

The fruit buyers get to the pl[illegible] early in the morning and put in a pr[illegible] liminary hour or two looking over the tiers of fruit displayed on the lower floor.

Each one carries an auctioneer's catalogue descriptive of the kind and quality of the fruit and the amount in each lot to be sold, the different lots being designated by numbers and sold under those numbers.

The buyers pass from pile to pile through the long rows critically examining the fruit in the open sample boxes. From 9:30 to 12 are the hours of the auction sales. When the buyers finish their inspection of the fruit all hands mount the stairs to the hall above for the sales.

To see and hear the Boston fruit auction in full action is an experience well worth the time given to it. The people who fill the buyers' seats make up an interesting assemblage. In the front seats are seen a big number of big fruit dealers from the market district and elsewhere in Boston, representatives of large grocery houses, and brokers acting for fruit merchants in many parts of New England, all of whom buy frequently by the carload.

Back of these heavy weight traders are ranged a large crowd of push cart hucksters and peddlers who may boast the ownership of a horse and wagon—Greeks, Italians, Armenians, Hebrews, Yankees, Irish,—whose talk is babel. Good nature reigns in that international gathering. All are expert buyers of fruit, and it is simply business with them the whole time they are at it.

At the first auction business moves at wonderful speed. The tone of the auctioneers, the bidding of the buyers the announcement of sales, the calls of the clerks, everything is of the rapid fire order. There is not a minute wasted there; the man who wants to buy fruit must act quickly if he would get in the game.

Sharp at 9:30 on a recent day auctioneer J. C. Macomber, the first up mounted the rostrum, and with a sounding whack of the gavel on the pulpit like block announced the opening of the auction. Then he started in at once on a whirlwind plea for bids, and fruit went with a rush After selling several cars of oranges Mr. Macomber gave way to the second auctioneer, Frank L. Ripley.

Mr. Ripley, a bundle of nerves and energy, was stripped for the fray. Coat. collar, vest, cuffs and necktie, and even suspenders were peeled off, and with shirt sleeves rolled up above the elbows he dashed into the task of taking the dollars out of the pockets of the buyers of 11 cars of oranges and lemons. It was touch and go at a mile-a-minute clip with him.

A star rapid fire team of the vaudeville stage is as an ice wagon to a racing motor car in comparison to the fruit auctioneer in conversational speed. The outsider cannot understand a word in ten. It is all Fegee or Choctaw to him. But it is good, plain, understandable English to the crowd of push cart men and peddlers in front. At different stages during the ceaseless torrent of language pouring from the mouths of the auctioneers the push cart men got worked up to a high pitch of excitement in

SAMSON WIND MILL

Have double gears, removable bearin[illegible] and center lift, which double the life [illegible] the mill. They will last longer, pum[illegible] more water and give better satisfactio[illegible] than any other WIND MILL.

This is an up-to-date Sub-structu[illegible]e Tank and Wind Mill outfit complet[illegible] substantial, economical and attracti[illegible] We build all kinds. Write us or o[illegible]r general agents for full information a[illegible]d prices, description &c., before purcha[illegible]- ing.

The STOVER MFG. CO.
FREEPORT - ILLINOI[illegible]S
30 California Avenue
CRANE CO., LOS ANGELES and SAN FRANC[illegible]SCO
General Agents for California

Citrus Trees

TRUE TO NAME

And embracing all the standard sorts, are to be had of our establishment. Bear in mind that we are the largest growers of Citrus Trees in the world, and that our stock has been awarded the gold medal at every world's fair in the world where we have shown. Our fine booklet, containing 50,000 words and over 100 illustrations, gives you all the points on Citrus Culture. Price 25 cents. Can we send you a copy?

San Dimas Citrus Nurseries
San Dimas Cal
R. M. Teague, Prop.

THE "BOSS" Tree Protecter

Made of Yucca Palm

Is cheap, durable and quickly put on the tree. It prevents Rabbits from destroying your trees. A sure protection against frost, sun-burn, grasshoppers or dry winds. Can be easily removed; will last for years.

Send for samples.

Prices

12 inch long,	$ 9.00	per 100
14 inch long,	10.00	per 100
16 inch long,	11.50	per 100
18 inch long,	12.50	per 100
24 inch long,	15.00	per 100
30 inch long,	17.00	per 100

Agents Wanted Everywhere

YUCCA MANUFACTURING COMPANY
1380 Willow Street Los Angeles, Ca[illegible]

their eagerness to get a bargain. They shrieked out their bids in shrill voices, arguing all the time with each other or the auctioneers gesticulating wildly with the catalogues in hand, waving to and fro above their heads. A splendid, realistic Roman crowd they would make for the play of Julius Caesar.

When the auction closed about 600 boxes of oranges and lemons had been sold. But this happened to be a poor day in the matter of business. Often as high as 30 cars of oranges are sold in a day. That is about 12,000 boxes, something more than 384 boxes being counted to a car. This would make fully 120,000 dozen oranges disposed of at a single sale.

About 2000 cars of oranges are sold at the fruit auction in the course of a year, or more than three-quarters of a million boxes, representing at a conservative estimate 10,000,000 dozen oranges. Although 3000 carsloads of fruit of all kinds are auctioned off there every year.

Only California fruits are sold at the auction, those from Florida, the West Indies and from Spain and Italy, Malaga and other varieties of grapes coming across the ocean from the two latter countries being disposed of at auction rooms on State and Clinton sts. A large part of the Florida oranges and grapefruit, however, is consigned direct to commission merchants in the market district.

Of the California fruits, the cherries begin to come into the fruit auction the latter part of May. They are succeeded by the peaches, pears and plums and later comes the grapes, principally the Tokays, of which about 325 carloads pass through the auction every fall season.

But California oranges have come to be an all-the-year-round fruit in Boston. They are always arriving, and there is no day in the year when oranges are not sold at the fruit auction. It is estimated that each car of fruit disposed of there brings in $1000, and that a total of nearly $8,000,000 worth of it is sold at the fruit auction during the 12 months of the year.

CONTRAST OF FRUIT GROWING.

In a recent issue the National Nurseryman contrasts citrus fruit growing in Florida and California as follows: ,

The two great citrus fruit sections, California and Florida, while alike in certain features, present more contrasts than resemblances. It was recently my pleasure to visit the two successively for the purpose of investigating the citrus fruit industry, and comparison was inevitable. The striking contrasts in the pursuit of this industry in the two sections seem to result from a few fundamental differences, especially those of climate, inhabitants and capital.

The climate of the citrus section of these two states, while similar in being more or less free from frost—though never from the fear of it—differs widely in humidity. California is so dry and arid that irrigation is essential, while Florida is humid even to excess. This large difference alone is the cause of many lesser ones. For instance, the hot, baking sun of the cloudless California summer makes a dust mulch necessary to conserve the moisture, hence clean and thorough tillage is the rule in the citrus groves. Evaporated water can, to be sure, be replaced as necessary by irrigation, but water is too expensive and often too scarce to be used recklessly, and as much as possible is conserved by cultivation. But in Florida no such compelling reason exists for thorough cultivation, and the groves are consequently weedy, grassy and untidy. The humidity promotes not only weediness, but an inclination in the man to let them have their way; and slackness having thus insinuated itself, appears again in the carelessly pruned trees, whose roughness contrasts strongly with the beautiful symmetry and uniformity of California trees. Then again, irrigation requires skilled and intelligent labor and this kind appeared to be commoner in California than Florida. The Japanese is certainly far superior to the negro.

California is full of well-to-do people, who have gone there because of ill health, and attracted by the outdoor life have turned to orange growing. The industry has thus been built up to a large extent by people of more than ordinary training, ability, and means, and this is strongly reflected in the strictly modern methods of handling the groves and marketing the crops. Coming from the cities, the growers had no preconceived notions about fruit raising, but depended largely on the publications of the agricultural press and experiment stations, with strikingly successful results. Being thus guided, and acting on sound business principles under the direction of an extensive and remarkably successful fruit union, they have concentrated their efforts on a very few varieties, like the Washington Navel and Valencia among the oranges, and the Lisbon, Eureka and Villa Franca among the lemons, producing immense quantities and absolutely controlling the market for these sorts. In Florida the varieties of oranges grown are far more miscellaneous, and do not make as imposing a figure on the market even comparatively to the amount produced.

Very few lemons of any sort are grown, but more attention is given to grapefruits than in California, and the best and intensest development of the citrus industry in the State promises to be along that line. There is noticeably more enthusiasm among the growers of California than those of Florida. In the West every man is a promoter—whether a real estate dealer or not—eager to show the visitor about, and fill his ear with the golden prospects of the country; while comparatively little of this aggressive and exultant spirit is displayed in the South. The average Florida grower is more often a son of the soil, reluctant to adopt new machinery and methods, and content to put a product on the market a shade or two less than perfect.

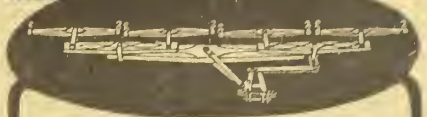
The frequent large size of the citrus groves in California is very impressive to the visitor, several thousand acres in some cases being under one management, and indicating unmistakably the presence of abundant capital. In Florida, on the other hand, groves of a hundred acres are rare indeed, and small plantations the rule. Thus it has come about that on the one hand superior and uniform methods of handling, marketing and advertising the fruit have been evolved, while on the other the individual taste or caprice of the small grower has had the upper hand, and uniformity in such matters as grading and packing is still unattained.

In each of the particulars examined, then, Florida is inferior to California, even as she is in the amount of citrus fruits produced; and though she is less developed than her rival, and for many years will continue to reduce the interval between them, the supremacy of California seems indefinitely secure.

OLD FRIENDS MEET.

"Hello, Bill, when did you get here from Arkansaw?" "Just the other day." "Well, how is it down there?" "Well, a little wetter than here. Why, say, Sam, where did you get that wagon?" "Say, Bill, that is a peach, yes, a Loula, see those wheels, four-inch tires, rivet rims, double strength axle and they say every piece of timber in that wagon is seasoned naturally, no incubators used in their factory, and you know, Bill, when we used to dig up hickory roots for mauls and dry them in the stove they were no good, and if we laid them up in the loft for one or two years they were like iron. Well, says I to the man, there is one wagon in town that is all nickory and he explained to me that it was not, but he took a saw and cut out a spoke and showed me that this wagon was oak spokes, with timber in them like we used to make fish traps out of. Well, says I, that is good enough for me and I just hooked on to it and here I am." "Well, Sam, I want a wagon so I will go down there and if they will make me the right price I guess I will take one. Let me see what is the name?" It is a Newton and I got it from the Los Angeles Vehicle and Implement Company, 110 & 112 North Los Angeles St. Well, don't forget the number, Bill, and you and Susan and all the children come over Sunday."

HEIDER



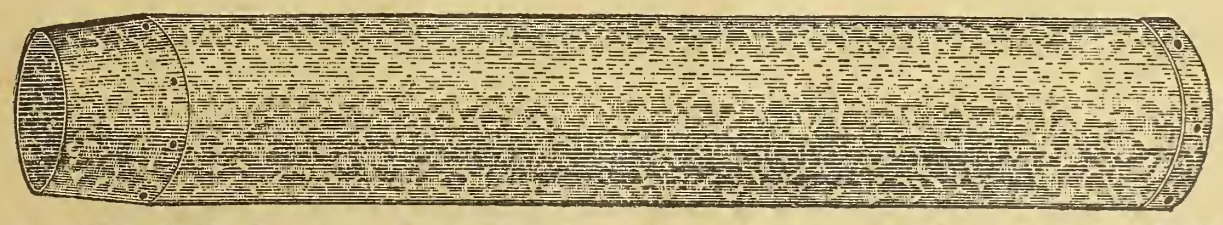
2, 3, 4 and 5-Horse Eveners
For SULKY, GANG and DISC PLOWS
Ask Your Dealer for "Heider" Eveners, or Write Us
HEIDER MFG. CO.,
Mfrs. of all kinds of Eveners, Ladders, Etc.
Dept. 3. CARROLL, IOWA.

For Sale--$10,000
Will Buy One of the
Most Attractive Country Homes in So. California

Located in San Diego County in the most healthful locality in the world, elevation 1500 ft. 28 acres in property, all good land, 18 acres in oranges, lemons, walnuts and fruits. Trees 12 years old. $4500 Two-story, hard-finished house, with modern plumbing and conveniences, situated on elevation overlooking entire valley. 2-story rustic barn, with shingle roof, stone foundation; brick store house; 100,000-gallon concrete reservoir, connected with pipe lines through orchard for irrigating; one tenement house in eucalyptus grove now rented; 3 wind mills, with tank painted and roofed; one pumping plant. Improvements on property cost present asking price. Is the finest place for many miles around. Special reasons for selling. Will accept part cash, terms for balance, or Pasadena or Los Angeles property as part payment, balance cash.
See
H. E. Carse
622 I. W. Hellman Bldg., Los Angeles

Citrus Trees
For Season 1908
Valencia, Eureka Lemons, Thompson and Washington Navels, Grape Fruit
C. L. McFarland & Co.
Riverside, Cal.

TENTS
Fumigating and Lemon Curing Tents our Specialties
Irrigating Hose, all sizes. Prices and Samples quoted upon application. Write your wants
Wagon Covers, Hay Covers, and Canvas Covers of Every Description.
Mellus Bros. & Co
Phones—Home, F 4871; S. S., Main 3500
250 East Fifth St., Los Angeles, Cal.



AMERICAN SURFACE IRRIGATION PIPE
SAVES WATER, GRADING AND TIME
The only way to Irrigate Alfalfa. Cheaper than Flumes. This is only one of our specialties. We make Riveted Water Pipe in lengths of ten feet from single sheets. Let us prove to you that we make Pipe and Tanks right. WRITE FOR CATALOGUE.
AMERICAN STEEL PIPE & TANK COMPANY
FORMERLY TALLERDAY MANUFACTURING COMPANY
636-7 Pacific Electric Building Los Angeles, Cal

Deciduous Fruit Culture

ENGLISHMEN LIKE OUR APPLES.

Six years ago the shipments of apples to London was only 25,000 barrels a year. Now the Englishmen take about a million barrels and want more. The shipments this year will be larger than ever before, and prices will be good. The Western apple shipper is beginning to find out how the Englishman wants his apples packed and is trying to accommodate him.

The old-fashioned apple-barrel is no longer to be tolerated, and all good fruit is now packed in boxes, every apple being wrapped in paper. But the eastern grower, strange to say, did not appreciate the new method of packing, and it is a fact that the great growers of New York have not been shipping as much fruit abroad for this reason as the growers of Missouri, California, Oregon, Illinois and Michigan.

The western growers evidently know their business. They sell their apples for $3 and $4 a box, and as it takes three boxes to make a barrel, this makes a very high price for the fruit. At $9 per barrel there is a fortune in apples. The English seem willing to pay the price, and even complain because they cannot get more.

Apples are no longer shipped from New York on slow vessels or tramp steamers, but are sent on the fastest ships affoat. The Celtic and the Cedric are the joy of the apple-shippers, because they carry enormous loads and make good time.

Inspector Bayard C. Fuller of the New York Health Department, who has attended to this part of the export trade of that port for seventeen years and more, is quoted as saying:

"New York is the best apple-yielding State, and growers should not be willing to take a back seat in this box idea. If they do they will find themselves confined to the cheaper grade of apples. Did you know that New York City sells as many apples for home use every year as are shipped abroad? Our average is 1,000,000 boxes or barrels a year here, and we should get the best."

Some attempts have been made to introduce the American apples into Germany, but the Kaiser treats them as he does most importations from this country. Every apple shipped must be absolutely without a flaw. If an apple has a speck on it it is assumed to be something that will spread contagion in the Kaiser's own applelands and ruin his crops.—American Farm World.

It is charged that some of the canneries of Central California have encouraged the report that it was impossible to market canned goods at any price this year in order to bear the market on green fruit.

DRYING PRUNES.

Prunes are usually gathered by shaking from the tree; sometimes on sheets, more often on the ground. Then after gathering they are sometimes graded, sometimes dipped as gathered. The grading is done over inclined planes of adjustable slats or over riddles of wire mesh of various sized openings.

Dipping.

Dipping is to thin or crack the skin so as to make quicker or more even drying of the fruit.

Dissolve one pound of best potash in 20 gallons of water and keep boiling hot. Put fruit in wire baskets or pails with perforated sides and bottom, and plunge in the boiling lye for a few seconds or a minute until fruit is cracked slightly. Riper fruit requires longer than the greener, plumper fruit.

Swing the basket at once to clear, cold water and rinse—though some do not rinse at all—then spread on trays.

Drying.

According to the weather the drying will be complete in one to two weeks. In case of fogs or rain stack the trays and when nearly dry enough, the trays may be stacked to finish.

"Sweat" in bins or boxes for two or three weeks before sacking or grading for boxing.

Finishing.

Before boxing they are sized—40 to 50 to pound, or 50s-60s, 60s-70s, etc., then "finished" or glassed in steam, hot water or sometimes a syrup made up of cull prunes. This is to kill insect eggs. Plump or swell the fruit; likewise the packer's profits.

More recently a method of canning the dry fruit and submitting to very high temperature, has been followed with success.

A CALIFORNIA DRYING YARD.

CODLING MOTH PARASITE.

Mr. M. De Hurst writes to the Woodland Democrat regarding his work with the codling moth parasite:

In your issue of the first instant I note an excerpt from the California Cultivator deprecating the services of the codling moth parasite, and advocating the continuance of spraying as a means of destroying the codling moth. Last season farmers and fruit raisers in various sections of the State received some of these parasites and it would be interesting to know their experience, if indeed sufficient time has elapsed to form any conclusion. Last fall I received from the horticultural department a small frame said to contain the eggs of the codling moth parasite. The instructions were to fasten the frame in a shed or on an apple tree, and await results. There were three trees in the garden which had borne full for several years, but the fruit was utterly useless, being honeycombed by the codling moth larvae.

Each season before the apples were as large as they are now, the work of the apple pest was apparent. The brown "borings" appeared at the calyx and often on the sides, indicating the presence of larvae within. But this season there is not a sign of the pest although the trees are so full of fruit that it had to be thinned.

It is too early to determine the efficacy of the parasite, nor can anything definite be determined from an isolated case like this. We can not tell whether the pest will appear later, or whether its absence, if permanent, is the result of the parasite's work or results from the pecularities of the season or some other cause. Others of your readers must have had experience with the pest and also with the pest parasite. It would be interesting to know their experience, and whether they have succeeded in destroying the codling moth, and if so, by what means.

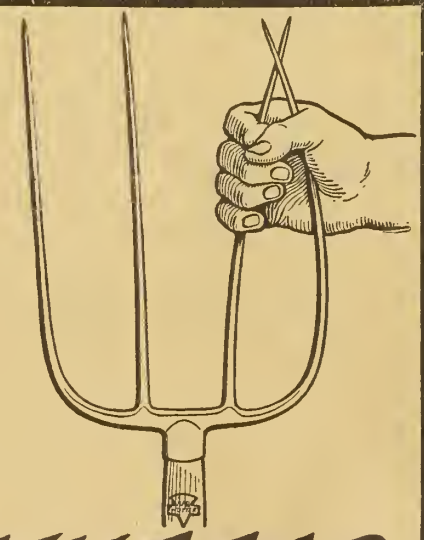
Marion county, Oregon, is puffed up over winning the $150.00 silver cup at the Salem Cherry Fair.

THE CHERRY AND PEAR TREE SLUG.

This insect did great injury to cherry, plum and pear trees in parts of Colorado last year. It is one of our easiest insects to destroy and no one who grows these trees should allow them to be seriously injured by it, writes C. P. Gillette, Entomologist, Colorado Agricultural College.

The slug is of a dark brown color, slimy in appearance, and does its injuries by eating off the green substance of the upper surface of the leaf, causing foliage to turn brown as if scorched with fire. There are two broods of this insect each year. The adult is a black, four-winged fly which begins to deposit its eggs in the leaves about June 1. This is done by inserting a sharp ovipositor just beneath the cuticle of the leaf where one egg is deposited; a little brown pimple can be seen upon the upper surface of the leaf. In about a week these eggs hatch and the little slugs crawl out upon the surface and begin to feed. In about two weeks more they become mature, crawl to the ground and spin little silken cocoons, where they remain for two or three weeks longer, and then hatch into another brood of black flies like those that began in the spring. These also deposit eggs in precisely the same manner as the preceding brood, but usually in far greater numbers, so that the principal injury is commonly done during August

The Temper of a Fork



Try the temper of a Keen Kutter Fork—spring it, twist it, pry with it. After you've *tried* it you'll be willing to *work* with it.

KEEN KUTTER

E. C. SIMMONS KEEN KUTTER TRADE ST. LOUIS MARK U.S.A.

farm tools *don't break*—each has a fine oil temper which makes it withstand strain and keep a good edge or point. The Keen Kutter trade-mark covers Forks, Hoes, Rakes, Scythes, etc. as well as all bench tools—Axes, Hammers, Saws, Planes, Adzes, Chisels, Augers, Bits, Braces, Gimlets, Bevels, Squares, Drawknives, Gouges, etc.

If not with your dealer, write us.

"The Recollection of Quality Remains Long After the Price is Forgotten."—E. C. Simmons.
Trade Mark Registered.

SIMMONS HARDWARE COMPANY (Inc.), St. Louis and New York, U. S. A.

Tanks Tanks

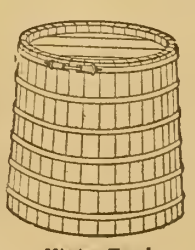
WINDELER'S PLANING MILL AND COOPERAGE

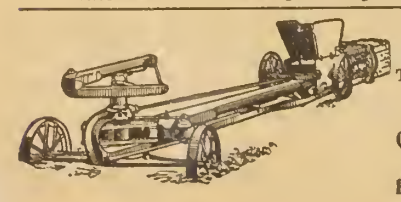
GEO. WINDELER, Prop

Water Tanks, Wine Tanks made from carefully selected stock by careful and experienced workmen. "Tanks that are well made last a long time." It will pay you to get my prices before buying.

Geo. Windeler

Wine Tank 144-154 Berry St. San Francisco, Cal. *Water Tank*





Lightning Hay Presses

The old reliable. In use 25 years. Meets the demand for

Strength, Durability, Capacity

Wood or steel pitman as desired.

Quick shipment can be made from stock at Pasadena

Kansas City Hay Press Co.

Pasadena, Cal. 523 Mill St., Kansas City, Mo.

and early September, when they often almost completely destroy the leaves of the trees, and at a time of the year when the trees can least afford to spare their foliage. It is too late for the trees to put out new leaves before winter, and without the service of the leaves at this time of the year to manufacture the starchy food material which is to start plant growth in the spring, the trees are likely to die. In the warmer sections of the State, the spring brood of this insect is already present in the orchards.

Remedies.

The slugs feed so freely upon the surface of the leaves that they are very easily killed by any of the arsenical poisons, such as arsenate of lead, arsenite of lime, or Paris green applied in moderate strength. One pound of the arsenate of lead to each twenty-five gallons of water, or one pound of the Paris green to one hundred gallons of water, will make a preparation of sufficient strength to promptly destroy this insect.

Sometimes it is necessary to make an application when cherries or plums are nearly grown, when it is not advisable to cover the fruit with an arsenical poison. In this case one can use white hellebore in water in the proportion of one ounce to three gallons. If the hellebore is used, it is a little better to apply towards evening. Try to distribute the spray as evenly and thoroughly as possible to all the leaves of the tree without using enough to cause it to run off to any great extent.

Where only a few trees are to be treated, one may use air slaked lime or fine road dust, throwing the dust very freely over the surface of the leaves. This remedy is not quite so effectual as the preceding, but can often be used with entire satisfaction.

There are in the United States about twenty-five kinds of nut-bearing trees which are notable for their beauty as well as for their valuable products, not only of food, but of the high priced timber they furnish as well.

The consumption of nuts is increasing rapidly, as is evidenced by the large and regular increase of importations. The demand for nuts and nut products is evidently growing much faster than the home supply is increased.

The San Bernardino County Horticultural Commission has commenced an active war against the Russian thistle.

Sonoma has a new fruit warehouse under construction.

California Horticulturally

FARMERS AND THE DEPARTMENT OF AGRICULTURE.

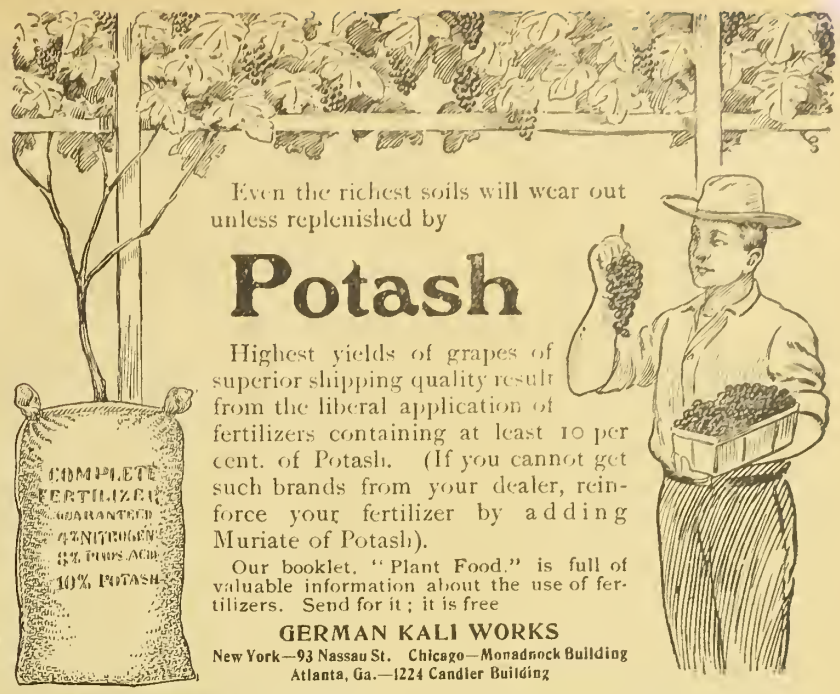
The fruit growers and farmers of California owe much to the Department of Agriculture for the great efforts which it has made in their behalf. This great department has ever been ready to listen to the needs of our great producing class and extend to them a helping hand. When the pear blight struck our great pear sections and threatened to wipe out one of the greatest of our fruit crops, it was the Department at Washington that sent out a corps of experts, and they went into the field and took up the work until a thorough job had had been made of it. Today, thanks to the instructions of these men, our pear growers know how to handle the disease, and while the pear industry has received a severe setback, it is still in the ring and California is yet shipping pears. When the peach blight, in its turn threatened another of our fruit crops, it was the Department experts who told us what to do to ward it off.

The orange growers of the State have been saved many thousands of dollars in annual loss by the experiments of G. Harold Powell, another agent of the Department, and this work it is stated is now to be extended to the deciduous fruit sections of the State. The experiments now being carried on into the proper and most effective and economical use of cyanide in the fumigation of trees, promises to be equally as effective. Beside these there are experts working on weed control, soils and their adaptation to crops, animals and their diseases, and many other branches all designed to make the toil and care of the farmer less and his income greater. Most effective work has already been done in all branches and not the least of these is the thrips investigation now in progress in Santa Clara county, which it is hoped will result in the discovery of some remedy for that destructive pest of the prunes.

THE CANADA THISTLE.

The Canada thistle, or as it is appropriately named sometimes the "cursed" thistle, has been reported from several parts of the State, and it is probable that it has obtained so firm a foothold that its extirpation will be very difficult if not impossible. Very many of our common and less harmful thistles are often mistaken for this weed, which is easily recognized when once seen. It attains a height of from one to three feet, and differs in its more slender habits, its narrower, thinner, paler, more curled and deeper cut leaves, less rigid prickles and smaller flower heads from the common or bull thistle. It bears numerous purple flower heads, each of which contains many individual flowers. It spreads from underground roots, which live from year to year and spread out in all directions. It is for this reason that it is enabled to spread so rapidly and is so difficut of extermination. These underground stems form buds at the joints which grow upwards and form new plants. If cut or disturbed each of these buds starts a new colony and every effort to rid the soil of it, unless performed with the greatest care, serves only to spread it. It will stand drought and rough treatment and is one of the worst of weeds to get established. No plant of it should ever be allowed to seed, and where it is found the roots should be turned up to the summer sun and kept from all water until they perish. Once thoroughly established it will rank with the morning glory or Johnson grass.

The Trabuca Canyon and San Jacinto National Forests in San Bernardino and Riverside counties will hereafter be known under one name, which is the Cleveland National Forest. This is in honor of ex-president Grover Cleveland, who was the first president to issue a proclamation establishing national forests.



Even the richest soils will wear out unless replenished by

Potash

Highest yields of grapes of superior shipping quality result from the liberal application of fertilizers containing at least 10 per cent. of Potash. (If you cannot get such brands from your dealer, reinforce your fertilizer by adding Muriate of Potash).

Our booklet, "Plant Food," is full of valuable information about the use of fertilizers. Send for it; it is free

GERMAN KALI WORKS
New York—93 Nassau St. Chicago—Monadnock Building
Atlanta, Ga.—1224 Candler Building

Meyer, Wilson & Co., San Francisco, Cal., are Sole Agents for the Pacific Coast

Placer Nurseries

We have now growing for next season's delivery a large stock of all leading varieties of trees and vines. We propagate only the best commercial sorts. Our trees and vines are the best that good care can produce and in their selection, propagation and growing we spare no labor or expense; and they are true to name. That is what you want.

Contract now the trees and vines you will want for next season's planting.

Write us.

Silva & Bergtholdt Company
Newcastle, California

TREE TANGLEFOOT

A Sticky Preparation Applied Directly to the Bark of the Trees

Will not injure trees. A band 5 inches wide and 1-16-inch thick cannot be crossed by any climbing insect pest. Remains sticky five to ten times as long as any other known substance. You can test it at slight expense, as no apparatus is required. Used by the carload in New England against the Gypsy and Brown-Tail Moths. In California it preserves prune orchards from the Canker Worm Wherever the Gypsy or Brown-tail Moths, Tussock Moths fall or Spring Canker Worm or Web Worm appear TREE TANGLEFOOT is of great value, and should be used when the caterpillars begin to crawl while they are very young.

Price 25c per lb. Liberal discount on quantities. The only safe and effective banding preparation. Send for testimonials.

THE O. & W. THUM COMPANY
Manufacturers of Tanglefoot Fly Paper Grand Rapids, Michigan

RUBBER SANDED ROOFING

BEST BY EVERY TEST

Our Booklet—"Roof talk"—together with samples of Rubber Sanded Roofing, will be sent post-paid upon request. Being absolutely rain-proof and sun-proof, Rubber Sanded Roofing is held in high favor by contractors and builders wherever it has been introduced—in Canada, Mexico and throughout the Pacific Coast States.

Let us put you in touch with our local agent in your community.

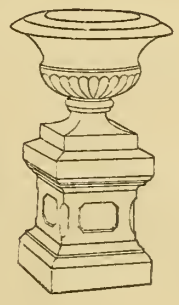
Pioneer Roll Paper Co. Department 11 Los Angeles, California
Makers of Rubber Sanded and Rubber Flexine Roofing and Refiners of Asphaltum

FRUIT TREES

We have the **LARGEST and BEST STOCK** of Deciduous Fruit Trees we have ever grown.

Armstrong Nurseries
ONTARIO, CAL.

Lawn Vase Mold



PRICE
$27.00

A. F. George
811 South Spring
Los Angeles, Cal.

General Agriculture

PROPAGATION BY CUTTINGS.

A CUTTING for propagation is an entirely detached portion of a plant, usuallly a shoot or part of a shoot, furnished with buds and leaves. When properly selected, duly prepared, and placed under favorable conditions, the cutting forms a callus, which resembles in some respects a wart on the human hand. From this callus roots will be emitted, and thus an individual plant is formed, which may again be increased to an extent corresponding to the number of parts eligible for cuttings which the plant can afford at once or in succession, writes Hugh Reid in Agricultural Gazette N. S. W.

For instance, if a plant be cut over level with the surface of the ground, and consequently be deprived of its nourishment from the roots, it will, notwithstanding, remain alive, and its buds will continue to attract the sap from the vessels with which they are connected, and will expand into leaves. These, as well as others with which the cutting may be furnished, will continue to perform their functions almost as well as before the separation of the plant from its roots —that is to say, they will elaborate the sap till all that can be drawn from the cutting is exhausted. It will continue to form celluar tissues, and so long as this is formed, it will naturally flow along the proper channels as far as possible. It will descend from the leaf by the vessels in the petiole or leaf-stalk, and by the inner bark of the shoots, depositing secretions and forming woody tissues in its progress. It is not, however, usual for the tissues organized by the leaves to be wholly monopolized by the stem and its parts above ground, for whilst a certain quantity is thus appropriated a considerable portion passes on to the roots and adds to their growth and extension. If a plant be 3 feet in length from a certain part of a shoot to the extremity of the roots, the sap elaborated by the leaves on the part deposits more or less substance throughout the whole length of 3 feet; moreover, if the soil be in a favorable condition, especially as regards temperature, an extension of the extremities of the roots is effected. If a cutting 6 inches in length below the leaves is made, presuming it to continue its functions as usual, the cutting will receive and appropriate the share of elaborated sap due to a length of 6 inches, while the tissue not so appropriated, and which would have extended 30 inches further towards the extremity of the roots, accumulates where the channels of communication with the latter are cut off, i.e., at the base of the cutting. Here it forms a callus of organized matter, which, under favorable circumstances, protrudes and ultimately assumes the form of roots, and the cutting has become a plant. This result, however, depends upon various circumstances, to which it is necessary to advert. The cutting requires to be of the proper age, inserted at the proper season, and in a suitable medium, and should afterwards be kept in a well-regulated condition as regards heat, moisture and light.

Selection of Wood.

Cuttings should be taken from healthy plants, and from such parts as are not in a weakly state, for if the shoots or branches are not in a condition to make a fair growth with a supply of nourishment from the roots of the parent, they cannot be expected to possess sufficient energy when made into a cutting to make a good plant. At the same time, excessively vigorous shoots accustomed to receive an abundant supply of nourishment, are not so well able to keep alive, when deprived of that supply, as others that have been less highly fed. Some kinds of trees, such as the willow and poplar, strike from either the old or young wood; but most strike more readily and make the better plants from well-matured shoots from the current year's growth. In the case of hard-wooded plants which are difficult to strike, considerable nicety is required in selecting the portion of the shoot suitable for a cutting, the wood of which is neither too old and hard, nor too young and soft. In the former case, roots are not readily emitted, while in the latter the cuttings are apt to damp off. A knowledge of the proper degree of firmness which the cutting should possess can only be acquired by practice, especially as this differs in different plauts. When not exactly known, it is well to insert cuttings of various degrees of firmness, and observe for future guidance the condition in which they succeed the best.

IRRIGATION CANALS, DOS PALOS, MERCED CO.

Time of Taking Cuttings off.

The cuttings of hardy deciduous trees and shrubs should be made after the fall of the leaf, and before the sap rises in spring, as the sap is then in a condensed state. As it expands by the increased warmth of spring, the buds swell and the sap is returned to form callosities, and the more readily if placed in soil that is moist and warm. The worst time for taking the cuttings of this description is when the sap is in full flow, and when the leaves from the buds formed in the previous summer are just expanding. At this period they evaporate the moisture contained in the leaves with great rapidity, and at the same time return organized tissue but slowly, so that before enough of it to produce roots is accumulated the cutting is exhausted. As a general rule, cuttings should be taken off either when tne plant is in a dormant state, or when it is active and has made a new shoot, with leaves so far matured as to be in the act of forming an abundance of woody tissue.

Preparation of Cuttings.

Cuttings of gooseberry, currant and some other kinds of plants, emit roots not only from the callus at the lower end of the cutting, but also along the sides. In these and other kinds of cuttings from deciduous trees, the buds on the underground part must be cut, picked or rubbed off, otherwise they will sooner or later push into shoots, and produce an inconvenient number of suckers. It may be observed that in the gooseberry and currant the leaves have chiefly performed their office when the fruit has ripened, and as this occurs early in the season, cuttings made at this time and planted in warm, moist soil will form roots before the winter, and will consequently be ready for vigorous growth early in the ensuing season, and before cuttings of the same sort inserted in spring could have formed a single root; thus the cuttings made early in the autumn will be nearly a year in advance of those planted in spring. These illustrations are quoted as familiar examples of what may be observed and taken advantage of in regard to the propagation of other plants.

In such cases the leaves must be taken off, otherwise they will evaporate the moisture of the cutting. When plants are difficult to strike by the ordinary mode of cutting off a portion of a branch or shoot for immediate insertion, it is a good plan to ring the shoot below a joint about midsummer; the returning sap being cnecked, a swelling commences above the ring and continues to increase till active vegetation ceases in autumn. The branch should be cut off below tne ring and laid in the soil till spring, in order that the swelling may be softened by the moisture of the soil, to facilitate the emission of roots. In the spring the cutting is taken up and the ringed portion cut off close to the underpart of the swelling; the cutting is then inserted in the soil to the proper depth, the top having been previously shortened to a few buds above the joint corresponding to the surface. The cutting is left until the autumn, and then removed to its proper quarter.

With regard to the preparation of evergreen cuttings, and the importance of allowing the leaves to remain on the cutting, some people prefer leaving them all. I find, however, that by so doing the leaves remaining on the cutting have a great tendency to damp off, and cause decay. It is common among practical gardeners to cut with a sharp knife or a pair of secateurs, very neatly under the bud or joint, and remove three or four of the lowermost leaves, then cut the leaves across the top to avoid taking up too much space, and also to prevent damping off. Then take a box or pan about 4 inches deep, put a few holes in the bottom of it, place some pieces of broken pots, charcoal, ashes or other rough material over the holes for drainage and fill up, first with a thin layer of leaf-mould, and place above a light layer of a compost of two parts light loam, one part leaf-mould, one part sand, and one part well-decayed manure and a little powdered charcoal, well mixed together; finally, fill up with pure clean river sand, seeing that the sand is free from decaying matter, as otherwise it will induce putrefaction. The sand is porous, and affords a ready passage for the spongioles (i.e., the soft white ends of the rootlets), yet being fine it retains moisture by capillary attraction. The sand contains very little nourishment, and, as a matter of fact, very little besides what may be dissolved in the water is required till the rootlets begin to be formed. The sand should also be free from oxides of iron. After firmly pressing the contents of the box, take a pointed stick or what is known as a "dibber," and insert the cuttings, taking care not to injure the bark when making the cutting firm with the stick. When the box or pan is filled place in a cold glass frame and keep the frame shaded and fairly warm for a short time.

Cuttings of hardy plants which strike in the open air are sometimes inserted by means of a dibber, but it is always better, when circumstances will permit, to cut off by a line a straight edge in the soil, and place the prepared cuttings against it, pressing the soil closely around them. In preparing the cuttings for the open air, such as roses, ligustrums, and a great many other trees and shrubs, it is advisable, after the cutting is ready for insertion, to tie each variety in small bundles, make a hole in the ground deep enough to allow the cuttings to be turned upside down, and cover all 4 or 6 inches deep for a few weeks. This causes the cuttings to callus very much more quickly; as soon as they have formed this callus, take out and plant where wanted in tne nursery, at the same time being careful not to expose the cuttings to the sun. A piece of wet bag should be used to prevent this exposure, which will blacken the callus and spoil the cuttings. The callus will not stand pushing into the soil and a little trench must be opened out and the cuttings laid in gently.

Live Stock and Dairy

CORRECT FEEDING.

THE assimilation of food should be as good as the appetite. The appetite needs training or controlling in both directions—enough food—not too much. Excessives and semi-starvation produce equally depraved physical conditions. Animals as well as people, can become accustomed to living on starvation diet. While gorging is wasteful from excess consumption, starvation becomes equally wasteful from lack of productive returns. Starvation or rather the reduction of food supply to merely enough to keep alive, leads to tranquility and stupidity, for the functions of the body are lowered to a minimum, the output of every kind is reduced to the lowest limit, for life must be conserved. The results of abstinence to produce a saintly degree of stupidity was well worked out in the Middle Ages, under a guise of religion. The infinite leisure of the monks produced little of worth.

Balance.

The underfeeding of animals takes from them force and aggressiveness, as well as vigor. The dairyman well knows that the sire that sends his food supply into rich blood and nerve force is going to be a fighter. The best sires are, therefore, the mean ones; not mean from inherent original sin, but from vigor and force of good red blood flowing in their veins. The balance between overfeeding and under-feeding must be carefully kept. It is possible to develop the stuffing habit in a horse or cow. I have known cows that would eat ten pounds of grain twice a day and not be fattened or increase in the milk yield. The feeding of young stock is safer when on soiling crops, as the bulk is great enough to prevent serious over gorging. In feeding youngsters on soiling crops, once a day is enough if they have some picking of grass. In walking and browsing along, they grow better than on the standing around a full rack to stuff. The assimilation of food gathered slowly seems to be more thorough and they do not learn to gorge themselves. The man that ate so much that it made him poor to pack it around, is but an example of the folly of overeating. Cows can learn to take quantities of food and pass it through their system half digested.

Stored Food.

A great producing cow can store her food against the future milk flow. Take a cow that is a heavy producer of butterfat; let her go for a year or two without breeding and then breed and dry her off for a couple, yes, more than a couple, four, five or six months; feed her along on a good grain ration to hold her in good order. When she freshens, begin to feed as fast as possible. The official tests should begin at six days. If she has been a good producer before, she will make a record of seven to thirty days on the stored food. Some cows will even make a big yearly yield if handled in this way. While I do not mean by this to say that the records are not an advance to dairying, I do mean that many a cow that makes a great record is sold on that record to disappoint her new owners, because they do not understand how to feed her for the test. The registration of cows gain is possibly only from the cows having the blood to perform. The records gain their value when the same cows come back year after year into the records, not from the sprinters that make a forced record and then retire. This is merely jockey work in the dairy.

Inheritance.

Davenport in his Principles of Breeding, says of the race horse that no part bred horse defeats the pure bred one in racing speed. "Blood will tell" every time and when it fails the hand that directs the food supply is at fault. The cow, herself, is a poor judge of the amount of food she can use and will often leave the portion of her food needed to balance up ration. It is necessary to watch the mangers for the left over, as it is to watch the feed box for the full amounts. The experiment was made of taking a cow that had been fed carefully for years on rich food, and surrounding her with an unlimited amount of the various foods, oilcake, gluten meal and the rest to see how she would mix them into a ration. The experiment proved the cow had no more sense in her eating than human beings; one day she ate ten pounds of oil cake, the next day none. The result of this was costly, for the cow became worthless from overeating of the illy balanced ration.

Mothers.

The children today at the family table are allowed to pick and choose their food with the result that it is not uncommon to see a five-year-old child eating a quantity of rich food that is far too great for its tiny stomach. Simple food carefully balanced is needed for the child. Half the dulness of boys complained about in school really is from overeating, while the girls have the starvation fad and are equally hard for the teachers to hammer new ideas into their heads. Bad temperd children are often the result of excessive meat eating. Sweetnss of disposition in a child comes from the simple food, and bad tempers and stubborness from the badly abused little stomach. An old Irish woman was excusing her bad tempered boy by saying, "Yes! Johnny was such a nervous temperature." Johnny was a glutten.

Temperament.

The food of a dairy heifer must be in keeping with her temperament. She does not require the rich foods that the beef heifer can handle to advantage. The dairy animal consumes far more protein, the alfalfa and green peas. Oil cake is the resort of the dairyman to furnish this food cheaply to her. Oil cake is little needed in an alfalfa country for the regular run of the cows; special animals that are producing beyond the amount the alfalfa can supply should have oil cake as it is a more concentrated form of food. The owner of a fine race of dairy animals must give up all idea that he can hire the knowledge of feeding and breeding to bring out the best in the herd. The cows must be studied as a race and then as individual animals. Not once or twice but many times. I can sit and watch the heifers in the field for hours and slowly learn the type of the next generation—the points that are being exaggerated in that lot of youngsters, that are not desirable—until the understanding comes of what the sire should look like that is to be used on that generation. It is the daily watching and observing that brings results in the herd.

Jersey Cows.

The owners of this race of cattle in their native lands are all small holders. The skill with which they breed and increase the number is shown. Every year about 2000 are sold for export. The total number of cows and heifers in milking is said to be 6728, with 803 two-year-olds, 2266 one-year-olds, 2455 calves. This indicates a high degree reproduction. Think of the skill and care to keep vigorous these few head of cattle in a country where no new blood has been introduced for over 200 years. The dual purpose cow has no place on the Isle of Jersey. This old idea that a cow can serve two purposes, be a butter machine and yet produce a steer of feeding quality still lingers in the mind. The strangest part of this matter is that often the men most stubbornly wedded to this idea are men that have handled cattle for years. Why dairymen should persist in holding these views seems strange. The Shorthorn breeders of Kentucky look with scorn on a dairy bred cow. They exclaim that the introduction of the dairy breeds into the adjoining States has ruined the farmers' cattle. It has, too, for beef purposes. Milk is more than beef to many a man's pocket in this day.

Butter—Beef.

I have in my hand a letter asking if I can recommend some one that has butter beef cows for sale; I cannot, for I have never seen any of them. Sometimes a single cow may be found that will give milk enough for a family and throw a fairly good steer. She will not breed true to this purpose, no matter how she is bred—the results will be a heifer that will throw either to beef or to butter. The type is transitional, not fixed, as a characteristic.—M. E. Sherman.

"A JOKE."

In replying to a subscriber's inquiry as to possibilities of swine raising in California, the Denver Field and Farm says:

"The California hog market is a good deal of a joke as you have suggested. It is not so easy to haul fat porkers 2000 miles to market in a roundabout way over narrow gauge railroads, transferring to broad gauges and then sell the goods at Denver prices. Lux and Miller are raising hogs from one end of California to the other and so are other people."

If the California "hog market is a joke" it is a big enough one that California hog raisers are wearing the smile which won't come off. That "narrow gauge railroads" is also rich. "Lux and Miller" will doubtless be pleased to learn that their hog yard is 700 miles long.

If the office devil of the Field and Farm had read proof on that item he would have had intelligence enough to have thrown it in the hell box.

The editor is plainly away on his summer vacation.

WOMAN AND CYNIC.

Woman has the courage of her deficits; seldom of her defects.

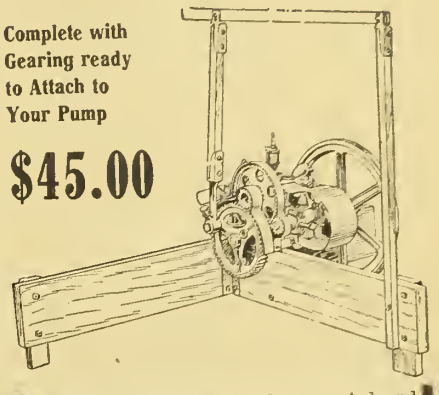
The hair was given to woman long to give her an occupation.

The great advantage to man in marriage is that it protects him from his pleasures.

The petticoat in need is a petticoat indeed; however masculine a woman is, she reverts to the woman when necessary.

Anthrax Cure, Milk Fever Outfits. See O. J. Weber Co., 555-557 S. Los Angeles street, Los Angeles.

Genasco
Ready Roofing
Made of Trinidad Lake Asphalt —the permanent weather-resister.
Insist on Genasco. Write for Book 35 and samples.
THE BARBER ASPHALT PAVING COMPANY
Largest producers of asphalt, and largest manufacturers of ready roofing in the world.
PHILADELPHIA
New York San Francisco Chicago

Aermotor
Gasoline Engine
Complete with Gearing ready to Attach to Your Pump
$45.00

Will pump all the time, wind or no wind, and deliver as much water as an 8 ft. Aermotor in a good wind.
From 225 to 1600 gallons per hour, depending on height water is to be raised.
Air cooled, uses Gasoline or Distillate.
A reliable, durable engine at a very low price. Can You Afford to be without one.
Send for Special Circular.
Tanks Towers Pumps Distillate Engines
Smith-Booth-Usher Co
Machinery and Supplies
Successors to
S. J. Smith Machinery Co. and L. Booth & Sons
212-214 S. Los Angeles St., Los Angeles
Home, Ex. 1090—Sunset, Main 1090

PURE BRED BERKSHIRES
Young Stock For Sale
Wm. H. Bird Box 6, Compton, Cal.

EDISON PHONOGRAPHS, VICTORS, ZONOPHONES
Records and Supplies, delivered at your nearest railroad station upon receipt of full retail price. Write for particulars and ask for catalogue. Peter Bacigalupi & Sons, 1113-15 Fillmore St. San Francisco

FARMERS' BOOKS
Order Through the Cultivator

FEEDS AND FEEDING.—By Prof. W. A. Henry. Is a thorough, accurate and reliable handbook for students and stockman, giving most practical and useful knowledge on plant growth and animal nutrition, feeding stuffs, feeding animals and every detail pertaining to this important subject, indispensable to every owner of live stock. 658 pages. 6x9 inches.
Cloth $1.00

AMERICAN GRAPE GROWING AND WINE MAKING.—By George Hussmann of California. With contributions from well known grape growers, giving wide range of experience. The author of this book is a recognized authority on the subject. Illustrated. 269 pages. 5x7 inches.
Cloth $1.50

STANDARD OF PERFECTION.—By the American Poultry Association and used as the standard for judging all shows. The thing for dealers in fancy stock.
Cloth $1.50

PERFECTED POULTRY OF AMERICA.—This is the most recent publication, and is one of the finest poultry books ever issued. It contains full page illustrations of all breeds and varieties of poultry, turkeys and water-fowl. On many of its pages are represented the feathers from each section of the fowl. Gives the information necessary for the selecting of the best specimen in your flock.
Cloth $2.50

A. B. C. AND X. Y. Z. OF BEE CULTURE.—By A. J. and E. R. Root, the leading authority on Bee Culture Its reputation is known to all Beekeepers. 536 pages.
Cloth $1.50

CAMPBELL'S SOIL CULTURE MANUAL.—By H. W. Campbell. The originator of the "Campbell System of Dry Farming." A complete guide to scientific agriculture as adapted to the semi-arid regions. Of great value to all Western ranches. 320 pages.
..... $2.50

Cultivator Publishing Company

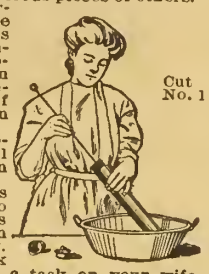
EXCLUSIVE
Tubular
ADVANTAGES No. 4
EASIEST TO CLEAN

The illustrations herewith tell the story of the difference in the amount of work required in cleaning the Tubular Bowl and the numerous pieces of others.

All dairy separators except the Tubular have bowls filled with complicated contraptions that make an endless and tiresome amount of labor in the kitchen twice a day.

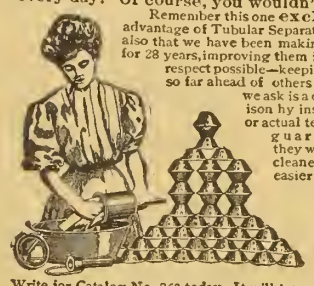
The 3-piece Tubular bowl Cut No. 1 can be washed in three minutes.

The other kinds are about equal to washing dishes for three dozen people twice a day.



Cut No. 1

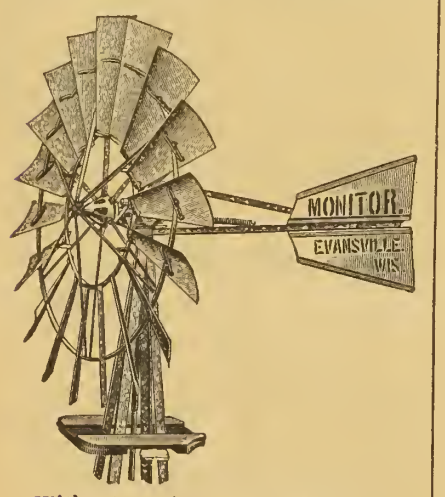
Would you think of imposing such a task on your wife every day? Of course, you wouldn't.



Remember this one exclusive advantage of Tubular Separators and also that we have been making them for 28 years, improving them in every respect possible—keeping them so far ahead of others that all we ask is a comparison by inspection or actual test. We guarantee they will skim cleaner—are easier to clean—run easier or no sale.

Write for Catalog No. 260 today. It will interest you.
The SHARPLES SEPARATOR Co.,
West Chester, Penna.
Toronto, Can., San Francisco, Calif., Chicago, Ill.

Don't Buy a Windmill



Without getting our proposition.
Write today for full information.

Arnott & Company, Inc.
112-118 S. Los Angeles St.
Los Angeles, Cal.

Your Eastern Trip

SOUTHERN PACIFIC

May be arranged so that you may travel by way of

New Orleans and the Sunset Route

San Francisco and the Ogden Route

Portland and the Shasta Route

Enjoying the balmy air of the South or the cool and bracing air of the North.

Personally conducted excursions every day from Los Angeles via all routes without change to principal eastern points.

City Ticket Office:
600 S. Spring St., cor. Sixth
Southern Pacific

SORGHUM AS A FORAGE PLANT.

During the past few years farmers have tried to raise feed that would lessen the expense of maintainging stock through the winter months and at the same time keep the stock growing in good condition, says a writer in Field and Farm. Corn is not a certain crop, so we have tried raising kaffir corn, millet and saccharine sorghum. Too many farmers and feeders plant their other spring crops and after they are through with everything else, say by the first to the middle of June, plant or sow the remainder of their ground to sorghum or millet. We can succeed in raising sorghum for feed under more unfavorable conditions than any thing else, yet to expect or deserve the best results we should use the same care and good judgment we give to wheat or oats.

We first plow and prepare the ground thoroughly; then use a twelve-foot press-drill, drilling from one and a half to two bushels of seed to the acre, from one and a half to two inches deep. Sometimes when rushed with work we use a seed sower attached to the rear end of a farm wagon and sow broadcast, then harrowing the ground thoroughly. This latter method is usually successful, but not as satisfactory as drilling the seed in, as the seed does not germinate so soon and a part is not covered at all. Enough seed should be used to have the stand thick like rank wheat or coarse timothy hay, thus making a fine feed for all kinds of stock.

In selecting seed three things should be carefully considered: First, select a kind that grows the most foliage and the strongest stalk. In this we have a fine feed and a variety that is most likely to withstand September winds until the crop has matured and is ready to be harvested. Combine in this the greatest per cent. of sugar. The weather is too hot in August and sorghum cut then usually spoils, becomes musty and unfit for feed.

GRUBS.

About this time many individuals of the genus Bos are making desperate efforts to reach the region along their backs with the tongue to quiet the terrible itching caused by grubs boring their way through the skin. These are the larvae of the gadfly produced from eggs deposited somewhere on the body and as development begins and it finds its way into the animal it finally appears under the skin on the back where it makes a hole through which it escapes. Like all parasites, it draws on the vitality of its host for sustenance. Cattle do not have grubs because they are poor, but are poor because they have grubs. The gladfly is not migratory to any great extent. The presence of gadflies on our home farm, and grubs on the backs of cattle were seldom noticed after a determined effort was made to destroy the grubs. This was done by squeezing them out—not a pleasant task—and also by the application of kerosene oil with a small oil can, letting a drop or two fall into the hole. This was a slow process, but was a well paid job, and one that any owner of stock may well undertake.

PURSLANE.

Purslane, or as it is more commonly called pusley, is regarded by most farmers as a troublesome pest. It has been noted by nearly everyone, however, that pigs when given access to it will eat it with avidity and when eradicating it in the garden or about the premises it would be well to collect all that is pulled and feed it in the hog yard and thus make the labor of destroying count in two ways.

It is usually not thought of as food for humans, but it has long been used as a salad and pot herb in Europe, and to some extent in this country. Inquiries as to its food value have led some experiment stations to make chemical analyses of the plant. According to the Indiana Station, green purslane has the following composition: Water, 86.56 per cent; protein, 1.81 per cent; fat, 0.5 per cent; nitrogen-free extract, 6.49 per cent; crude fiber, 2.12 per cent, and ash, 2.23 per cent. According to average figures corn fodder contains: Water, 79.3 per cent; protein, 1.8 per cent; fat, 0.5 per cent; nitrogen-free extract, 12.2 per cent; crude fiber, 5.0 per cent, and ash, 1.2 per cent. Of the value of purslane as a feeding stuff, the Indiana Station says:

Purslane compares favorably with average samples of corn fodder, so far as the protein and ether extract (fat) are concerned. Nitrogen-free extract is rather lower than in most green fodders, but the amount of water is considerably higher. The ash is higher than any ash we have seen reported in green feeding stuffs. Owing to the relatively low amounts of fiber and nitrogen-free extract, the nutritive ratio is high, being about 1 to 5.5. The material has been used to some extent in this State (Indiana) for many years as a food for pigs and in many localities is highly esteemed. Analysis show that it is well worth consideration as a feeding material for such animals as will eat it readily.

The Missouri Station studied the composition of purslane and also its ability to retain moisture. Young, vigorous plants free from blossoms were taken from the garden July 11 and suspended in one of the rooms of the station laboratory. In nineteen days (July 11 to 30) the plants lost 45.74 per cent water out of a total of 91.67, which they contained. No observations were made between July 30 and September 5, when some leaves were yet green, while the plants had developed blossoms and ripened an abundance of seed.

As stated above, purslane has been used for many years to a greater or less extent as a pot herb, being cooked in much the same way as spinach or beet tops.

THE MEANING OF PREPOTENCY.

We often use the word "prepotency" in speaking of breeding. It is a mysterious quality, suddenly showing itself in some sire or dam and then running low through two or more generations. It shows in plants as well as animals. The Bible speaks of the animals of the earlier creation that "each are brought forth after his own kind." The same law holds good in seeds. But occasionally we have a sudden assertion of breeding power in either that impresses itself on several succeeding generations and we call that a case of "superior prepotency." The following paragraph taken from Collier's Weekly is a clear comment on this much prized quality, one that animal and plant breeders are all the time seeking.

"The miracle of individuality which does not perish with the individual's passing distinguishes Kansas Sunflower Corn. Experiments conducted at the Kansas Agricultural Experiment Station by Professors Ten Eyck and Shoesmith show conclusively that of this species "the individuality of certain ears can be utilized in the improvement of a particular breed or variety. For after four years of successive tests it has been demonstrated that the high character of this one particular sort "traces back to two original mother ears."

"These ears did not show any great pre-eminence in themselves. They were not peculiar in their size or quality, but they had what only the growing of several successive generations could disclose—the power to contribute to their offspring certain qualities of yield, of early ripening, of resistance to disease and frost, which made the offspring of these ears pre-eminent by four hundred per cent above the other ears of corn. In all breeding work this phenomenon is sometimes noted The American trotting horse goes back to Messenger—not himself a great performer, but endowed with the Abrahamic power to sire a race of trotting colts preeminent in the world. So, in the race of wheat, Minnesota number 169 became the parent of a progeny which added from one to two extra bushels to the acre.

"The "Wealthy" Seedling of Peter Gideon furnished apples to all the Northwestern States—trees which would stand the long northern winter and ripen in the early fall. That parent seed—one of ten thousand planted by old Peter, had a character which was worth a million dollars in its potential yield; it had what the race horse, Mesenger, had, "the instinct to contest the race."

This is a good description of that wonderful quality of inheritance given by parent to offspring, that prepotent power we look for in all good breeding animals.—Hoard's Dairyman.

Creamery Supplies

Cream Separators — Milk Cans
Combined Churns — Milk Bottles
Babcock Testers — Brushes
Butter Moulds — Wrappers
Engines and Boilers — Milk Coolers
Pasteurizers
Milking Machines
Creamery and Dairy Supplies and Machinery of all Styles and Sizes
Send List of Goods Wanted and we will Quote Prices

O. J. WEBER COMPANY
555-57 S. Los Angeles St.
LOS ANGELES, . . . CALIFORNIA

MORE MILK—MORE MEAT

I can positively testify to the merits of Lilly's Best Fly Killer. This is the first year that I have not had to fight grub in my cattle. I used it at first last summer having little faith, but the results quickly converted me. My cattle gave more milk, and kept in better flesh on less feed as a result, and I kept them in the stable all night.
A. F. CHAPMAN, Monohan, Wash.

For Sale by Dealers

CUTTER'S
Anthrax and Blackleg
VACCINES

Are given the preference by 80% of California stockmen because they give better results than others do.
Write for prices, testimonials and our NEW booklet on Anthrax and Blackleg
The Cutter Laboratory
Berkeley, California

SOUTH BEND ORCHARD CULTIVATOR

Acknowledged the best, 5 feet wide. Spring teeth if wanted. Horizontal lift. No neck weight.
AGENTS WANTED
Steel and malleable iron. Dust proof wheels.
ARNOTT & COMPANY, Los Angeles, Cal.
Write for Catalog. 112-118 S. Los Angeles St.

VENADERA HERD
OF REGISTERED JERSEYS

I have for sale a number of richly bred young bulls, some of them from cows that have high official yearly records.
GUY H. MILLER,
Route 3, Modesto, Cal.

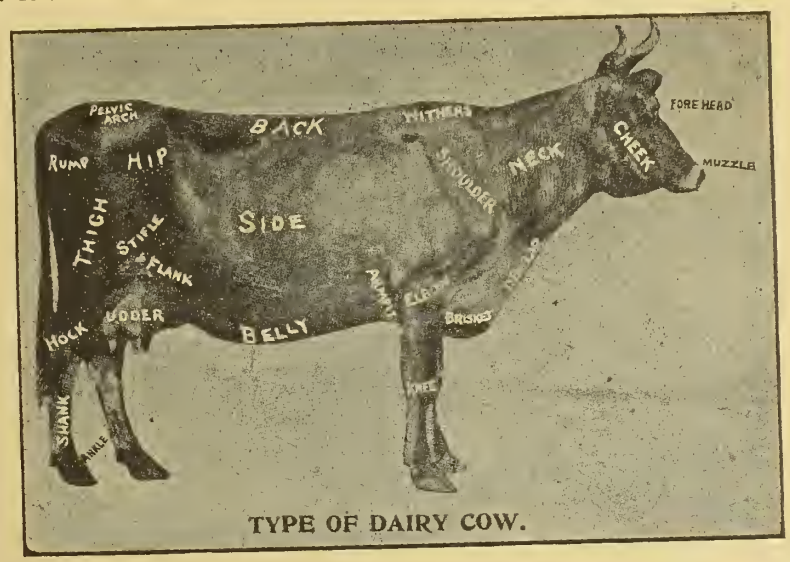
John Lynch Breeder of Registered **Shorthorns**
MILK STRAIN
Box 321 — Petaluma, Cal.

When writing advertisers, mention Cultivator.

STUDY OF DAIRY FORM.

There is only one positive method of determining a cow's worth, and that by her actual record and the Babcock test and scales. But a study of dairy form is instructive and necessary in order that the cow's function may be understood and that we know how that function is performed. The purpose of the dairy cow is to make milk, and to feed and handle her properly for milk a knowledge of the principal organs employed is necessary. After studying the cow and knowing the work required of each part of her anatomy it will be realized that "dairy form" is the direct result of the activity of these parts.

The farmer, either in buying or rearing cows for use in the dairy, should make himself acquainted with what is known as the "dairy form," says a writer in Farmers Advocate. This form in its general characteristics will be found in almost every good milk cow.



TYPE OF DAIRY COW.

The following table is the scale of points for the dairy cow:

	Perfect score
GENERAL APPEARANCE	
Form, inclined to wedge shape	6
Quality, hair fine, soft; skin mellow, loose, medium thickness; secretion yellow; bone clean, fine	6
Temperament, nervous, indicated by lean appearance when in milk	6
HEAD AND NECK.	
Muzzle clean cut, mouth large, nostrils large	1
Eyes large, bright, full, mild	1
Face lean, long, quiet expression	1
Forehead broad	1
Ears medium size, yellow inside, fine texture	1
Horns, fine texture, waxy	1
Neck fine, medium length; throat clean, light dewlap	1
FORE QUARTERS.	
Shoulders light, oblique	2
Withers lean, thin	1
Legs straight, short; shank fine	2
BODY.	
Chest deep, low	10
Girth large, with full fore flank	10
Barrel, ribs broad, long, wide apart; large stomach	2
Back lean, straight, open jointed	2
Loin broad	2
Navel large	2
HIND QUARTERS.	
Hips far apart, level	2
Rump long, wide	1
Rump or Pin bones high, wide apart	1
Tail long, slim; fine hair in switch	4
Thighs thin, long	2
Escutcheon, spreading over thighs, extending high and wide; large thigh ovals	20
Udder long, attached high and full, extending far in front and full, flexible; quarters even and free from fleshiness	5
Teats large, evenly placed	5
Mammary veins large, long, tortuous, branched with double extension; large and numerous milk wells	2
Legs straight; shank fine	100
Total	

Milk can come only from the food the cow consumes. The food is taken into the stomach and digested according to the same general laws of digestion of other animals. When digested, the essential constituents of food are in condition to be taken by the blood and carried to those parts of the body best qualified for its use. Since milk is a product of the blood, an abundant milk supply depends upon an abundance of blood-making material, which must come from the food the cow consumes. Therefore a large quantity of food must be consumed by the large milk producer. A large stomach is, therefore, one of the essential requisites of the dairy cow and, aside from a large udder, is the most striking characteristic of the dairy form."

ALFALFA PALACE IS PLANNED.

While "corn is king" alfalfa is undoubtedly "queen" in the western States, and to his queen, King Corn is to build a palace in Omaha which will be one of the special features of the National Corn Exposition to be held there December 9 to 19.

The "Alfalfa Palace" is being planned by the directors of the corn show because of the increasing interest in the crop and its growing importance as a food for cattle. The palace is to be built of bales of alfalfa and lined with exhibits of alfalfa and other grasses. Valuable premiums are to be offered for the best types of the alfalfa plant, and many growers will secure hay presses and modern machines for baling the alfalfa.

Much attention is to be given alfalfa at the National Corn Exposition as it is now recognized that it is necessary food for stock. The best authorities have demonstrated that cattle cannot use to advantage all the carbohydrates and oil in corn without a protein ration. It is a waste to feed straight corn to stock in preparing them for market, and the big packing houses are now paying better prices for the stock fattened on a mixture of corn and alfalfa.

Then the mixture is cheaper. Few feeders are still of the opinion that they can afford to feed straight corn worth 60 to 65 cents per bushel to cattle for which they receive from $6.50 to $8 at the outside. For this reason those interested in agriculture are to secure exhibits and give demonstrations of interest to every grower or feeder of alfalfa, when the big palace is opened at Omaha in December.—Hoard's Dairymen.

A SKILLED PHYSICIAN.

"Faith, he's a moighty foine docther. He attinded O'Pheelan whin he was sick av th' appindicutis. 'Poke out yez toongue,' he says; 'bedad, Oi'll have th' opprate on ye,' he says. 'Divil a bit will Oi be oprated on,' says O'Pheelan. 'Then yez'll be a dead man b' 2 o'clock,' he says. So he opprated.

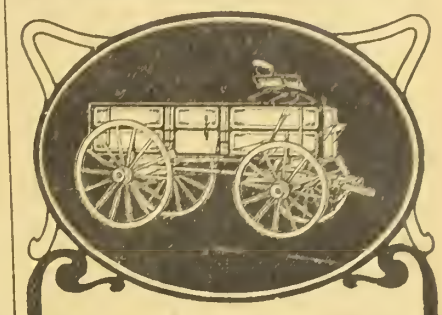
"An' saved O'Pheelan's loife?"

"An' saved O'Pheelan's loife—wan hour. He died at thray."—Kansas City Journal.

Wood Soled Boots and Shoes. Boots, $3.25; Shoes, $2.00. O. J. Weber Co., 555 South Los Angeles St., Los Angeles, Cal.

Cream Separators, all sizes, all prices. O. J. Weber Co., 555-557 S. Los Angeles street, Los Angeles.

LONG SERVICE



FARM WAGONS

THE wagon that breaks down and has to go to the repair shop every once in a while is not a good wagon to buy.

Such a wagon is a poor one because it is poorly constructed, and because it is made from poor and improperly seasoned material. It is dear at any price.

In the building of Weber and Columbus wagons there is always a rigid observance of these four indispensable requisites:

1. Proper wood materials,
2. Thorough seasoning,
3. Superior ironing,
4. The best of skilled workmanship.

These are the things which have built up the excellent reputation everywhere enjoyed by

Weber and Columbus Wagons.

The New Bettendorf Wagon has steel gears which make it a wagon for any climate, and practically unbreakable.

Strength and durability should be first considerations when you buy a wagon. The Weber, Columbus and New Bettendorf wagons can be relied upon for long, satisfactory service. They are built to haul heavy loads and to stand the rough usage to which farm wagons are always subjected.

These wagons are in the front rank of high-grade wagons.

With all the strength and durability of these wagons, they are not made excessively heavy. They are noted for their light running qualities.

International local agents will be glad to show you these superior wagons and furnish catalogs with all desired information. Call and take the matter up with them or write to nearest branch house.

WESTERN GENERAL AGENCIES: Denver, Colo., Portland, Ore., Salt Lake City, Utah, Helena, Mont., Spokane, Wash., San Francisco Cal.
COAST SELLING AGENTS
Arnott & Co., Los Angeles, Cal.
International Harvester Company of America, Chicago, U. S. A.
(Incorporated)

STROKE SELF FEED HAY PRESS

2 men can run it.
3 tons in one hour.
Easy draft.
Smooth bales.
Will save its cost.
Shipped on trial.
SATISFACTION GUARANTEED.

THE AUTO-FEDAN HAY PRESS CO. 414 E. 10TH ST. TOPEKA, KANS.
BRANCH OFFICE, 1521 W. 12TH ST., KANSAS CITY, MO.
Ask for Catalogue No. 28
1521 West 12th St., Kansas City, Mo.
Agent, John Schilling, Jr., Davies Warehouse 2nd and Central Ave., Los Angeles, Cal.

Live Oaks Farm

Frank A. Meacham, Proprietor.
Importer and breeder of RED POLLED CATTLE, SHROPSHIRE SHEEP, RAMBOUILLET SHEEP, HORNLESS AMERICAN MERINO SHEEP. Both sexes for sale. Take electric car at Petaluma or Santa Rosa for LIVE OAKS STATION. Address all mail to
Petaluma, Sonoma Co., Cal.

Berkshires--Shorthorns

My Berkshires took every blue ribbon and Gold and Silver Medal in the female classes. Choice pigs at low prices. G. A. Murphy, Perkins, Cal.

Thoroughbred Poland China Swine
Black Minorca and Barred Rock Poultry
High Grade Stock of Best Strains.
Young Stock For Sale
M Bassett — ***Hanford, Cal.***

The Whiting Jersey Stock Farm Company

Is making the very best strains of blood fresh from the island of Jersey a specialty.
Whiting Jersey Stock Farm Co. Heber, Imperial Co., Ca

Geo. C. Roeding, Fresno, Cal, breeder of
Thoroughbred Holstein Bulls and Heifers
Thoroughbred Berkshire Boars and Sows

JAMES R. TOWNSEND
Solicitor of American and Foreign **Patents** Copyrights, Trademarks and Labels Registered. Rooms 428-433 Bradbury Blk. Los Angeles, Cal. Phones: Home, A4619; Sunset, Main 347

When writing advertisers, mention Cultivator.

California Cultivator

ESTABLISHED 1889
Subscription price One Dollar per year.
Payable in Advance

Thursday, July 23, 1908

Address All Communications to
CULTIVATOR PUBLISHING CO.
115½ No. Broadway, Los Angeles.
733 Merchants Ex. Bldg., San Francisco.

Copy for Change of advertisement must be in office on Saturday preceeding date of issue. New advertising copy should reach the office not later than Tuesday to insure insertion.

CULTIVATOR PUBLISHING COMPANY
H. A. PERKINS, EDITOR AND GEN. MGR.

C. B. MESSENGER - - - - Associate Editor
FRANK H. THOMAS - - Advertising Manager
H. G. HUTCHINS - - Subscription Manager

EDITORIAL CONTRIBUTORS:

J. W. MILLS - - Deciduous and Citrus
JOHN ISAAC - - - Horticulture
J. B. NEFF - Walnut Culture and Irrigation.
Mrs. M. E. SHERMAN - Live Stock and Dairy
Q. A. LOBINGIER - - Vegetable Garden
S. S. TWOMBLY - - - - - - - Poultry
W. E. FOSTER - - - - Pigeons
L. M. FALL - - - Law Queries
RALPH E. SMITH - - Plant Pathology
S. A. PEASE - Plant Diseases and Injurious Insects

Entered at the Post Office at Los Angeles, California, as Second-class matter.

Contents

ORNAMENTAL GROWTH AROUND THE HOME, Cover.

HOG CHOLERA QUESTIONS AND ANSWERS, 75.

WITH THE CITRUS GROWERS.—How Oranges are Auctioned; Contrast of Fruit Growing, 76, 77.

DECIDUOUS.—Englishmen Like Our Apples; Prune Drying, 78, 79; Plant Louse Remedies, 90.

CALIFORNIA HORTICULTURALLY.—Farmers and the Department; Canada Thistle, 79.

GENERAL AGRICULTURE.—Propagation by Cuttings, 80; Gopher Poison, 90; Maintaining Soil Fertility, 91.

LIVE STOCK AND DAIRY.—Correct Feeding; Sorghum; Grubs; Purslane; Meaning of Prepotency; Study of Dairy Farm; Alfalfa Palace, 81, 82, 83.

EDITORIAL.—Race Track Evil; Tidy Up; A Tribute; Lemon Investigations: How are Your Ants, 84.

AGRICULTURAL NOTES OF THE PACIFIC COAST.—Northern, Central, Southern, the Coast, 85.

POULTRY.—Relative Value of Different Breeds; Poultry Brevities; Lice; Feather Eating; Grit; Skim Milk as Poultry Food, 86, 87.

SMALL FRUITS AND VEGETABLES.—Growing Garden Beans; Raspberries and Blackberries; Ashes for Vegetables, 88.

ORNAMENTAL GARDEN.—Arrangement of Flowers; Grass Culture; Plant Bulbs, 89.

QUERIES AND REPLIES.—Organize; Skunks Robbing Bees; Camphor Distillation; Land Open to Entry, 90.

VETERINARY.—Lameness, 90.

CALIFORNIA FARM NAMES, 91.

HOUSEHOLD.—The Old Farm; Law of the Range; Personal Neatness Club; Where Mother Is; Arranging for a Luncheon, 92, 93.

PRODUCE MARKETS.—Los Angeles Market; San Francisco Market; Citrus Markets, 94, 95.

THE RACE TRACK EVIL.

It is said that there are only four tracks in the United States at this time at which gambling is openly permitted. Of these four two are in the State of California. One of them, Emeryville, is just across the bay from San Francisco and the other at Arcadia in Los Angeles. The business interests of the State are awakening to the fact that these two institutions are proving a menace not only to many young men, but to the interests which they represent, through its undermining influence. District Atorney Everett Brown of Alameda county in a recent address at Oakland said:

"I come to you as one who has rubbed elbows with the men who are filling our penitentiaries, and what I say to you is the crystallization of a long trend of thought upon the evil effects, as I have seen them, attendant upon racetrack gambling in this State, and especially at Emeryville.

"Over 60 per cent of the men confined in our State prisons are under 28 years of age, and it has been my personal experience to see many boys under the age of 20 sent to prison, labeled forever as felons. Is it not important for us to stop and consider one of the principal causes that are sending our young men to the penitentiary?

"You can turn to Section 300 of the Penal Code, which deals with prohibition of gambling. You will find a great many forms of gambling mentioned therein, but not a word about selling pools at the racetrack or in connection with racing.

"I tell you there is only one place to reach the root of this evil and kill it and that is the fountain head of the law making power of this State, the State legislature, and if there is going to be a law against racetrack gambling it will have to be secured by the efforts of the people of California.

"If you had been with me during the last few years and seen bright, manly looking young men standing before the bar of justice charged with felonies; if you had gone with me to their cells in the county jail and talked with them about the causes which brought them to their pitiful plight, you would have found them reaching back to yonder racetrack at Emeryville.

"Gambling incident to your race-track is reaching every walk of life, the rich, the poor, the high, the low, the man, the woman, the old and the young. In some of the stores around the bay, during the racing season, money is collected from the clerks, both men and women, some of whom receive as low a wage as $6 a week, in sums of 25 and 50 cents a day, to be played on the races, either at the track or in many gambling dens that are located right within our cities."

TIDY UP.

There are many beautiful homes places in California. Not only is the residence itself tidy and comely, but its grounds and all outbuildings are built and arranged in a way which indicates a desire on the part of the owner to have things attractive as well as to have things planned so as to have the greatest utility. This is because many California farmers have not only a liking for these things but being business men know that such attractive and convenient buildings and appliances are of commercial worth in accomplishing the work of the ranch.

But unfortunately too many of our ranchers do not appreciate this worth, and valuable machinery is sometimes allowed to rust in the open, subject to sunshine and rain until its life is shortened and direct loss is sustained. This loss is sustained not only because of the machine which is injured or lowered in productive capacity, but also in the impression which is given to the passer by that a community filled with shiftless farmers is not a desirable community in which to live.

Imagine for a moment an Eastern capitalist or professional man looking over the land with an idea of securing a desirable acreage for a home in which to spend the remainder of his life, riding along a roadway lined with dilapilated farm buildings and ill-kept surrounding, and it will be quickly seen that such a sectlon will not appeal to him for a moment. He not only expects to buy the acreage on which his own home is to be erected, but as well to buy attractive approach to his place and enterprising up-to-date neighbors. We all do that though many of us unconsciously. These surroundings, churches, schools, pleasant society, all have a value. Let the farmer of this State bear these facts in mind and draw an attractive class of people about him. His own property will become more valuable; the society of the neighborhood improves until the young people of the ranch will apreciate the worth of the neighborhood and be more content to remain with the farm.

A TRIBUTE.

"The countless millions of population are fed and clothed by our American farmer.

"The grain waving in golden beauty upon the great plains of the West, the cotton, drlfting like summer snow upon the fields of the South, freight the fleets of nations and loose their sails, thread the continents with tracks of steel, fill the earth with the roar of trains and heap for trade and commerce and useful art those stores that make a nation great.

"Where are the sinews of our strength if they are not found in our great, diversified agricultural products? What victorious hosts ever waved as joyous banners as those that float above the tasseled maize from the snows of Maine to the spicy groves of California?"—E. S. Chandler, Mississippi.

Do you like fruit? Then take better care of your trees.

LEMON INVESTIGATIONS.

We are pleased to note that G. Harold Powell and his corps of assistants are to take up the investigation of lemon decay and disease, meaning, if possible, to prevent the present heavy loss to lemons in transit. Mr. Powell has given a great service to orange men. We believe he will give equally as great to the lemon shippers.

In a letter to this office Mr. Powell says:

During the past few years many of the largest organizations connected with the lemon industry have requested us to extend the type of investigation that has been carried on in connection with the orange to the handling of lemons. It has not been practicable to undertake this work, as all of the available men have been connected with the orange investigation. As the questions relating to the losses in the shipment of oranges are nearing completion, it is our intention to take up the lemon industry from this time, and an effort will be made to determine the relation that the various methods of handling the fruit bear to the decays that occur in curing and in shipment. As with the orange industry, we will investigate primarily the effect of the physical handling of the lemon in the field, in the packing house, and while in transit on the common blue mold decays. Other forms of decay caused by parasitic organisms will be left for investigation by Prof. Smith and his associates at the laboratory at Whittier, where the equipment for this line of work is especially well developed.

We have two men in Southern California this summer working on the lemon, and several others will be added to the force in the spring. We are planning to carry on the work in many sections from San Diego to Tulare county, and to include demonstration experiments in the packing houses and extensive shipping tests.

In addition to this line of work, an investigation of the influences of the different methods of handling and of preparing the lemon for market, such as curing, sweating, etc.. on the physiological activities or ultimate keeping quality of the fruit is progressing under the direction of Dr. R. H. True of the department. This work will be continued and enlarged during the present year.

The various lines of work that are being developed by the department are planned so as to harmonize with the investigations that are in progress at the Whittier laboratory, so that the results of all of the investigations may be made to dovetail and to be generally helpful to the industry as a whole.

HOW ARE YOUR ANTS.

Entomologist Woodworth of the State University writes to the Cultivator that the Argentine ant has recently gained a foothold in at least four localities in the State.

It is much more persistent and annoying than any of our native species, besides being a great menace to horticulturists. Wherever they occur, lines of these ants can be seen going up and down the trunks at nearly every tree in the neighborhood.

It is suggested that all who observe any case of ants which have become unusually troublesome will do well to send specimens tc the State University entomologist at Berkeley.

Shop Talk

CAMPBELL'S SOIL CULTURE MANUAL—This week we would sugest to those interested this popular work. We are able for a short time to give absolutely free a year's subscription to the Cultivator with an order for the book at the regular price of $2.50. This is certainly an opportunity to get this valuable publication and at such a price that every western farmer can well afford to have it. Mr. Campbell is the originator of the Campbell system of dry farming and has demonstrated its worth in semi-arid sections. This 1907 manual is a complete guide along this line, and California ranchers can obtain valuable suggestions from it. Order through this office with either a renewal or new subscription.

FARM NAMES—The farm names are coming in. This week shows another installment. It is a small list that will grow larger as the weeks go on. Establish your farm name in the minds of others. Put up the name at the entrance, see that your local paper mentions it and let the Cultivator help along by proclaiming it to the State.

Agricultural Notes of the Pacific Coast

Northern California

Tehama county apricots are freer from shot-hole fungus than formerly.

Sutter county supervisors say that the State dip fails to cure scab of sheep.

One day's shipment of wool from Live Oak, Sutter county, aggregated 12,000 pounds.

Red Bluff, Tehama county, reports pear blight much less destructive than for twenty years.

The hop picking machine being tested near Gridley is more successful than anticipated by most hop growers.

The pet bull which suddenly turned vicious nearly claimed another victim at Woodland a couple of weeks since.

Owing to breaking of a flume near Chico, many orchards are suffering severely from the lack of irrigating water.

Standing on a sightly knoll in Live Oak, Sutter county, five combined harvesters were recently viewed in operation.

Drainage District No. 1 of Butte county recently held an election on the question of bonds for improvements in the district.

Fruit growers near Red Bluff, Tehama county, are concerned over quite an extensive appearance of cottony-cushion scale.

United States Reclamation Service is experimenting with the sinking of a well on a 10-acre tract near Davisville, Yolo county.

The Shasta County Board of Supervisors has passed a resolution granting a scalp bounty of $2.50 for all coyotes killed in the county.

A combination of automobile on one side and trolley car on the other resulted in the death of a horse which was literally frightened to death.

Buyers of apricots at Chico have attempted to buy the present output of dried cots at 5¾ cents. No growers are as yet anxious to sell at such figures.

Quite a large element of farmers near Davisville is appealing for the separation of the University Farm from the management of the State University.

The crop of hops on Bear River promises to be exceptionally large and the recent warm weather has ripened the crop so rapidly that picking is beginning.

No wool sale is to be held in Ukiah this year as the market is so flat. This spring's clip with the last fall clip is much of it held over and will be kept in storage.

The long period of cold weather and the late frosts of spring injured the grain and even the grass crops of Sierra county, so that they will be very short this year.

An experimental planting of tobacco at Marysville, Yuba county, is proving very satisfactory the plants having grown exceedingly well and being now nearly ready for the harvest.

An active campaign which had been begun on the Russian thistle at Chico, Butte county, has been called off by the district attorney, owing to tne ruling that the charge cannot be legally made against the county. The pest is said to be doing great havoc near Chico.

Central California

Fresno county apricots have all been harvested.

Porterville recently shipped 6 cars of stock to Los Angeles markets.

Fresno county pear orchards show remarkable freedom from blight this season.

Citrus growers of Tulare county are appealing for more stringent quarantine laws.

The Soquel district near Watsonville has one of the largest granges in the State.

Santa Clara valley is issuing a booklet describing the advantages of that community.

A syndicate has bought 720 acres near Tulare which will be planted to eucalyptus trees.

The Visalia sugar factory recently made a record run of 8000 pounds of sugar in 24 hours.

Turlock, Stanislaus county, is to make a fight against Russian thistle which is appearing.

Watsonville, Santa Cruz county, will have one of the biggest grain crops in its history.

One ranch in Salinas valley, Monterey county, will this year yield 100,000 sacks of fine barley.

Nearly 1000 acres of wheat were destroyed by a grass fire near Hollister, San Bernardino county.

A special berry train leaves Watsonville for the San Francisco markets every evening at five thirty.

Producers near Modesto, Stanislaus county, are discussing the matter of co-operative marketing association.

The Fresno Chamber of Commerce proposes to take up the fight for continuation of present tariff on raisins.

Professor E. J. Wickson will open the Tulare County Fair with an address on the evening of September 21.

The manager of South African Fruit Company is investigating fruit growing methods in the Santa Clara valley.

A farmer at Visalia who had been exasperated by continual stealing of his melons filled two boys with birdshot one night.

General headquarters for the apple business of the Earl Fruit Company are to be transferred from Sacramento to Watsonville.

Kern County Land Company is considering the question of planting sugar beets on their land between Famosa and Wasco.

A big irrigation project fathered by San Francisco capitalists is being promoted in the southeastern part of Santa Clara county.

An inspector of the United States Bureau of Animal Industry is looking over the cattle and sheep industries of Monterey county.

Stanislaus potato producers have grown a bigger corp of potatoes than ever before, but are disappointed in returns owing to low prices.

The packing house of the Fresno Home Packing Company at Selma was recently destroyed by fire. In it were over 400 tons of raisins.

At a recent meeting of the San Jose grange, co-operation was the principal subject of discussion. Parcels post and postal savings were both endorsed.

Southern California

Orange county will produce 200 tons of honey this year.

Hay is selling at $15.00 per ton f. o. b. at Newport, Orange county.

Redlands has two new orange packing houses ready to begin the coming season's packing.

Imperial valley is raising the greatest output of Kaffir corn it has ever had, nearly all of which is fed to hogs.

Ranchers of San Marcos, San Diego county, are to set apart a certain day for general poisoning of ground squirrels.

Orange county has its largest crop of apricots to market with a serious scarcity of workers for the fruit cutting.

With heavy shrinkage in the output and more careful grading, Imperial cantaloupes are commanding better prices.

Truck farmers of Southern California and, in fact, of the whole State are disappointed in market conditions this year.

Redlands, San Bernardino county, has a tree commission, the duty of which is to look after the shade trees of the city.

Imperial hog raisers are happy over the recent increase of one cent per pound on pork. They are now receiving 6½ cents.

Ventura apricot growers have agreed upon a price of eight cents a pound for dried fruit and fifteen to twenty dollars per ton for pits.

Counties of Southern California in which forest reserves are located will hereafter receive 25 per cent of all revenue from these reserves.

An effort has been made by residents of Coachella valley to set on foot a movement by which they may retain Salton Sea at a uniform level.

Hay growers at Lompoc, Santa Barbarba county, have secured a reduction of $1.00 per ton, from $3.50 to $2.50, on freight rate to Santa Barbara.

The Newbert protection district along the Santa Ana river in Orange county is still in a legal tangle over raising the necessary funds for improvements.

Imperial valley has made experiments this year on broom corn and one grower near El Centro has demonstrated the suitability of that crop for Imperial valley land.

Fruit growers of Escondido, San Diego county, have recently organized a fruit growers association to build and equip a packing plant and pack, ship and market fruit of the members. The board of Directors reecntly elected is made up of the following gentlemen: A. W. Wohlford, W. L. Ramey, W. D. Wooldredge, W. W. Prior and Albert Beven.

An informal meeting of a large number of apricot growers of Ventura was held recently, the object being agreement upon uniform prices of dried fruit and pits and the formation of a permanent organization which might ultimately lead to State organization. A committee of five was chosen to work up the matter of organization: A. L. Shively, Geo. W. Fleisher, Carlyle Thorpe, John Burson and H. Proctor.

The Coast

Hay cutting at Moscow, Idaho, has begun.

Over 100 carloads of cherries were shipped from Clarkston, Washington, this season.

Idaho wheat crop will be exceptionally good this year.

Gainsville, Idaho, is shipping large quantities of fine cattle.

Utah claims this will be the banner fruit year of her history.

Stockmen at Lewiston, Idaho, are ready for big round up of cattle.

Cheney, Washington, celebrated July 4th by holding a horse show.

There are fifty dairies on the island of Oahu on which the city of Honolulu is.

There are over 200,000 acres of sugar cane planted on the Hawaiian Islands.

The dairy industry in the Palouse country, Washington, is rapidly increasing.

The Health Board of Pendleton, Oregon, is making a campaign against diseased cows.

Farmers at Walla Walla, Washington are unloading hold-over crop of last year's hay.

The Agricultural College of Utah has just completed five weeks' agricultural session.

First full carload of cherries out of North Yakima, Washington, was forwarded this year.

Fruit growers near Portland, Oregon, will market this season more than 50 cars of loganberries.

The annual meeting of the Oregon State Horticultural Society will be held at Portland in December.

Flood of strawberries in the Spokane markets last week reduced prices below cost of production.

The annual meeting of the Pacific Coast Nurserymen Association was held in North Yakima, Washington, last week.

Citrus fruits are being cultivated quite extensively in Hawaiian Islands, but not sufficiently to supply home consumption.

Astoria & Columbia Railroad has installed an oil grass burner for destroying weeds and grass along its right of way.

Grain growers of eastern Washington have found a wonderful improvement in their grain crops by proper seed selection.

The Lincoln county fair, recently closed at Davenport, Washington, has paid all expenses and still has money in the treasury.

Offerings are freely made at Portland in quoting 10 cents for coming hop crop, with farmers not anxious to sell at that price.

Over 3000 acres are now planted to pineapples in Hawaii, and it is estimated that in a few years this will aggregate 10,000 acres.

Dayton, Washington, has just completed an irrigation plant which will be the cause of subdivision of a large tract of land into small holdings.

A new pest has developed in the wheat fields of Plaza, Washington, which stings the stalk, or deposits its eggs witnin the stalk, which soon decays and breaks over.

PER 2 BUSHEL SACK **$1.90** PER 2 BUSHEL SACK

Buy the World's Famous Egg Food No. 4

MIDLAND

IF YOU WANT EGGS
YOU WILL FEED NO OTHER.

Used by the largest and best breeders in the country. Thousands of poultrymen are using it, and it is the acknowledged standard of the world. Haphazard feeding is no longer profitable. Try Midland Food and be convinced.

Petaluma Incubators and Brooders

The acknowledged standards of perfection. All poultrymen who have used these machines have supreme confidence in their ability to hatch and breed. Hence their ever increasing popularity. Winners of the Gold Medal at the St. Louis World's Fair for the greatest hatch, with 40 different makes of incubators in competition. How's that?

St. Louis, Mo., Dec. 8th, 1904.—Petaluma Incubator Co., Petaluma, Cal: My dear Sir—The awards have been held up owing to a controversy between the Exposition officials and the national commission, but today I am able to state the award of a gold medal on your Petaluma Incubators has been confirmed. You are at liberty to make use of this in any way you see fit and in due time the diploma will be issued and the medal obtainable. Congratulating you upon this evidence of the merits of your incubators, in which there was very great competition, I beg to remain, yours very truly, J. A. Filcher, Commissioner.

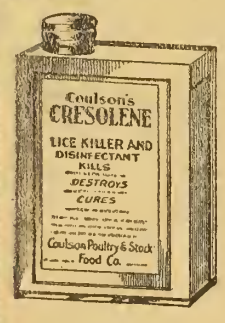
And Now Comes New Reward for Merit

Read the following telegram received from the Lewis & Clark Exposition at Portland:
"Petaluma Incubators and Brooders just awarded Gold Medal at Lewis & Clark Exposition."

WRITE FOR CATALOGUE 47—A BEAUTY

Petaluma Incubator Co.

Main Office and Factory, Petaluma, Cal., Box F.
Los Angeles, 636 South Main Street.
San Francisco Office and Salesroom, 83 Market St.



Coulson's Cresolene

**LICE KILLER
DISINFECTANT
AND DIP**

Dilute With Water Before Using

CRESOLENE is a powerful disinfectant, insecticide, and germicide obtained from coal tar. It is non-poisonous, and non-corrosive and will do no harm to the most delicate skin.

It mixes readily with water, forming a milky emulsion, and can be diluted from 50 to 100 times it own bulk, in accordance with the different uses to which it is put.

Thus when you purchase 1 gallon of CRESOLENE you can make up to 100 gallons of the best disinfectant for use with stock, poultry, dogs or as a general disinfectant and insecticide.

This reduces the cost to 1 1-4 cents per gallon which is cheaper than anything else on the market.

PRICES: Quart can, 50c; one-half gallon, 85c; gallon, $1.25.
Freight paid on orders of one gallon or more.
Manufactured by

Coulson Poultry and Stock Food Company
Petaluma, California
Germain Seed Co., Los Angeles, Distributing Agents for So. Cal.

Little Chicks should be fed on **Excelsior Chick Food**

prepared from clean, sound grains, seeds, beef scraps and charcoal in proportions to make a well balanced ration and produce strong, healthy chicks and keep them continually growing. For sale by all dealers and grocers. Take no other.

Excelsior Cereal Milling Company

242 Central Ave., Los Angeles

MY BOSS MAKES MONEY

Because he raises poultry in the Inglewood Poultry Colony. Eggs bring a higher price there than they do anywhere else. If you are going into the poultry business, go in right and get a farm in the Inglewood Poultry Colony. Address for particulars

Inglewood Water Company
349 Wilcox Building Los Angeles, Cal.

When writing advertisers, mention Cultivator.

Profit in the Poultry Yard

We solicit short articles of a practical nature from the fancier and utility breeder, giving their experience with poultry. All inquiries pertaining to feed, management, disease and its prevention will be answered through these columns.

RELATIVE VALUE OF DIFFERENT BREEDS.

PROF. JAMES DRYDEN, who for several years was in charge of the poultry experiments carried on by the Utah Agricultural Experiment Station, has the following on this subject:

"Which is the most profitable breed?" Is a question that is more frequently asked probably than any other connected with the poultry industry. It is one, however, that a peaceably inclined man hesitates about answering or expressing an opinion upon. However the writer ventures to give the results of several years' experiments with different breeds at this station, believing that they are of value as tending to show characteristic differences in egg laying capacity, the relative merits, of course, of the different breeds cannot be accurately or definitely determined by any series of experiments, but they may serve to indicate some of the characteristic differences of different types of fowls.

Our experiment shows pretty conclusively, that so far as egg production is concerned the question of breeds is subordinate to the question of individuality. There are good and poor layers in all flocks and the range between the good and poor is very great. The records of the station show a range of from no eggs a year to 242, and as far as these records show all breeds are alike in this respect. The difficulty in selecting the good layers of the flock for breeding purposes is probably the cause of this condition.

POULTRY BREVITIES.

A method for preparing Douglass mixture was given in a recent issue of the Cultivator.

* * *

For good winter laying and for fine frying chickens, there are no better breeds than the American varieties.

* * *

So far as egg production is concerned, the question of breed is subordinate to the question of individuality.

* * *

Gapes is a disease that shows itself in chicks between the age of six and eight weeks and not generally after four months.

* * *

When fowls come from rugged stock and are kept under sanitary conditions there will be but little sickness among them.

* * *

Better drop a few drops of carbolic acid in the drinking water these days. It is through the water that roup is spread. If you have not the acid Douglass mixture will do. In fact, some prefer it.

* * *

The long, hot summers of California furnish ideal conditions for the rapid multiplication of all kinds of vermin which prey upon poultry. Disease germs are more numerous and develop much faster than in a colder climate.

* * *

An excellent disinfecting spray for poultry houses is made by mixing one-half gallon of crude carbolic acid and one-half gallon of phenolene and adding twenty gallons of water. A house for fifty hens can be sprayed at a cost of about two cents for material.

* * *

We often meet the term in poultry literature "thoroughbred poultry." There is but one animal to which this term is properly applied and that is the English race horse. The proper term that should be used in speaking of well bred poultry is standardbred or purebred stock.

* * *

Feather Eating.

Will the Cultivator give a remedy for hens picking feathers from one another. I have 20 hens. Those hens are kept in a small yard but everything is kept as clean as possible. Some of them are picked nearly bald by their mates. Is this due to lack of something in the food? We feed corn, barley and wheat mostly. The hens have oyster shell before them at all times and for green stuff we give them beets, cabbage and small potatoes. Have fed some alfalfa meal.

Is alfalfa meal a good substitute for green food? And what is the best method of feeding it? What can we afford to pay for it for poultry food?—K. M.

This feather eating vice is mainly due to lack of occupation. After hens have once formed the habit it is almost impossible to break them of it. I have found Leghorns when confined more liable to form the habit than other breeds. There are several possible remedies. One is to furnish occupation by feeding grain in the litter that they may have occupation in scratching for it, and feed plenty of beef scrap in a separate hopper, that they may have all they care for. Another is to cut off the ends of their beaks shaving off the hard part of both upper and lower mordible, but not enough to make them bleed. They can still pick up food. but cannot pick a feather hard enough to pull it out. If the owner is so situated that he can let the flock run at large, that of itself is one of the best remedies.

Alfalfa meal makes a very good substitute for green food providing it is made from good material, i.e., hay made from alfalfa cut not later than early bloom and well cured. More or less of the alfalfa meal is made from hay that has been overripe when cut, cured by long exposure to the sun, consequently the meal is of a very inferior character.

Good alfalfa meal has a composition similar to that of good wheat bran. What one can afford to pay for it depends on the price of poultry foods and other conditions. If one is feeding alfalfa hay, the leaves that drop off and are scattered on the floors and in the cribs may be fed to the poultry and the expense of alfalfa meal avoided, as these leaves are equally valuable as food. Again a bale of alfalfa hay may be bought cut into one-fourth-inch lengths in a cutter and fed either soaked or dry. Hens do not always take readily to alfalfa meal and it is well to feed it in small quantities at first mixed with bran or other ground food.—S. S. T.

* * *

Lice.

Will you kindly tell me what will rid little chicks of lice? The chickens have new houses and coops, all of

which are saturated with coal oil, as are the nests and legs of the hens. There is plenty of dust handy also. None of the chickens, large or small, are shut up—they have the run of the ranch. But they are dying off rapidly from lice, even though I've put coal oil and lard on the heads of some of the little ones.—Mrs. G. W. H., Reedley.

Paint the inside of a barrel with some of the liquid lice killers, the fumes of which are destructive to lice, (there are several on the market) put the chickens into the barrel and follow directions. If you do not care to use this method, dust the birds with some good insect powder.

In the meantime clean up the houses and coops, removing all litter, and spray with kerosene emulsion, containing crude carbolic acid (one pint to two gallons of emulsion). For ridding the houses and coops of the pest, this treatment must be repeated once a week until three applications have been made. Paint the supports of the roosts and the underside of the roost with crude oil. The head lice may be killed by greasing the head as you have done. The louse breathes through the openings in the body walls and consequently is suffocated by the grease. Sitting hens should be kept free from lice during incubation and while brooding the small chicks.

This is readily done if taken in time. Carefully dust the hen and give her fresh material at the time the eggs are put under her. This material should be mixed with tobacco stems which can be bought at a low figure, as cheap tobacco is carried by dealers and used for sheep dip. If you cannot secure tobacco sprinkle the nest with sulphur. The heat and moisture of the body converts the sulphur into compounds that are deadly to lice. Dust the hen every week while sitting and there will be little trouble in keeping chickens free. When the chickens come off and the hen is dusted rub a little grease or vaseline under the wings. Lice getting into this grease are destroyed. Better results will follow if the dusting be done at night.—S. S. T.

* * *

Grit.

Editor Hunter of Farm Poultry has the following to say regarding the value of grit in a poultry ration; we insert it as he is one of those writers on poultry subjects whose opinions are worthy of careful consideration.

A reader calls our attention to an article by Dr. J. L. Short in the American Poultry Journal, in which this statement appears: "I shall oppose the popular and absurd idea that chickens require gravel to grind their food. This notion has attracted my attention for years, and the more I think of it the less credit I give it. How strange that nature in her wisdom, power and completeness would create a beautiful and useful bird and neglect to complete the important means of digesting its food!"

Our reader suggests that we "trim this fellow up." We're sorry we can't accommodate him. Fact is, the writer is very much inclined to the same opinion, and has repeatedly expressed it in these columns. It has not yet been demonstrated that grit—an indigestible, sharp edged substance—is essential to the fowl's digestion. The presumption that it is is absurd. The fact that fowls swallow grit, often eagerly and sometimes in considerable quantities, does not prove that it is a necessity. It is more reasonable to suppose that the instinct or impulse to eat grit is prompted by the appetite seeking for some mineral matter that may prove digestible. We do not regard it as proved that in grits which seem to be in part digestible, the indigestible portion is of any value to the fowl. Our own observations on the use of grit seem to us to indicate that when fowls in confinement and fed by man appear to need and be benefited by the mechanical action of grit in the digestive system, it is because of conditions which would not occur in nature.

A good cure for the idea that the gizzard of the fowl needs the assistance of grit to perform its functions is to test the teeth on the grinding or more properly "rubbing" surface of a gizzard, and then try to imagine what article of the food of fowls could not be reduced to pulp by so muscular an organ, after having been put through the processes of the crop and proventriculus or stomach proper.

SKIM MILK AS POULTRY FOOD.

On nearly every farm where poultry is kept there is more or less skim milk, and no better use can be made of it than feeding it to chickens. It probably gives best results in the ration of young chickens. It is true that the fat has been removed, but the most valuable food constituents, i.e., the nitrogenous substances, are left behind in the skim milk. The growing bird demands a food rich in this substance, and at the same time it must be in a form easily digested. Skim milk meets the requirements. It can at all times, to advantage, form part of the ration of chicks or laying hens. The Indiana Station made some interesting investigations on the use of skim milk for young chicks. Two uniform lots of chicks, ten each, were fed from July 11th to September 5th, under similar conditions, except that one lot in addition to the food eaten had all the skim milk that they would drink. Both lots were given all they would eat of a mixed food consisting of two parts crushed corn, one part bran and one part ground oats. They were fed three times a day. In addition they had cracked bone, cabbage and lettuce. It was found that the lot receiving skim milk, ate more of the mixed food and gained more rapidlly than the lot that did not receive skim milk. The milk-fed chickens made an average weekly gain of 4.46 ounces; those receiving no milk 2.62 ounces. The investigators considered the milk especially valuable for young chickens during the hot, dry weather; it becomes less important as the chickens grow older and the weather cooler. The dishes in which the milk is fed should be frequently scalded.

Half-hearted effort will never bring success in poultry raising or any other line of endeavor. If you expect to accomplish anything worth while you will have to be an enthusiast and get a hustle on you. If we could raise prize winners or extra heavy layers without giving any special thought to mating or care in rearing the fowls, what encouragement would there be for the fellow who works hard?

When a sick or droopy fowl is noticed, and there is a doubt about what ails it, a good family liver p... is the safest treatment, and the chances are it is just what is needed.

It's the under part of a hen's body that has no protection. All wet soaks in and chills the hen, thus causing most ailments.

FEED YOUR PULLETS

As well as your Laying Hens, on

Coulson's Egg Food

It will bring them to maturity in health and vigor and ensure you lots of eggs in the Fall when prices are high. It can be fed moistened as a mash, or dry in hoppers. Manufactured only by

Coulson Poultry and Stock Food Company
Petaluma, Cal.

GERMAIN SEED CO., Los Angeles, Distributing Agents for Southern California

Send for our Free Book, "Poultry Feeding for Profit"

For More Eggs Feed

Egg-More

Not a strong tonic and stimulant, but a little fed daily with good grains will keep hens healthy, make them molt early, feather out quickly, and lay lots of eggs when scarce and high. If not sold by your dealer, we will prepay freight on 25 lbs., $1.90; 50 lbs., $3.60; 100 lbs., $7.00. Send for free booklet.

West Coast Mill

705-709 Griffin Ave. (S. P. Track) Los Angeles, Cal.

RANCH MIRASOL

Annual Clearing Sale of Breeding Stock
Opens July 1st

This is the Famous Mitchell Strain of S. C. White Leghorns

Laying Hens, $1.00 to $3.00 each; Cockerels, $3.00 to $20.00 each

With every order for hens amounting to $15.00 or over we will give one $3.00 Cockerel as long as the stock of the latter lasts. This offer is good till August 1st only. We are taking orders now.

Carl C. Curtis, Owner, Lincoln Avenue and Ventura St., Pasadena, Cal.

NORTH FAIR OAKS—ALTADENA CARS

Trap-Nested White Wyandottes

That won 22 ribbons out of 25 and 6 Silver Cups and a carving set and a cut glass vase. All the National White Wyandotte Club Ribbons. Second on 10 pullet pen, contest open to all breeds. Mammoth Bronze Turkeys, winners of 5 blue ribbons, all at Los Angeles County Poultry Association Show, December 7, 1907. White Wyandottes were judged by H. Berrar of San Jose, Cal., and W. W. Browning of Ogden, Utah. Hens and Pullets, $15, $20 and up.

MISSION VIEW POULTRY RANCH, MRS. C. D. HUBBARD, SAN FERNANDO, CAL.

Baldwin's White Leghorns

First prizes San Jose '06, and State Fair '07. Three 1sts and special, San Jose, '07. $50 cup best display Petaluma '07. Send for free '08 Catalogue and price list. Good breeding stock for sale cheap to make room.

Frank E. Baldwin
46 Washington Ave. - San Jose, Cal.

HOMERS
Prolific Breeders
Winner of 1st pen at Breeders' Show
Satisfaction Guaranteed
C. E. Bunker
San Jacinto, Cal.

White Wyandottes Exclusively

Good, White, Typical Birds. Stock and Eggs For Sale.
W. A. SEYMOUR
470 No. Beaudry Ave. Los Angeles Cal.

Now is the time to hatch **BANTAMS**
Golden Sebright, Buff Cochin, and Light Brahma Eggs, $2 per 15. Prize winners.
M. E. Dillingham Box 67, San Gabriel, Cal.

An Income for Life

May be had by planting a grove of **Eucalyptus** trees. We are headquarters for all varieties of **Eucalyptus Seed.** Also carry a good assortment of trees in flats. Write for our 1908 seed catalogue. It describes the kinds and tells what the wood is best suited for. Don't delay. Do it now.

GERMAIN SEED COMPANY

326-328-330 S. Main St. Los Angeles, Cal.

Poultry Supplies

Best of All Kinds at Lowest Prices

West Coast Seed Co.

707 So. Spring St., Los Angeles, Cal.

Crimson Winter Rhubarb and **Berry Plants Our Specialty**

1000 choice Navel Oranges, together with a few other Citrus Trees. April and May are best months to plant Rhubarb for heavy Crops next winter. It has never been equalled as a money maker. $1.50 per dozen, $6 per 100, $40 per 1000. Pedigreed plants.

J. B Wagner

The Berry and Rhubarb Specialist Pasadena, California

EUCALYPTUS SEED

Eucalyptus rostrata, the Red Gum
E. corynocalyx, the Sugar Gum
E. tereticornis, the Forest Red Gum
E. globulus, the Blue Gum
E. citriodora, Lemon-Scented Gum
E. cornuta, the Yate Tree
E. polyanthema, the Red Box
E. leucoxylon, Victorian Iron Bark

and Many Other Valuable Sorts

I shall be pleased to correspond with prospective buyers and give particulars as to prices on the seeds I am offering. Trial packets of any variety 15c each, 2 for 25c, or twelve for $1.25. Also young trees of many varieties for sale. Send for circular and cultural directions.

THEODORE PAYNE

NURSERYMAN AND SEEDSMAN

Home Phone A2480

345 S. MAIN ST., LOS ANGELES

Eucalyptus

We have made a specialty of eucalyptus for the past ten years. We are no mushroom concern. We are prepared to accept contracts for raising eucalyptus for next season's planting. Take advantage of our **Low Prices on Contracts. Do It Now.** Twenty of the leading varieties to be seen at our nursery.

Saint & Warner

Sycamore Grove Nurseries

4584 PASADENA AVE., LOS ANGELES

Burbank Crimson Winter Rhubarb

Plants and Seed for sale in any quantity. Warranted the genuine article. Orders filled promptly

A. L. Fratt, Ventura, Cal.

For the Season of 1908-09

We Shall Have to Offer

Pedigreed Fruit Trees

SEVERAL NEW FRUITS AND NUTS OF IMMENSE VALUE TO CALIFORNIA

Eucalyptus Trees

BY THE 1000 OR 100,000
NO BETTER STOCK GROWN

Please send us your name and address, and you will get all particulrrs. We are now taking contracts for ***Eucalyptus Trees*** in large quantities.

Leonard Coates Nursery Co. Inc.

Morganhill, Santa Clara Co., Cal.

Eucalyptus Seed

We are headquarters on all varieties of this seed. Be sure and get our prices on high quality stock. 80 varieties, your selection, 15c per pkt. Or we will mail postpaid, 1 pkt. each, E. Rostrata, Globulus, Tereticornis, Rudis, Corynocalyx, Leucoxylon for 50c with Cultural Directions.

MORRIS & SNOW

555 South Main Los Angeles

Pacific Seed Co.

C. Bagnall, Prop.

GROWERS AND IMPORTERS OF

Grass, Vegetable and Flower Seeds

All Kinds of Bulbs and Onion Sets

609 J St., Sacramento, Cal.

Send for Catalogue. Please mention Cultivator.

STRAWBERRY PLANTS

Strong one-year-old plants for August planting; Brandywines, $2.50 per M. Klondike, Lady Thompson, A-1, Excelsior and Midnight, $3.00. A full line of this season's plants later. New catalogue ready in September, giving full description of our improved strawberry plants and other small fruit.

G. H. HOPKINS & SON ***Burbank, Cal.***

Balfour, Guthrie & Co.

IMPORTERS OF

THOMAS PHOSPHATE POWDER

AND

NITRATE OF SODA

SAN FRANCISCO FRESNO LOS ANGELES

WRITE FOR PAMPHLET AND PRICES

When writing advertisers, mention Cultivator.

Small Fruits and Vegetables

GROWING GARDEN BEANS.

In planting garden beans, make shallow drills with hoe from ten to twenty inches apart, plant the seed about four inches deep, says a writer in Successful Farming. For a succession of string or snap beans the seed may be planted every two weeks up to September with early dwarf varieties although in the home garden the best yield is obtained from the tall or pole varieties, and they are far less liable to attack from disease and insect pests. Some of them are of better quality and continue in good condition for a longer period. Cultivate as soon as plants are up, continue providing soil mulch until plants begin to blossom. Then a slight ridging or hilling sufficient to keep the stems and roots from injury by the sun is all that is necessary. While hoeing or cultivating should be carried on at regular intervals care should be taken not to hoe in wet weather as moist soil thrown on the leaves increases the liability to spot and blight.

RASPBERRIES AND BLACKBERRIES.

These berries, all of the genus Rubus, are cultivated in all lands and to the extent of approximately $10,000,000 annually in the United States. The number of species of blackberries and raspberries actually in cultivation is somewhat larger than with most fruits but still quite small. On the other hand the number of wild species of these berries is very great, and the qualities and types of these

SOME PUNKINS.

Anthracnose is a fungous disease and may be kept in check or rather prevented by spraying vines with Bordeaux mixture. In wet weather the disease spreads rapidly, and owing to its prevalence the wax varieties are not planted so largely in some localities, as they were even a few years ago. The green podded sorts are less liable to be attacked, and when attacked the disease does not spread so rapidly. The best plan is to plant in succession as the disease may be prevalent one week and another week lose its force.

Cut worms are the worst insect pest and may be guarded against by thick planting, and by using the poisoned bran remedy, and practicing thorough cultivation.

Pole beans differ from dwarf sorts in the method of planting; they may be sown either in hills or wide shallow drills. I have tried both plans, but have settled on a variation of the methods which I call the hill in row system. A line is stretched the length of the row and the soil removed to a depth of three inches if already manured; or if not place three inches of manure beneath the same depth of soil. These hills are about two feet apart from center to center; in each one the beans are then dropped in a circle eight to twelve being about the right number, which, if too thick after coming above ground, may be thinned to the best formed plants. As soon as they are well up the soil is kept stirred and in a few weeks they may be earthed up by the soil being drawn about the stems. As soon as they begin to run, poles may be set in the center of each hill. Set deep, use a bar to make the hole and incline poles at a slight angle, not only to enable vines to climb easier, but to permit the sun to gain entrance. In picking, only the tender green pods should be taken, and none allowed to mature seed, as it checks the productiveness of the vines. Pole lima and varieties grown for shell beans may be allowed to mature, the only difficulty being in gathering and separating from poles.

wild forms are many and valuable. There have been over 800 species of Rubus described, and some of these wild berries are superior both in size and flavor to many forms now under cultivation. One species of wild raspberry is known with fruit nearly or quite two inches in diameter. The fact is that the wild berries of the world constitute a resource of great value largely awaiting exploitation. Hundreds of millions of dollars worth of new fruits could soon be given to the horticultural interests of the world from the improvement of the wild berries alone.

ASHES FOR VEGETABLES.

Wood ashes contain potash, phosphoric acid and lime, all of which are useful in the growing of vegetables. The ashes are usually valued more for the potash which they contain than either of the other two constituents, for vegetables require potash more than lime or phosphoric acid. On clay soils, lime has an additional advantage in that it liberates potash from the soil. Thus the ashes will supply potash direct and lime will liberate it from the insoluble combinations in the soil. If you can buy wood ashes that have not been leached, and of which you know something of the history, for five cents per bushel, they will make a very cheap form of fertilizer. For vegetable crops you may safely apply these at the rate of a ton to a ton and a half per acre.—Prof. R. Harcourt, O. A. C., Guelph, in Canadian "Horticulturist."

The Ornamental Garden

ARRANGEMENT OF FLOWERS.

A number of years ago, when Pittsburgh was noted more for its smoke than its millionaires, they had over in Allegheny a park which was then and still is traversed by the Pennsylvania Railroad, says a writer of the Tribune Farmer. In summer the traveler looking from the car window would see bed after bed of flowers laid out with careful precision. There was usually the name of the park done in brilliant letters, and I recall among other designs the shield of Pennsylvania and pictures of Washington and Lincoln done with skill. It was all very novel and striking, but was it art? The landscape gardener who had charge of the park thirty years ago was not an artist, but rather a mechanical genius. Now, to be an artist of any kind a man must have an eye for form and color. But the true artist will study nature and thus learn to avoid the pitfalls of designs that are very far removed from nature.

In our home gardening we are not likely to undertake anything of the sort that I have described and which may possibly be permissible in a public park or railway enclosure, but we are more liable to let our flowers run riot with very little thought for their relative color or size.

Our crimson petunias may have been planted near the maroon nasturtiums. What a clashing of colors this makes, and yet either alone in a clump is very effective. Nasturtiums are coming back into favor, but deservedly, for they are easily grown and when once in bloom are fairly luxuriant. The Nicotinana is very suitable for planting along the house by a porch; it grows about three feet high, has broad tropical-like leaves and the clusters of flowers are quite fragrant. The Nierembergia is pretty for baskets, with its white lilac tinted flowers. The Nolana has flowers in different shades of yellow, blue and white, and is especially desirable for borders of the low trailing kind.

The petunias we have always with us, and they deserve more consideration than they sometimes get. As I said at the beginning, we spoil the effect of these flowers when we place them in juxtaposition with others whose colors do not harmonize with them. They come in various colors now, so that our artist sense need not be offended if we have not space for them alone.

The salvia, or flowering sage, as it is sometimes called, is one of the most brilliant plants we have for our gardens. I have seen them massed up against a porch with very good effect. Last summer I put mine in a large circular bed in the front yard. As they were planted rather late they did not commence to bloom until the latter part of July. But I was rewarded for this delay, as they were at their height in September, and the magnificent red flowers were fit harbingers of the season soon to come. They have a most compelling fascination for the passerby, though there is nothing ostentatious in their blazing spikes.

A small bed of pansies should have a place in every garden if there is a spot of uniform sun and shade. The soil should be enriched and kept moist. One will be repaid by the continual blossoms which are produced, and nothing is more decorative for the dining table or for our living room than a shallow dish of these fascinating little blossoms.

GRASS CULTURE.

Great care should be taken by the gardener with his lawn. It is the canvas upon which he will paint his flower bed pictures and landscape effects. To be successful he must prepare his canvas well.

The nrst thing is to grade the ground, smoothing rough surfaces, making proper level stretches and gentle slopes. If possible, the lawn should slope from the house. The grading should be done so as to distribute evenly all surface water, avoiding the formation of little runs which might produce washouts.

The soil should be enriched with a liberal supply of well rotted manure. This is essential where the soil is lacking in humus; otherwise bone meal or other good fertilizer is useful, and manure often contains the seed of weeds. The ground should be plowed or spaded not less than eight inches deep, removing all the stones and similar material, and the surface made as smooth as possible. Then it is ready for sowing.

One of the best mixtures for the lawn is four parts Kentucky blue grass with one part of white clover, sown not less than five bushels to the acre. Equally good results are usually obtained by the use of redtop in place of the blue grass or with equal parts of redtop and blue grass and a little white clover. When moisture is plentiful the blue grass forms a softer turf than the redtop, but does not seem to endure drought so well. In shady places the blue grass mixture is best. Nothing but pure seed should be sown.

It is well to be liberal with the seed, not to scatter it too thinly and to reseed portions that come up poorly.

PLANT BULBS.

I am rather a crank about flowers and always have been, and as one friend of mine expressed it I am always inclined to "spend my substance in riotous horticulture." I never had much hankering for luxury in the way of dress or showy house or anything of that kind, but just as sure as I get my hands on a few extra dollars it goes for something extra fine in the way of gladioli bulbs or peonies or lily bulbs or something of that kind. I suppose every man has his pet extravagance, and that is mine, but I believe I get more pleasure out of it than most people do out of their extravangances—anyway it suits me better, and every man to his notion. The bulbs are not expensive and they are always sure to bloom.—St. Jo Fruit Grower.

Maggots in the pot dish may be destroyed by setting the tub in hot water —not boiling—and leaving it there an hour. The maggots will be nicely cooked by that time.

Tuberoses are so easy to grow, the wonder is there are not more of them.

OF COURSE.

"And I am the very first you have loved, Bertha?"

"Of course you are. How tedious you men are! You all ask the same question."—London Opinion.

Malthoid Roofing

L. B. Valk, a leading architect of Los Angeles, Cal., U. S. A., writes:

"Many of the finest churches designed by me are covered, and satisfactorily, with Malthoid Roofing. I shall continue its use."

The Paraffine Paint Co. San Francisco California

E. G. Judah, General Representative, Security Bldg, Los Angeles

---

Paid Semi-Annually

7%

Assured Profit

We offer you Cane Sugar Lands in Mexico. Perfect title. Give 50-year contract to cultivate for you, guaranteeing 7%, paid semi-annually, until crop profit exceeds this amount. Offer these lands for cash or on easy terms.

A Life Income from Land

Sugar Plantations produce the greatest continuous yield of any known crop. Tropical Mexico stands today unmatched in soil, climate, water. We own over 9000 acres in the heart of the best section—near Tampico. You become a land-owning profit-sharer in this project. We do all the work for you.

Sugar Plantations the Most Profitable Crop in All the World

One Acre Should Produce $203.52 Annually
Five Acres Should Produce $1017.60 Annually
Ten Acres Should Produce $2035.20 Annually

GOOD LIVE AGENTS WANTED

Free Trip to Property Communities or syndicates buying 50 acres or more, may send representative to property at our expense

Tampico Sugar Company References: Citizen National Bank

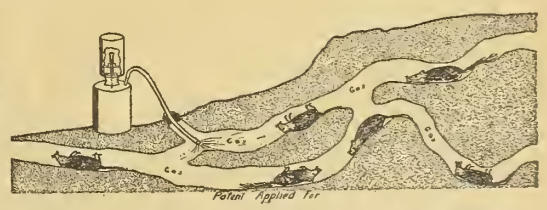
Los Angeles California

501 Union Trust Building

KILL

Pocket Gophers, Moles and Squirrels

More than 500 feet of holes flooded with gas in five minutes, at a cost of three cents, no pumping required, kills them by the dozen in a single operation. Not an experiment, but a sure destroyer of the pests; just turn on the gas and the work is done. Guaranteed not to injure vegetation. No danger. Any one can operate it.



Fully guaranteed. Your money back if it fails to do the work. Sent prepaid on receipt of price, with supply of carbide for ten acres, ready for instant use $5.00; without carbide $3.50.

Patent applied for. Agents wanted.

Write today for catalogue and description.

W. H. Lamb, Director in Bank of Santa Cruz County and Hardware Merchant in Santa Cruz, Cal., says:

I am sole agent in Santa Cruz County for the Rodent Destroyer. Am selling them rapidly and have never heard of one that did not give satisfaction. THEY DO THE WORK. The owners of the patent are reliable people.

W. H. LAMB.

Peerless Rodent Destroyer Co., P. O. Box 307 Santa Cruz, California

Queries and Replies

Questions to be answered in this department should be received at this office one week before reply is expected. Write plainly on one side of the paper and sign full name and address. Unsigned communications receive no attention.—Ed.

Organize.

I would like to ask through the Cultivator a question that seems strange to me. In the daily and weekly papers the prices quoted for new potatoes have recently been $1.50 per 100 pounds.

When a rancher takes his goods to sell, and No. 1 goods too, the commission houses offer about $1.00 or less, and have to take out commission, too.

What I want to know is where do these reported prices originate, and what rancher ever gets them. As far as I can see a rancher is lucky to get back his money for seed, etc., never mentioning his labor and expenses, and if that is the case with most ranchers, then they will have to be a millionaire to start with; and how can a man of moderate means stand it. Surely there must be some way that a rancher can get what his goods are worth.—Early Rose.

The quotations, as given in the Cultivator, are supposed to be a fair average. Of course, when a producer brings his goods to market, it becomes a case of barter, and the commission man or buyer proposes to get all the traffic will bear, if he can. While at the market recently the writer asked as to quotations on plums. They were given at 85 cents and $1.00 and within a few minutes, while yet in the market, a fruit grower appeared with unsold plums which he offered to the same man who had given the quotations above noted, and who refused to buy at any price. The owner finally asked if he would give half the quotation price and take the plums off his hands, and the buyer refused. Yet, we doubt not that on the same day plums were sold at the price quoted. One point is that the markets are full of tricksters who play back and forth so as to deprive the producer of his honest returns.

In addition, we must note that this year has been almost disastrous to producers, and fruits and vegetables have all sold at ruinous prices.

As to place of prices originating, it is to a certain extent in the open market, but more generally in the Produce Exchange. Staples, such as butter, eggs, potatoes and others are knocked back and forth when possible by speculators who wish to bear or bull the market as may benefit them.

The last sentence of your letter in which you say, 'Surely there must be some way that a rancher can get what his goods are worth." Indicates the spirit which, if general among producers, will result in action which will bring to the producer all the market will justify. For we believe that this spirit will lead to some co-operative movement which will aid producers in securing their just deserts The poultrymen of Northern California, especially of Sonoma county, after years of exasperating treatment, have finally got together and succeeded admirably this year in disposing of their products. Other poultrymen of San Benito county are organizing for an aggressive movement both in purchasing supplies and in selling their products. Whether vegetable, potato and onion growers can succeed in such a movement with the great number of Japanese and Chinese engaged in the industry is hard to say, but we believe it is worth consideration.

We believe the time is ripe for the producers to organize. A committee if made up of business men—men with business capacity—will accomplish great good. Such a committee with a large quantity of products of one, or a few kinds, will receive courteous treatment. The citrus forces have proved this and are now in a situation where a request is received courteously. A farmer with a load or a few loads of produce has no standing.

Let the producers get together and demand attention.

Skunks Robbing Bees.

A subscriber who noticed the recent inquiry regarding killing bees by the skunks, gives us the following hint which may be of value. This subscriber says that the way he protects his bees from the robber has been developed by noting the manner of the skunk's work. He says he has noticed that the skunk kills the bees by first putting his head or his nose at least into the ground in front of the hive. This prevents the bees' attack at his vulnerable point. He then waves his tail until it is covered with bees when he picks them off and eats them. His remedy is to place a slice of liver which has been poisoned with strychnine an inch or so deep in the soft dirt in front of the hives. When Mr. Skunk attempts to bury his nose in the ground in his usual manner he finds the tempting morsel which is promptly swallowed and the skunk finds his finish.

Camphor Distillation.

I have several twelve year-old camphor trees which I am about to remove from my orchard. Will you kindly tell me in your valuable paper if I could profitably make them into camphor?—M. F., Pomona.

Camphor is secured by distillation of leaves, twigs and chips of trunk. The exact process we cannot give you, but would advise you to write the Department of Agriculture at Washington, D. C. We do not think its making is simple enough to permit you to do it economically for a small quantity. The Department has experimented with Florida grown camphor and reports: "It has been established by experimental distillations made from a number of Florida grown trees that twigs and leaves obtained by pruning the trees of various ages yield from 1½ to 2 per cent of crude camphor." Your trees may be of value to the department in its experiments.

Land Open to Entry.

Several queries have come to the Cultivator regarding land in Southern California thrown open to entry within the bounds of the Forest Reserve. All we can say regarding this land is that, as was noted formerly, the only place to secure information is through Gifford Pinchot, Forester, Department of Agriculture, Washington, D. C.

Southern California apricot crop is practically all in.

Veterinary

Dr. R. T. Whittiesey, veterinarian, of 714 East Seventh street, Los Angeles, will answer questions in this department. In writing of sickness or injury to any animal be explicit in giving symptoms and particulars. Always enclose full name and address, but if assumed name or initials are preferred they will be used.

If an immediate mail reply is wished enclose $1.00 for such service, but for replies in paper only, no charge is made if the answer will be of general interest.

Lameness.

My horse got hurt about ten days ago by falling on the board floor of his stall. He strained his hip and limps very badly. Do you think he will limp permanently or will he soon recover? I have been bathing his hip with hot vinegar and salt.—G. E. C., Los Angeles.

Your statement of the condition of the horse is not sufficient to allow any intelligent answer. I must accept your diagnosis that it is a "strain in the hip," but you don't say if it is a strain of muscles or ligaments or tendons, or what joint, if it is a joint. Are you positive it is a strain at all? Do you know that it is not a bruise from falling on the floor? And are you sure he is not lame in the hock or ankle from struggling to get up?

If I were to prescribe for your horse and he did not get well you would criticize me for not knowing more, when there is a possibility that you may be wrong in your diagnosis.

Within the last few weeks I operated on a fast racing mare for lameness in the foot and cured it completely, the owners being positive the lameness was in the shoulder, and having tortured her with a blister until she will carry the scars as long as she lives.

And I want to request of the subscribers to the Cultivator, that in making inquiries in this department they give me all the symptoms and a full history of the case; how the animal came to get hurt; how the leg is held in rest; how the animal walks or trots on it; whether it gets better or worse if exercised or if allowed to stand still. Give me all the symp- and let me form my own opinion as to the diseased condition.

GOPHER POISON.

I feel it my duty to tell my fellow fruit growers of an unfailing solution of the gopher problem.

It is a fact, however, that if it were impossible to eradicate the gopher it would be equally impossible to raise oranges. Valuable land, costly water and high-priced trees would count for nothing if this master girdler were not held in check. The devices which have been put forth to annihilate him are legion, and every one of them has been heralded as a sure thing. They range all the way from fire to water, from a smoker which looks like an ice-cream freezer to a device which resembles a hose nozzle but is really a concussion gun. Traps there are which might be taken for a pair of shears, and others which seem to be an aggregation of knitting needles. Of wire traps there is no end. I myself patented one some years ago. I sold the patent, but have never bought or used any of the traps, because I found something better. It is simply alfalfa and strychnine—two or three stalks of green alfalfa, the ends doubled over and tied with a string so that the tuft on the end somewhat resembles a fist, and a little strychnine mixed with orange juice concealed inside it. Like all the other schemes, this is a sure one. It is important to find the main runway and push a bait into each opening, closing the hole behind it with earth. Twenty-four hours later the holes may be reopened, and if they remain open the gopher is dead. I have been following this method now for half a dozen years—with my right hand up—it has never failed. If you doubt it try it.—Highland Messenger.

PLANT LOUSE REMEDIES.

This is the time of year when plant lice, often known as "green flies," or "green bugs," increase rapidly and become serious pests to out of door plants and trees. A few that are almost certain to attract attention are the red louse of golden glow, the black louse of the cherry trees, the black peach aphis, green lice upon rose bushes, cabbages, apple trees and plum trees, the woolly aphis of the apple tree, and probably many others. These plant lice are usually rather easy insects to kill if taken in time.

The food of the plant lice is always the sap of the plant they infest. As this sap is taken through a hollow beak that is thrust beneath the surface, it is useless to attempt to poison them through their food supply.

The remedy must be a contact insecticide, one that will kill by coming in contact with the body of the louse. The most effective insecticides of this kind for summer use are oil emulsions, tobacco decoctions or soapy mixtures.

To Prepare the Kerosene Emulsion.

Dissolve one pound of ordinary washing soap in one gallon of water. While the latter is still boiling hot remove from the stove and add two gallons of kerosene. Agitate this by pumping it forcibly back into the vessel containing it and then dilute to thirty gallons, when the mixture will be ready for application. It is best to apply at once.

Black Leaf Dip.

One of the best remedies for plant lice is the common sheep dip sold under the name of "Black Leaf." Dilute this with water in the proportion of one part of the dip to seventy parts of water, and you will have one of the very best spray materials for the destruction of plant lice.

Whale Oil Soap.

Any good whale or fish oil soap in the proportion of one pound of the soap to eight gallons of water will be found quite sufficient for the destruction of plant lice if sprayed with force and thoroughness upon their bodies.—C. P. Gillette, Entomologist, Colorado Agricultural College.

"How do I measure my hay in the stack? Why, this way: Measure the stack in length, width and over. Multiply the width in feet by the over and divide by four. Then multiply the result by length. To reduce to tons of hay in stack for less than 20 days, divide the cubical contents by 512. For more than 20 and less than 60 days, divide by 422 and for more than 60 days, divide by 380."

Ten years ago there were only six beet sugar factories in the United States. There are now seventy, the smallest representing an investment of $500,000 and the largest over $3,000,000. The factory located at Spreckles, Cal., is the largest sugar factory in the world, having a capacity of a beet train a mile long every day in the year. The chief beet sugar States are Colorado, Michigan, California, Utah and Idaho.

California Farm Names

THE appreciation of the work of the Cultivator in urging the naming of the farms is being shown more and more each day by the letters which bring expressions of good will. Almost invariably the expression is made that a name for the home not only has a sentimental value and a value from the pleasure it gives to the inmates of the home, but, if followed, will add to the financial worth of any community. As one writer expressed it in last week's Cultivator, "It places a premium on keeping the place in better condition, and the better condition of the place inspires more careful work with the crops of the ranch."

We have this week a number of new names from all sections of the State.

"Home Orchards," owner Frank Femmons, Ahwahnee, Madera county. Mr. Femmons has neatly printed letter heads in which it is shown that the product of "Home Orchards" is principally made up of mountain grown apples and peaches. "Experimental testing of new apples and other fruits a speciality." Mr. Femmons writes: "I send you greeting from 'Home Orchards' a little home-made home in the mountains of Madera county. It's a little nest of a place—a cove on the mountain side where the sunshine smiles and the birds chirp and chatter among the trees and flowers. The great Sierra Pine Forest stretches across the brow of the mountain above us and the valley of the Fresno river, with its oaks and scattering pines, witht here and there a mountain home, is a thousand feet below. Across the nearby hills and the great San Joaquin valley the Coast range of mountains is outlined against the sunset sky where they, with feet on the shore,

Are guarding the coast of our Gem of the West,
The fairest, the grandest, California the blest."

"Argyle Orchard and Farm," owner Robert Adams, Beaumont, San Bernardino county. The letter head says that the principal fruits grown on the ranch are prunes and Muir peaches, Tokay, Mission and Muscat grapes..

"El Modello Fruit Ranch," owner Charles F. Collins, Dinuba, Tulare county. The letter head says that Thompson seedless, Sultana and Muscat grapes, also Elberta, Lovell and Muir peaches are the principal fruits raised. Mr. Collins writes: "I take pleasure in complying with your request to forward the name of my ranch. It would certainly add much to the appearance of the country and often to its convenience if every farmer had his own as well as his ranch name near the entrance or on his mail box if on R. F. D. It not only looks enterprising, but it is enterprising."

"Rancho de la Rosa," owners Mr. and Mrs. C. A. Rose, Le Grande, Merced county. Mrs. Rose writes that this ranch consists of 480 acres, and is a part of the old Fremont place.

"Lemora," owner L. G. Joslin, Chula Vista, San Diego county. Mr. Joslin writes: "We have lemons, oranges, deciduous fruits and vegetables, and the finest climate in California. No fogs to speak of, no hot weather; 82 degrees is the highest so far this year. We always have cool nights and a nice breeze from the ocean." Mr. Joslin has the right spirit in having the best on earth. Nearly every farmer in this State can make a like good claim .

"The Love Ranch," owner D. C. Love, Filmore, Ventura County. Mr. Love writes: "I have advocated naming the ranch for a long time and have found that it pays. Love Ranch is situated two and one-half miles southwest of Filmore in the Bardsdale tract. We have a sign on the barn, white back ground and black letters, with "The Love Ranch, D. C. Love, Propr." The letterhead shows the products of the place to be oranges, lemons and apricots.

"Wildoe-Astoria Villa," owners, J. K. Wilson and G. Thornton Doelle, Nestor, San Diego county, Cal. Devoted to general ranching and farming interests.

Warranted to give satisfaction.

GOMBAULT'S
CAUSTIC BALSAM

A safe, speedy and positive cure for

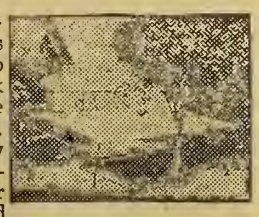
Curb, Splint, Sweeny, Capped Hock, Strained Tendons, Founder, Wind Puffs, and all lameness from Spavin, Ringbone and other bony tumors. Cures all skin diseases or Parasites, Thrush, Diphtheria. Removes all Bunches from Horses or Cattle.

As a **HUMAN REMEDY** for **Rheumatism, Sprains, Sore Throat,** etc., it is invaluable.

Every bottle of **Caustic Balsam** sold is Warranted to give satisfaction. Price **$1.50** per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars, testimonials, etc. Address

THE LAWRENCE-WILLIAMS COMPANY, Cleveland, Ohio.

Smith's Fruit Gatherer



A fruit gatherer that enables two men to do the work of six and not bruise or soil the fruit. Cut shows only one half of machine. Good for fruits, nuts and olives. Can be furnished on short notice. Circular and prices by return mail.

WM. SMITH, 1324 Catalina St., Los Angeles, Cal.

MAINTAINING SOIL FERTILITY.

If a soil is already fertile, in order to maintain its fertility, the favorable conditions must be retained.

First, the organic matter present should not be allowed to fall too low, but the losses which take place during cultivation should be restored by means of barn yard manure, or by ploughing under green crops.

Second, a sufficient supply of active lime must be maintained. Lime is lost in the crop which is carried away, and in the water which passes through the soil. If a sufficient quantity of active lime is not maintained, the soil will produce a smaller quantity of active plant food each year and will decrease in fertility, and it may also become acid. Some crops require more active lime than others.

Third, a sufficient quantity of active phosphoric acid, potash and nitrogen must be maintained in the soil. There are soils in which this can be done for a time by thorough cultivation, the use of green crops, and the prevention of losses of active plant food as far as possible; but eventually the fertility of the soil cannot be maintained without the use of manures or fertilizers.

Active plant food is lost from the soil in two ways: First, it is taken up by the crop, and removed with it; and, second, it is lost by leaching. A portion of the plant food remains in the straw, leaves and other by-products of the crop; and if these are saved and returned to the soil, the loss through the removal of the crop is correspondingly decreased.

If the by-products are burned and the ashes returned to the soil, only the nitrogen is lost, but nitrogen is the most expensive kind of plant food.

Plant food is also lost from the soil in the water which passes through it. Phosphoric acid is lost in this way to a small extent, potash somewhat more, but the greatest loss is nitrogen, which is washed from the soil in the form of nitrates and ammonia. Often more nitrogen is lost by washing from the soil than is taken up by the crop.

It is obvious that plant food cannot be continuously lost from the soil without a decrease in fertility sooner or later. All, or a portion of the loss, must be restored in order to maintain the soil in a fertile condition.

Plant food can be restored to the soil in several ways:

(1) By Manure.

Manure contains a portion of the plant food which is fed to the animals. There is always some loss in its collection and preservation, and unless a quantity of feeding stuffs are purchased, manure alone cannot maintain the fertility of the soil. Manure is, however, of benefit to the soil by virtue of the organic matter which it contains, and it should be preserved and utilized as thoroughly as possible.

(2) By Leguminous Crops.

Leguminous crops have the power of taking up nitrogen from the air, and fixing it so that it is of value to other plants. If, then, leguminous crops such as vetches, peas, alfalfa, clover, peanuts, beans, etc., are grown they secure a portion of their nitrogen from the air, and add to the fertility of the soil, if ploughed under. The roots and stubble also add to the fertility of the soil; but, perhaps, the most effective way of using leguminous crops, is to feed them, save the manure carefully and use it on the soil.

Every farmer should grow leguminous crops as extensively as possible. for his own use in feeding, or for sale, or for plowing under. The importance of these crops will become greater and greater as the nitrogen in the soil decreases. Nitrogen is the most expensive kind of fertilizer, and, so far as possible, it should be secured from the air and not by purchase in feeding stuffs or fertilizers.

Leguminous crops do not add to the store of phosphoric acid or potash in the soil, and may indeed require these fertilizers to effect their best growth. However, the organic residues which they leave may aid in rendering inactive potash or phosphoric acid active.

(3) By Fertilizers.

Fertilizers may contain phosphoric acid, nitrogen and potash, in active forms, and are used to supplement the active plant food of the soil.

Irrigators at Sanger, Fresno county, are having some contention over ownership of water, which is rather shorter supply than usual.

Classified Liners

Rates 1½ cents per word per issue. No ad accepted for less than 25 cents. Our classified columns are the clearing house for the readers of the Cultivator. Here you can insert an ad for the small sum of 1½ cents per word per issue, and be sure that it will be read by thousands.

MACHINERY.

FOR SALE—ONE NO. 8 CENTRIFUGAL pump (vertical,) good as new, with all fittings, very cheap. We have an all steel frame traction running gear without power, very cheap. One 20-H. P. firebox boiler and 15-H. P. engine, all mounted and in fine shape, ready to go to work. Come and see it. One 6-H. P. gas engine, all in fine shape, good as new, for $75. A. CANNADY & CO., 1029 N. Alameda St., Los Angeles, Cal.

COMPLETE PUMPING PLANTS, GASOline engines and centrifugal pumps bought and sold and exchanged; new and second-hand. See us before buying. Can save you money. BAILIE & BRANDT CO., 943 N. Main St., Los Angeles.

BRAND NEW—DISTILLATE ENGINES 10-H. P., $250; 20-H. P., $400; 30-H. P., $560; 40-H. P., $700; 60-H. P., $900. Best in the world for pumping plants. See ad page 96. COWHAM SMITH CO.

FOR SALE—AT HALF ACTUAL VALUE No. 7 U. S. Cream Separator, good as new. One No. 9 machine new, to close out. K. B. Norswing, 5833 S. Main St., Los Angeles.

FOR SALE—MEHRING MILKING MAchine with extra parts and covered pail, all in good order. WM. H. BIRD, Box 6, Compton, Cal.

FOR SALE—3-H. P. AND 6-H. P. VERTIcal Peerless Engines never been used. Will sell cheap. 117 BRUNO ST., Los Angeles.

FARM LANDS FOR SALE.

FOR SALE—1 TO 10-ACRE TRACTS ON CAR line, between Riverside and new cement works; good for chicken ranches, alfalfa or gardening; will sell on easy terms; plenty of water on each tract. C. C. POND & N. R. BELL, Riverside, Cal.

FOR SALE—A BARGAIN—20 ACRES ALfalfa; 2 wells; 12-H. P. pumping plant; 9-roomed house, barn, furnished complete, with cows, pigs and farming tools; family orchard; ¾ mile from town of San Jacinto. Address L, BOX 37 or 'phone 676 Home.

FOR SALE—85-ACRE MOUNTAIN RANCH 40 acres cleared, balance heavy timber; good five-room house; old and young orchard; 75 inches water from Rock Creek, which runs through ranch. Bargain for cash. For further particulars address, FRANK CUMMINGS, Manton, Cal.

FOR SALE—SAN LUIS OBISPO COUNTY ranches of all descriptions. Fine eucalyptus and walnut lands from $10 per acre up. J. F. WEST, Nipoma, Cal.

EGGS FOR HATCHING.

ORPINGTONS, BUFF AND BLACK, THE winners of the lion's share of honors at the Los Angeles County and Breeders' shows this year. The birds that win in the keenest competition and lay eggs all the year. Birds that pay as they go. Handsome catalogue free. Guaranteed fertile eggs in any quantity. Proven breeding stock very reasonable. Write today. Orpington Reservation. ROSS & TATE, Altadena, Cal.

EGGS FROM MY PRIZE WINNING BARred Rocks; won all firsts, all seconds but one, and all specials on Barred Rocks at L. A. C. P. A. Show, 1907. Eggs from best pens, $3 per 15; $12.50 per 100. Stock for sale. CHAS. E. SMITH, Gardena, Cal. San Pedro Interurban car to Smith's Crossing.

POULTRY

KILLAMITE KILLS THEM—BEST INSECT powder made for fowls or plants. 50c for 2½ lb. sifting can, express prepaid by us if your dealer hasn't it. Regular 10c can free, postage paid, for 10 addresses of poultry keepers. WEST COAST MILL, 705 Griffin Ave., Los Angeles Cal.

FOR SALE—STOCK AND EGGS OF THE following standard bred poultry: Black and White Orpingtons, Brown and White Leghorns. J. J. Verkouteren, Route 3, Hanford, California.

MISCELLANEOUS.

ALL ABOUT IMPERIAL VALLEY—BRAWley News, Brawley, California, trial subscription three months, 25 cents.

WANTED—MALE HELP.

NINETEEN JOBS GOING AT PRESENT—Electricity, plumbing, bricklaying taught in few months; tuition back after two months; advanced students paid wages. Free catalogue. UNION TRADE SCHOOL & CONTRACTING CO., 120-126 E 9th St., Los Angeles, Cal.

CATTLE.

FOR SALE—TWO YOUNG JERSEY BULLS—For particulars address DR. C. S. LANE, Santa Barbara, Cal.

DOGS.

SABLE AND WHITE COLLIE PUPPIES—Sires, Brandane Wishaw Squire and Glen Fana Bounder, litter brother to Aufield Model. Dams, Ormskirk Gloriana and Presidio Nellie. $10 to $25; 2 to 8 months. GLENALPINE KENNELS, Grandville, Cal.

TREES.

FOR SALE—1,500 EUREKA LEMON TREES and 1,000 Washington navel orange trees, true to name. Also street and ornamental trees. Clean, healthy stock only offered. GEO. B. WARNER, SANTA ANA, CAL.

The Executive Committee of the Citrus Protective League for the coming year is as follows: A. F. Call, C. E. Rumsey, new members; F. Q. Story, C. C. Chapman, W. G. Fraser, E. M. Lyon, E. S. Moulton, W. E. Sprott and C. C. Teague.

What MORE Could You Desire In A Savings Bank?

20,000 Depositors
Strong Directorate
Capital and Surplus Over
$900,000
Resources
$10,000,000

GERMAN AMERICAN SAVINGS BANK

Tallest Building in Los Angeles

SPRING & FOURTH STS.

Heart of the Business Center
Model Banking Facilities

Plan to Visit
Yosemite Valley
This Season

It Is a Quick, Comfortable Trip
—VIA—
YOSEMITE VALLEY RAILROAD

An ideal outing in the Sierras amid the grandeurs of Yosemite. Cost reduced to popular prices. Ample hotel and boarding-camp accommodations. Write for descriptive folder.

For Tickets and Connections see
Southern Pacific or Santa Fe
OR ADDRESS
H. H. VINCENT, General Agent
553 South Spring St., Los Angeles, Cal.

Oldest and Largest in the Southwest
SECURITY SAVINGS BANK
Los Angeles, California
CAPITAL AND RESERVE $1,200,000.00
TOTAL RESOURCES OVER $20,000,000.00
We Pay Interest
4% on Term Savings and on Six Months Certificates of Deposit
3% on Ordinary Deposits
By special arrangement 'Ordinary' accounts may be checked against without presentation of a pass book, and 3 per cent. interest will be paid on the minimum monthly balances.

Deposit Your Surplus Savings
WITH THE
California Savings Bank
Los Angeles, Cal.
4% Paid on Time Deposits
3% Paid on Checking Accounts

Household Department

THE OLD FARM.

When the busy day is over with its anxious hopes and fears,
And the telephone stops ringing and the last clerk disappears,
With a sigh I lean back weary in my swinging office chair.
And my thoughts go back to childhood and the old farm that is there.

I can see the dear old homestead, broad and low, beneath the trees,
And the row of shining milkpans sunning in the fresh, sweet breeze;
I can see the barn and horses, and the orchard on the hill,
Where we gathered golden pippins for the old straw cider mill.

I can see the upland pastures dotted o'er with grazing sheep,
And the wheat fields waving golden, ready for the men to reap.
I can see the old stone fences where the chipmunks used to play
And the cornfield, and the meadow with its piles of fragrant hay.

I can see the cattle standing 'neath the willows of the brook
Where I used to fish minnows with a bent pin for a hook;
And the pond where grew the lillies that my mother used to prize.
Ah, the light of heaven's shining now within those dear old eyes.

And I sigh while fancy lingers o'er each well-known pleasant scene
Of the happy days of boyhood thrown by memory on the screen;
And I'd give all I have gained since, all my wealth and treasnres rare,
To go back again to childhood and the old farm that is there.

—Maxwell's Talisman.

LAW OF THE RANGE.

ON THE western slope of the great Cascades where the Columbia rolls blue to the sea and the sun smiles warmly on the hundred-mile ribbon of green, luxuriant pasture range, there the word of the law was Force and the strength of the Stronger Man.

Old Jim Markleton, in all the years his cattle had ranged that slope, had been the Stronger Man and the Law, and when Bud Bledsoe and his sheep outfit came up from the south there had been a dividing line marked down by the Law which Bledsoe's sheep were to severely respect. The dividing line was Hopkins' Creek and the price of passing—death. Bledsoe's sheep chopped the stubby grass above Hopkins' Creek until there was none left to crop, so they crossed. It was then that the war began.

Martha Markleton, breathing deep the mountain air, rubbed her eyes and looked to the dawn-kissed peaks of the snowy Cascades. Rising white and blue and straight as a temple column, a thin shaft of smoke sought to touch the heavens. The girl choked in her deep breathing and turning ran fleet-flooted to the house, her eyes wild with excitement.

"Dad! dad, dad!" she cried, "they're comin';"

There were four of them when they rode away, Old Jim, Mat Hicks, Tom McConnel and Martha. The old man swore at her coming.

"It ain't goin' to be no picnic, girl," he chided; "there'll be some killin' and a reg'lar barbecue of sheep. I'll kill Bud Bledsoe if I can. Likewise he'll kill me if he can."

Martha Markleton fell to thinking. Once in her lonely rides she had met Bledsoe and talked with him. Taught to despise sheepmen, she had found it hard to dislike Bledsoe, who had a "way" so different from her own folks and kind which she had read about in books. He was a good-looking young chap, good-looking in spite of his red hair, and, what was greater, he seemed to have no more fear of her dad than she. "When the grass is gone up yonder," he had said, "then we will cross the creek." After that he had recited his opinion of a man who thought he owned the whole State of Oregon, which made her very angry, and immediately following that he had made her gasp when he said: "I believe that I already love you and will want to marry you some fine day." Even now her heart beat faster when she called it to mind.

And now her dad was riding out to kill Bud Bledsoe and Bledsoe to kill her dad.

It was near to noon when they came across the Bledsoe's party. "Peg" Donaldson, Markleton's lookout, who had signaled the march of the enemy, had taken to the woods, and showed up after the fight was over, pale and embarrassed. Plugged deep by a bullet from one of Bledsoe's men, old Markelton lay cursing and spitting blood, while his stalwart enemy, Bledsoe himself, bandaged him up, carried him into his own shack, and laid him carefully on his own bed. Then he left him in care of Martha, while he rode down into Somerset, 14 miles away, to fetch a doctor.

Markleton was old, and it took him a long time to get well. It was a very long time, even before he could be moved to his own ranch. Disgruntled of the big, red-headed sheepherder and his men, old Jim begged his daughter to stay with him.

Martha Markleton stayed at her father's side and cried when Bud made love to her, and scolded her father for terming their host a "good-for-nathin', murderous sheep-hooker."

But in time old Markleton began to hold this indomitable young "cuss" in awe. Hours at a time Bud and he cheerfully wrangled at politics or poker, the younger man always coming out modestly victorious in the end.

One day (the old man was able to hobble about) Bud broached the question.

"I love your daughter, Jim," he said, "and she loves me. She's never quite said so, but she does just the same. Never mind now! Wait until I'm through talking. I've got a proposition. The law of the range is what I say. You're a back number, a good-for-nothing old cowpuncher. Pray don't get excited. Suppose we make it 'Markleton & Bledsoe.' You know the law of the range is what I say."

"Dad, dad," said a small voice, "do!"

The old man thought it over just one minute and again the small wee voice said: "Dad, do!"

"The law of the range is what she says," old Markleton flared up, and he again began cussing his luck.—Universal Magazine.

The Personal Neatness Club

"KEEP your face clean" should be superfluous. Body cleanliness should be as needless to speak of, but unfortunately some are not as careful as may be best for the complexion, which is an indication of the condition of the body. Perhaps one who may be careless in this matter may not be charged with being unclean, but has not used the cold water dash with that regularity which brings the glow of the most perfect health.

Use the water freely. As to using it on the face, M. H. comes with some suggestions this week as follows:

CARING FOR THE COMPLEXION.

It is said that a lack of cleanliness is the cause of one-half of the unhealthy and disfiguring skins one sees every day, and it takes frequent bathing to keep the pores of the skin open and active so they can expel the waste matter, and keep the complexion pure and clean. It is an excellent practice to wash the face at night just before going to bed; then the face is cleaned of floating dust and particles that might cause blackheads and pimples, and that is the only time that soap should ever be used on the face. The manner of washing and wiping the face has much to do with the general condition. When washing and drying the face, rub upward and outward, never down, and with care. Flabby cheeks can be made firm and round by the constant use of a good skin food and rubbing upward. Hard water is ruinous to any skin and even when rain water is used a little borax should be added, as the borax makes the water softer and helps to keep the skin firm and smooth, and the borax water is a splendid tonic for the eyes as well as for the skin. Face foods and the ingredients for the same are not always in the reach of country people, but one of the very best foods for the face is poultry fat of any sort, and especially goose grease. This may be clarified and perfumed to suit one's taste. Hot milk is a safe, nourishing lotion for the skin to restore its plumpness. Lay linen wet in it on the cheeks after massaging the face.

It is said that the following treatment is an excellent remedy for blackheads: Wash the fact at night with hot water and good toilet soap, then follow this with a wash of cold water to rinse every particle of the soap away, then with a piece of old soft linen. In the morning bathe the face with hot sweet milk, and rinse with cold water, and you will soon get rid of these facial blemishes.

M. H.

WHERE MOTHER IS.

Old-fashioned flowers, with fragrance sweet,
Bloom, where mother is.
Life's a psalm, a song replete
With joy, where mother is.
There all woes and sorrows cease,
Naught but rest and heavenly peace
Dwells, where mother is.

The jostling crowd, the wearing din,
Are not, where mother is.
The flaunting rags of shame and sin
Reach not, where mother is.
Heart-sick, brain-tired, nerve-wracked soul,
Before thy tear-dimmed eyes a goal
Exists, where mother is.

All grief and doubt and unbelief
Flee, where mother is.
Hope and faith and sweet relief
Come, where mother is.
Mother, mother, name most sweet,
Heaven guide my weary feet
Home, where mother is.

A clean, dry sponge is the best thing to use in removing lint from woolen material.

Arranging for a Luncheon

PROBABLY most of us are unable to have both cook and waitress, and when we offer our friends luncheon must cook and serve it as well as preside at the table, and this necessarily prohibits us from attempting many little niceties of cooking and serving. We all want to know the correct way to do things, however, and are willing to work hard to even approximate the standard of dainty living. The following article by Mrs. Sherman certainly offers many valuable and tempting suggestions which we can adapt and simplify for our individual needs. The idea of having printed lists of the things to be done, arranged in the order in which they should be taken up, would be a great aid to the woman who grows confused under the strain of being cook, waitress and hostess at one and the same time.

* * *

Menu for Luncheon.

The trouble that a few guests make in the ordinary home is unnecessary. A simple lunch that is easily prepared as it contains only three hot dishes and coffee, can be handled with the ordinary maid. The following was served on July 10th and proved acceptable to both ladies and gentlemen. The enclosed slips were typewritten and pinned up for the maid; the hostess then simply takes her place at the head of the table and never exchanges a word with the waitress during the service. The cook and waitress have the printed instruction to go by and are not worried by trying to remember the details of service. The plates, doilies and silver are all ready for them. The dishes used are put in the kitchen and pantry and under the edge of each pile is slipped a bit of paper with the name and number of the course it belongs to. The cover plates may be the same through the meal. Have extra doilies to take the place of any that may be soiled. Paper is often used for doilies, but it has rather a hotel look, and if the family entertain at all it will pay to have these of linen with a neat embroidered edge. Some of mine have been in constant use for ten years, and a few are closer to twenty years old; they last a long time and give the table a pleasing freshness.—M. E. Sherman.

* * *

Slip for the Waitress.

Set table with ice in the glasses. One glass full of ice water and one of orangeade at each place. Put on bread and butter plates with butter, one piece of bread and two crackers. Set table with one butter spreader, one boullion spoon, fish fork, dinner fork and knife, salad fork, 2 teaspoons, cake fork, coffee spoon.

* * *

Put on cover plate with doiley. Set the clam juice in bouillon cups on this plate. Reduce the clam boullion to taste with cold water, have it well chilled and drop a heaping spoonful of whipped cream in the center of each cup. Remove the bouillon cups. Leave the cover plates and doiley.

* * *

Salmon, Cnaud Froid with cucumbers. Remove cover plate with this course.

* * *

Young turkey fried. Serve on the dinner plates; put the mashed white potatoes on the same plate. Serve string beans on small plates after having served every one with turkey. Fill all glasses that are empty now before the next course.

* * *

Put on cover plates with doilies under the salad. Serve the tomatoes on small plates. Stand the oil and vinegar on the table. Remove the tomato plates leaving the cover plates.

* * *

Apricot ice and cake. Serve the cake on small plates. Stand the apricot ice on the cover plates in tall glasses.

* * *

Remove the ice cream service and doiley. Leave the cover plate. Put on the cheese and crackers. Serve the coffee and stand the finger bowls at each place.

* * *

Do not hurry or worry. If any mistakes occur quietly omit that portion of menu as there is plenty without any one course. Let them take it slowly and enjoy the good viands and excellent service to the fullest Remember they may not have a chance again to get anything so good.

* * *

For the Cook.

Clam bouillon. Reduce the juice one-half with water and season it. Fill cups a little over half full. Have it cold but not iced. When serving add a teaspoonful of whipped cream.

* * *

Salmon. Take a scant cup of whipped cream for this. Two cans of salmon, picked and shredded on a clean napkin to make it dry. Mix it with the juice of a lemon and a little Worcestershire sauce. Have enough gelatine dissolved to make a stiff quart of jelly. Mix this with the salmon. Just when it begins to stiffen a little fold in the whipped cream. Put the mixture into cups and let it harden on the ice. Have cucumbers well sliced and in vinegar with salt and pepper for a couple of hours. Turn out the salmon on individual plates and surround with a ring of the cucumbers. Have these well drained and do not use any oil on them.

* * *

Young fried turkey. Serve on dinner plates with the mashed potatoes.

* * *

Serve string beans with cream dressing on small plates.

* * *

Tomatoes filled with tomatoes and cucumbers. Use French dressing or Mayonaise; either will answer.

* * *

Apricot ice and cake. Serve the ice in regular glasses and cake on small plates.

* * *

Serve the coffee with crackers and cheese.

Save the slices of bread which are not eaten at meals and cut them in small cubes and brown them in the oven to use in soup, or brown and grate them to use in thickening gravy.

When the handles of steel knives used in the kitchen become loose or come off, they can easily be mended with resin. Pour a little powdered resin into the handle, then heat the shank until it is red hot, and thrust it quickly into the resin, and when it is cool the handle will be firmly fixed.

Tray cloths and napkins made from flour sacks are convenient and easy to make. The cloth is loosely woven and the hemstitching is quickly done at odd moments, and you can cut them any size you want, and these small cloths are a great saving to the table cloth.

The Oldest Savings Bank in California

FOUNDED IN 1857

The Savings and Loan Society

101 Montgomery St., Cor. Sutter St., San Francisco

CAPITAL FULLY PAID $1,000,000.00

Exclusively a Savings Bank whose policy is for ***Conservatism*** and ***Safety,*** the result of ***50 years experience.***
Deposits may be made and withdrawn by mail.

San Francisco Savings Union

Founded June 18, 1862 Northwest Cor. California and Montgomery Sts., San Francisco

Conducts a Savings Bank Business Exclusively

Capital Paid Up, $1,000,000.00. Surplus, $1,183,632.00.

Total Assets, $27,508,850.00.

E. B. POND, President.
W. C. B. de FREMERY AND C. O. G. MILLER, ... Vice-Presidents.
LOVELL WHITE, Cashier. . . . . R. M. WELCH, Asst. Cashier.

DIRECTORS: John F. Merrill, Wm. A. Magee, W. C. B. de Fremery, H. C. Breeden, Jacob Barth, Fred H. Beaver, Wakefield Baker, C. O. G. Miller, E. B. Pond.

Every facility afforded for opening accounts and making deposits and withdrawals by mail. Correspondence invited.

Largest National Bank West of Denver and South of San Francisco

First National Bank

of Los Angeles, California

UNITED STATES DEPOSITORY FOR GOVERNMENT FUNDS

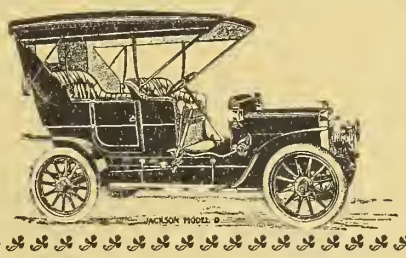
TOTAL RESOURCES, $16,000,000

ADDITIONAL ASSETS—One Million Five Hundred Thousand Dollars invested in the stock of the Los Angeles Trust Company and the Metropolitan Bank and Trust Co., and held by the officers of the First National Bank, as Trustees, in the interest of the shareholders of the Bank.

We are prepared to extend to the small depositor the same personal and careful attention that we do our largest accounts.

No Hill Too Steep FOR ***No Sand Too Deep***

Jackson Automobiles



RUNABOUT, 18 H. P. - $ 900
TOURING CARS, 24 H. P., $1350 and $1650
TOURING CAR, 35 H. P., 4 cyl., $2150
GENTLEMAN'S ROADSTER, - $2150

Send for Catalogue and List of Used Cars
Agents Wanted Where Not Represented

A. W. GUMP AUTO CO.
1118 S. Main St., Los Angeles

$16.30 buys this handsome six-hole Nickle-Trimmed Cast Range direct from the Manufacturer

without high shelf. With high shelf, just as shown in the cut, $19.97; large oven, six cooking holes, best quality of iron. Burns coal or wood. Handsome nickel trimmings. OUR TERMS are the most liberal ever made. You can pay after you receive the range. You can take it into your own home and use it 30 days. If you don't find it exactly as represented, the biggest bargain you ever saw, you won't have to keep it.

Write today for our beautifully illustrated Stove Catalogue No. 101-C. A postal card will do it. Don't buy until you get it.

P. F. Ross & Co.

268 Market St. San Francisco, Cal.

Cultivator Order Blank

_____ 1908

CULTIVATOR PUBLISHING CO.,
115½ No. Broadway
Los Angeles, Cal.

Gentlemen—Enclosed find $_____ for which please send the **Cultivator** for one year to the following, or credit on my account from _____ 190— to _____ 190—

NAME	P. O. ADDRESS	STATE

Are you an old or new subscriber? _____

SIGNED _____

ADDRESS _____

The Produce Markets

Los Angeles Markets

LOS ANGELES, July 22, 1908.

Butter.

Butter remains at last week's quotations with but little of interest in market conditions other than market is weak.

Wholesale quotations now are:

Creamery ex per roll................50
Firsts........ ....47½
Dairy........ 25
Cooking.... 25
"Butterine"...... .. ..15@20

Cheese.

Cheese has declined and at present is very weak. It is said that cold storage has enough cheese to supply needs of this market for six months.

Southern California..... ......14½@17
Northern fresh........ ....12½
Longhorn........ 17
Eastern singles...... 16
Cheddars........ 17
Imported Swiss...... ....28@30
Swiss........ ....16½@17
Oregon........ 15
Limburger........ ....17½

Eggs and Poultry.

Eggs are remarkably strong and have advanced 3 cents during the week. The demand for fancy stock is exceptionally strong. Even at the advanced price cold storage eggs are coming out slowly. More Eastern eggs are expected soon.

Eggs local candled........ 28
Eggs case count...... ....25½@26
Firsts fresh...... 27
Eastern fresh........ ....22@23

Wholesale prices..

Hens per lb.......... ....10@12
Young roosters per lb................17
Fryers.... ....15@17
Broilers per lb...... ....15@17
Roasters......... 16
Old Roosters............ 7
Turkeys...... ....16@18
Geese... ....11@13
Ducks......... 10
Squabs...... ....1.25@1.50

Live Stock.

The following quotations are f. o. b., Los Angeles, on all stock.

Hogs from 175 to 200 pounds..6¼ @6½
Prime steers........ .. ..4¼
Heifers...... ....3½@3¾
Calves per lb........... ....4½
Sheep ewes per head...... ..3.75@4.00
Lambs per head...... ....3.00@3.25
Wethers........ ....4.00@4.50

Potatoes.

Potatoes are unchanged and featureless, other than that the market is still very weak and supplies large.

Wholesale prices are:

Sweet potatoes per bx new crop 2.00
White Rose new ....1.25@1.40

Onions.

Onions are as flat as ever with large supplies in sight. Quotations same as last week.

Wholesale quotations are:

Bermudas per 100....... ....1.00
Bermuda per crate........ 50
Silverskins new...... ....1.15@1.25
Crystal wax per crate.......1.00@1.25
Northern Red..... ....1.05@1.25
Garlic........ 7

Vegetables.

The following are commission house prices; deduct freight and commission to secure farm prices.

Artichokcs per box........ 70
Beets per doz...... ....25@30
Bell peppers per lb.......... ......5@6
Beans limas per lb..... 4
Beans string...... ....3½@4
Cabbage sack......... ....60@65
Cabbage red per lb...................2
Celery per doz green hothouse..1.25
Corn per box 30
Chili peppers per lb..............5@6
Cucumbers per doz...... ....25@35
Cauliflower per doz........ ....1.40
Carrots per doz........ ....25@30
Egg plant lb...... 5
Green onions doz bunches......20@30
Horseradish...... ....12½
Lettuce per crate.. ....60@65
Mint per box........ 40
Okra............ 9
Peas sugar per lb...... 4
Parsley.. ... .30
Parsnips.... ....35@40
Rhubarb per box.... ....50@1.00
Rhubarb northern...... ....1.75
Radishes per doz.. ....15@20
New summer squash per box.... 15
Summer squash per box..............25
Salsify...... ....15@20
Spinach per doz.... ....15@17
Turnips dozen bunches...... ...25@30
Tomatoes lug box...... ....20@50

Citrus Fruits.

Navels fy off bloom...............2.00
Navels ch.......... ....1.50@1.75
Valencias...... ....3.25@3.35
Grapefruit seedless...... ....3.00
Grapefruit seedlings...... .. 1.75@2.00
Lemons fancy...... ....2.25
Lemons choice........ ....1.75
Limes 15-lb box...... 75

Fresh Fruits.

Wholesale prices on the market are:

Red Astrachans new...... ......50@60
Astrachans packed box.............1.25
Crab apples...... ....75@1.00
Alexandria 4-tier...... ....1.35
Gravenstine 4½-tier........... ....1.40
Apricots per lug box............40@60
Cantaloupe st...... ....1.50@1.65
Cantaloupe locals large crate3.75@4.00
Cherries Oregon fancy........1.50@1.75
Cherries per lb........ ....7@8
Royal Annes...... 85
Currants per box.... 85
Dewberries........... 4
Figs per 20-lb box........ ....2.00
Grapes Thompson seedless.... 75
Grapes Concord per crate......... 2.50
Muscats per crate.. ....1.00@1.25
Nectarines...... ....1.00@1.10
Pears per box........ ....1.00
Plums Burbanks per box............85
Plums Sonoma........ 85
Plums Satsumas...... .. ..1.25
Plums Kelsey 85
Plums Wickson 90
Plums Tragedy...... 85
Plum peach........ 85
Silver prunes........ 85
Peaches per lug box..........1.25@1.50
Raspberries per box.... ....3 1-3
Strawberries per box...... .....2@2½
Extra fancy........ 10
Blackberries per box...........3 1-3@4
Loganberries per box........ .....3@4
Gooseberries........ ....8@10
Watermelons per lb........ 1

Dried Fruits.

Wholesale prices are:

Apricots........ ....7@9
Evap apples fy per lb........ ....7¼
Figs loose white...... 6
Figs blk...... 4
Peaches...... ....9@10
Pears.... ....11½@12½
Nectarines...... 14
Prunes........ ....4@4½

Beans Dried.

Wholesale prices:

Limas per ctl........ ....5.50
Pink No 1........ ....3.80
Lady Washington 5.00
Small white...... ....4.75@4.80
Black eyes........ ... .3.55
Garvanzas.......... ....4.80@5.00
Lentils.... ....9@10
Bayou..... ....3.80

Nuts.

Almonds per lb.... ....15@16
Pecans polished...... ....12@15
Peanuts Virginia........ ....7½
Peanuts California........ 7
Walnuts No 1 SS....................14

Honey.

Wholesale quotations:

Extracted Water White...... 7
Comb W W........... 16
Comb white........ 15

Hay.

Price paid to producers f. o. b. Los Angeles are as follows:

Barley No 1......... ....13.00@14.00
Barley No 2...... ....10.00@12.00
Alfalfa northern per ton....11.00@12.50
Alfalfa local...... ....12.50@13.00
Plain oat No 1..............15.00@17.00
Wheat No 1......... ....13.00@15.00
Wheat No 2...... ....12.00@14.00

Grain.

Wholesale selling price f. o. b., Los Angeles.

Wheat new per ctl..................1.85
Wheat in 100-lb sacks...... ......1.90
Kaffir corn...... ....1.80
Barley........ ....1.55
Corn Eastern sacked...... ....2.00
White oats.. .. ..1.90

Feed Stuff.

Selling price F. O. B. Los Angeles as follows:

Cracked corn........ ....2.05
Shorts........ ....1.80
Bran........... ....1.65
Oil cake meal............ ....2.50
Feed meal...... ....2.10
Rolled barley........ ....1.50

Hemet reports an apricot crop that exceeds all expectation. Two large dryers have been at work for the past three weeks, and almost a dozen individual ones as well. About forty cars of the green fruit have been shipped from here. Lowry and Pitker, ranchers east of town took 50 tons from 368 trees, and sold them for canning. The dried fruit here is of a very fine quality.

San Francisco Markets

SAN FRANCISCO, July 21, 1908.

Butter.

Butter is steady at exactly last week's quotations.

California extras per lb...... ......22½
California firsts...... ....21½
California seconds...... ....20½
Fresh packing stock...... ....19½

Cheese.

Cheese is in heavy supply with quotations slightly lower than last week.

California young American fy....13½
Firsts........ 13
California flats fy...... ....10½
Firsts.... ....10½
Young America fy 14½
Eastern fy........ 16
Oregon fy.... 12

Eggs and Poultry.

Egg market is steady with an advance of one to two cents per doz. since last quotations given.

Official quotations of the S. F. Wholesale Dairy & Produce Ex. are:

Fresh ranch eggs.......... ....24½
Eggs firsts per doz..................23
Eggs second per doz..............19½
Eggs thirds...... 17

Hens per doz....... ....3.50@5.50
Hens extra.. ....6.50@7.50
Young roosters.... ....5.50@6.50
Old roosters...... ....3.50@4.50
Fryers per doz.... ....4.50@5.50
Broilers per doz...............3.00@4.00
Geese per pair........ ....1.50@2.00
Goslings per pair........ ....2.00
Ducks young...... ....5.00@7.00
Hen turkeys per lb.............20@21
Gobblers live...... ....19@20
Spring turkeys...... ....24@26
Pigeons young.... ....1.25@1.50

Live Stock.

San Francisco prices gross weight:

Steers No 1........ ....3¾
Do second quality...... ......3¼@3½
No 1 cows and heifers..........3@3¼
Hogs 80 to 200 lbs.............6¼@6⅜
Hogs 200 to 300 lbs...............5¾@6
Calves per lb.......... ....3½@4½
Lambs spring.......... ....4¾@5
Wethers No 1....... 4
Ewes No 1...... ....3½

Potatoes.

A slight advance is noted on potatoes with a strengthening of tone of market. Poor stock still goes begging however, with few offers to purchase.

Wholesale market quotations:

New potatoes per ctl.........1.00@1.25
do per box........ ....1.00@1.10
Early Rose new........ ....75@85

Vegetables.

Wholesale quotations:

Asparagus per lb........ ....6@8
Bell peppers.... ....3@5
Celery per doz...... ....35@50
Cucumbers per box..............60@75
Chili peppers per lb................3@6
Corn per sk...... ....1.25@2.25
Egg plant per lb.... ....6@7
Green peas per sk.............1.00@1.50
Lima beans ....3@6
Squash per box........ ....50@75
Onions green per box...........70@75
Okra per box.............. .....1.00@1.25
Rhubarb per box....... ....50@65
Tomatoes per box......... ......25@40
Tomatoes River large bx....1.25@1.75
String beans...... ....2@5
Wax beans.... ....3@4
Garlic new........ ....4@6

Onions.

Onions red per sk................60@75
Onions yellow per sk............70@90

Citrus Fruits.

Navels...... ....2.00@3.50
Valencias fancy........ ... ..2.25@3.50
Grapefruit seedless...... ....3.50@4.00
Grapefruit seedlings ....1.75@2.25
Lemons ch...... ....1.50@2.20
Lemons fy........ ....2.75@3.50
Limes........ ....4.00@5.00

Fresh Fruits.

Apples green per box...........50@1.00
Apricots per box....... ....35@50
Apricots per ton.... ....20.00@27.50
Blackberries per chest.... ..1.50@3.50
Cherries white per drawer......35@60
Cherries Royal Annes......... ....3@6
Cherries Black.... ....3½@6
Currants per chest.. ....5.00@7.00
Figs per crate.......... ....35@50
Grapes per crate......... ......125@1.75
Gooseberries per chest...... ......1.00
Gooseberries per lb..... ....3@7
Loganberries.... ....2.00@3.00
Melons ponies.... ....1.00@1.25
Melons st...... ....1.25@1.50
Pears Bartlett per box..........75@1.00
Plums Clymans........ ....35@60
Plums Tragedy.......... ....40@60
Peaches per box........ ....40@60
Peaches baskets....... ....40@60
Allgator pears per doz.......7.00@9.00
Raspberries per crate.... ....1.50@1.75
Raspberries per chest.... ....3.00@7.00
Strawberries per chest........3.00@4.00
Longworths per chest.........4.00@6.50
Watermelons per doz.... .....1.50@3.00

Dried Fruits.

1908 prunes being contracted for at 4 cents for Santa Claras at 3¾c for outsides.

New crop contracts for future delivery, 25-lb. lots—Apricots, per lb.: Standards 6@6½; choice 5@6; fancy, 6½@7½

PEACHES—Standards, 5@5¼; choice 5@5½; fancy 6@7.

Apples (evap.)...... ....4½@6
Apricots per lb st...... ....6@6¼
Apricots choice...... ....6¼@6½
Apricots fy ....7½@8
Figs white........ ....2¼@3½
Nectarines.... .. ..10@13
Plums pitted..... ....12@15
Peaches st........ ....5@5¼
Peaches ch.... ....5¼@5½
Peaches fy...... ....6@6½
Pears.......... ....5½@7
Prunes 4-size bag basis........2¾@3¼

Raisins—1907 crop, f. o. b.: Clusters and Layers, 20-lb. bxs—Imperial Clusters, 6-crown, $2; Dehesa Clusters, 5-crown, $1.75; Fancy Clusters, 4-crown, $1.40; London Layers, 3-crown, $1.10; do, 2-crown, $1.05. Seeded, 25-lb. bxs—Fancy bulk, per lb., 5½@6c; Choice bulk, 5½@6c. Loose Muscatels, 50-lb. bxs—Standard, 4-crown, 4c; do, 3-crown, 3¾c; do, 2-crown, 3½c; Seedless, 3¾c. Seedless Sultanas—Unbleached, 4¼@4½c. Thompson Seedless—Unbleached, 4½@4¾c. Dried grapes, 3c.

Nuts.

Walnuts S S No 1 new crop...12½@13
Walnuts No 2......... ....10@10½
Almonds nonp.... ....11@12
Almonds IXL.... ....10@10½
Ne Plus Ultra........ 10

Beans Dried.

Limas.... ... .4.90@5.00
Pink...... ....3.25@3.40
Small white.... ....4.50@4.60
Large white........ ....4.50@4.60
Lady Washington...... ......3.45@3.50
Black eyes........ ....3.40@3.60
Red kidneys.......... ....2.75@3.00
Garvanzas...... ....3.50@3.75
Bayo........ ....3.10@3.25
Horse beans...... ....2.25@2.40

Hops.

Hops per lb........ ....4½@6¼
Hops old fancy.... ....2@3
Hops 1908 contracts.. .. .. ..10@12

Honey.

Clear white comb........ ....15@17
Amber .... 12@15
Extracted w c.......... ....7½@8½
Extract light amber..... ......6½@7½
Beeswax No 1 per lb...... ......28@30
Beeswax No 2 per lb...... ......25@27

Hay.

Somers & Co. say:

Shipments of hay to the San Francisco market show but little variation from the average of last week, the total showing 2910 ton in comparison with 2760. The situation continues unchanged in every way for country prices will not permit hay to be sold here to advantage and the local demand continues rather quiet. Purchasing for winter delivery has been fairly active throughout the principal growing districts during the past week but in the light of the present situation circumstances hardly warrant the prices being paid. It would appear, therefore, that the element of speculation was the principal factor in effecting present trades.

Because of existing high prices here considerable trade is being taken from the San Francisco market, reports reaching us continually of many outside points that have received their supply from this market now buying in other Coast sections.

As to the future, we must concede that the market will be a very sensitive one. There is no great oversupply in the State this year and should business materially improve, we will see some advance over the present range which in fact will be necessary in order to prevent present country buyers from making serious losses.

Choice wheat hay.... ......15.00@17.00
Good wheat hay.... ......13.50@15.00
Other grades same.... ......11.00@13.00
Wheat and oat....... ......11.00@15.00
Tame oat........ ....11.00@15.00
Wild oat.... ....10.00@13.50
Stock hay .... 8.00 to 10.00
Alfalfa.... ....9.00@13.00
Straw, per bale.. ....45@75

Grain.

Wheat No 1....... ....1.62½@1.65
Barley new....... ....1.27½1.30
Corn small yellow...... ..1.72½@1.77½
Oats white...... ....1.45@1.55
Oats gray....... ....1.50@1.55
Rye new crop..... ....1.47½@1.50

Feed Stuff.

Bran per ton....... ....30.00@31.50
Feed cornmeal per ton.....39.00@40.00
Cracked corn per ton......40.00@41.00
Rolled barley per ton........27.50@28.00
Oil cake meal per ton......36.25@38.25
Cocoanut cake per ton......25.00@26.00
Middlings.... ....32.00@35.00

Citrus Market

LOS ANGELES, July 22, 1908.

About 40 to 50 cars of citrus fruits are going forward daily now, about a third of which are lemons. The orange market is satisfactory with promise of closing the season with fair return for Valencias.

Lemons are not strong. Importations are very heavy and unsteadiness prevails.

Shipments.

Total shipments to date aggregate 26,784 cars, of which 3785 were lemons. To same date last year 25,604, of which 2902 were lemons.

NEW YORK, July 20.—Seven cars of Valencias, one of mixed, one of St. Michaels, one of sweets and one of lemons were sold. The market is unchanged. The weather is clear and hot.

	Avg.
VALENCIAS—	
Vista Bonita J A Graham	$3.85
Park Hill	3.45
Orchard o r Nat Or Co	4.05
Standard st Nat Or Co	3.55
Rose xfy Red Or G Assn	3.55
Aurora o r Ed Peycke Co	3.90
Climax xc E Peycke Co	3.60
Blue C Cov Ft Ex	4.15
Red C Cov Ft Ex	3.50
Cougar Cov Ft Ex	3.40
Greyhound San Anton Ft Ex	2.75
Planet Sunset Ft Ex	3.65
MEDITERRANNEAN SWEETS—	
Stork San Anton Ft Ex	2.35
Ben Patch San Ber Ft Ex	3.15
Pony San Ber Ft Ex	2.60
NAVELS—	
Home Grove San Antonio Ft Ex	1.95
KING TANGERINES—	
Stork San Ant Ft Ex	1.80
ST. MICHAELS—	
Tally-Ho San Ber Ft Ex	3.80
Big R San Ber Ft Ex	3.45
Big R (half boxes) San Ber Ft Ex	1.55
LEMONS—	
Independent fy Grs Ft Co	2.50
Rialto Girl fy Gr Ft Co	2.40

ST. LOUIS, July 20.—Market is weak on account of the weather—raining. Four cars sold and eight on track.

VALENCIAS—	
Volunteer San Ant Ft Ex Pom	3.75
Hawk San Ant Ft Ex Pom	3.05
NAVELS—	
Morning Glory off bloom S A Po	1.85
Parrot San Ant Ft Ex Pom	2.75
Hawk San Ant Ft Ex Pom	1.45
Greyhound San Ant Ft Ex Po	1.90
MEDITERRANEAN SWEETS—	
Volunteer San Ant Ft Ex Po	3.30
LEMONS—	
National E B Leach Chula Vista	2.00
Honest Pack Se-Trop Ft Ex Tus	2.55
Lucky Semi Tropic Ft Ex Tus	2.50

PITTSBURG, July 20.—Five cars sold and two on track. Market higher on Valencias. Weather favorable.

VALENCIAS—	
Red Shield ACG Ft Ex Azusa	3.55
Green Crown ACG Ft Ex Azusa	3.30
Aurora o r E Peycke Co	4.05
Climax exc E Peycke Co	3.75
NAVELS—	
Oriole V C Ft Ex Fili off bloom	1.00
LEMONS—	
Mission Semi-Trop Ft Ex San Bar	2.45
Festival Semi-Trop Ft Ex San Bar	2.25

CLEVELAND, July 20.—Weather cool. Market is declining. Five cars sold and four on track.

VALENCIAS—	
Mt. Lion fy Speich & Co	3.35
Golden Scepter o r Rialto o Co	3.55
NAVELS—	
Royal off bloom Q C Ft Ex Cor	1.40
MEDITERRANEAN SWEETS—	
Royal Queen Colony Ft Ex Cor	2.15
ST. MICHAELS—	
Royal Queen Colony Ft Ex Cor	2.60
GRAPEFRUIT (Seedless)—	
Queen Bee Queen Col Ft Ex Cor	1.10
LEMONS—	
Trail Semi-Tropic Ft Ex Lam	2.55

For Mehring Foot-Power Milking Machines see O. J. Weber Co., 555-557 S. Los Angeles St., Los Angeles, Cal.

Canon Semi-Tropic Ft Ex Lam	2.15
Our Beauty Se-Trop Ft Ex Lam	1.95
Orchid fy Altland Ft Co	3.20
Buscada Altland Ft Co	2.45

PHILADELPHIA, July 20.—Two cars of Valencias and one car of lemons sold. Weather hot. Market is improving. One car on track.

VALENCIAS—	
Stag ACG Ft Ex Glen	3.76
Purity fy Tustin Pack Co	3.73
Old Oak ch Tustin Pack Co	3.47
NAVELS—	
Pointer ACG Ft Ex Glendora	1.54
LEMONS—	
Corona Beauty Queen Col F E Cor	1.33

BOSTON, July 20.—Five cars sold and twenty-six on track. Weather favorable. Market is doing better.

VALENCIAS—	
Stag ACG Ft Ex Glendora	4.35
Rose exfy Red O G Assn	3.85
Mt. Lion fy Speich & Co	2.50
LEMONS—	
Silence xch Flagler Ft Co	2.90

CINCINNATI, July 20.—Weather warm. Market steady. Three cars sold and one on track.

LEMONS—	
Pet San Ant Ft Ex San Di	2.45
Greyhound San Ant Ft Ex San Di	2.45
Duck San Ant Ft Ex San Di	1.50
Pet San Ant Ft Ex San Di	2.65
Greyhound San Ant Ft Ex S Di	2.60
Duck San Ant Ft Ex San Di	1.70
Cry Baby st Flagler Ft Co	2.30
Romeo	1.85

THE ACTION OF LIME.

Lime enters into the composition of all plants and is as much of a plant food as potash, nitrogen and phosphoric acid, only it is most always so abundant in soils that it is not considered a fertilizer. Plants will not mature properly without lime. However, the chief office of lime in the soil is to aid in the general assimilation of other plant foods. There are a few well recognized places taken by lime in soil action which, briefly stated, are as follows:

If there is an excess of soluble phosphoric acid in the soil, its tendency is to unite with iron and aluminum and become available. The presence of lime prevents this. It will unite with the lime and become as finely ground bone in which form the phosphoric acid is slowly available. It is also believed now that when lime comes in contact with phosphates that are in combination with iron and aluminum, the phosphates will change in form and become available as plant food.

Lime as a sulphate has the power to break up certain compounds containing potash that is in an available form. It also aids in forming double silicates of potassium and aluminum, in which form the potash is available, but is prevented from leaching out of the soil. It causes a rapid decomposition of organic matter in the soil and aids in nitrification, in which form it is necessary for nitrogen to exist before plants can use it.

It is thus seen that lime helps to render available all three of the important elements of plant food which might otherwise remain in an inert form in the soil. It also helps the nitrifying germs that grow on the roots of legumes to quickly become available by aiding them to form nitrates.

Sour soils are sweetened by lime. These conditions do not prevail to any great exent in California, but they do quite frequently in the Eastern States, and soils so sour that they will not produce paying crops, are made productive by the application of lime.—J. W. Mills.

THE ALFALFA SEED BED.

While written from an Eastern standpoint, the following from the Iowa Homestead has points of value for the California alfalfa grower.

Those who are planning to sow alfalfa this fall without first taking a crop from the land intended for alfalfa should understand that it is very important to get the plowing done now as soon as possible. Of course, if the land was plowed last fall it will not be necessary to plow it again, in which case plenty of surface stirring is the thing needed.

Weeds constitute alfalfa's greatest enemy, consequently it is advisable to work the land beforehand in such a way as to induce the germination of all the weeds on the surface or within three or four inches of the surface. In order to do this frequent cultivation must be practiced. We have known instances where men have kept the surface cultivated through the spring and summer months, but have in turn plowed the land a short time before planting alfalfa in August. No greater mistake than this can be made, for the simple reason that a new supply of weeds are brought to the surface only to germinate either in the fall or the following spring and interfere with the growth of the alfalfa.

In a measure the proper way to prepare land for alfalfa is the same as that involved in preparing a soil for onions. No man who understands onion growing would attempt to handle a large area of onions unless he was given a season in advance to prepare the soil, and he would do this by absolutely preventing any weeds from going to seed. He will get his soil plowed early and keep it cultivated, but would not think of plowing it again before sowing his onions.

It is true that there is considerable labor involved in properly preparing a soil for alfalfa, but it is so important that a good stand results right from the start that the expenditure of this labor is justifiable. Of course we do not say that this is the only way to prepare the land for alfalfa, because there are those who succeed quite well by plowing the land after a cereal crop is removed and fitting it by putting lots of work on the surface during the period of a month or six weeks before sowing the alfalfa in the fall. We say that in this way sometimes a good stand is obtained, but ordinarily the practice of adopting a summer fallow system is to be preferred, especially by those who are experimenting with the crop. A failure in the stand will sometimes discourage a man so that he will not again undertake to get a stand for years, and where conditions are right for the crop no man can afford to delay a single year in getting a few acres of alfalfa seeded.

BUILDINGS RECENTLY COVERED.

The Pioneer Roll Paper Co., of Los Angeles, manufacturers of Pioneer Rubber Sanded Roofing, report the following buildings as having been recently covered by their product: The new Wright and Callender Bldg.; Kerckhoff Building, 6th and Main Sts.; L. W. Blinn Lumber Co., 3rd and San Pedro Streets. Above buildings are all in Los Angeles. Grant Hotel, San Diego, Cal.; Salt Aair Pavillion, Salt Lake, Utah.

The Blinn Lumber Company's buildings required 70,000 square feet of Roofing; while that of the Grant Hotel called for 37,000 square feet. This speaks well for the building activity in Southern California.

PANICS AFFECT THE FARMERS LEAST.

The business depression which struck the country last fall has had a strong tendency to lead people from the cities to rural districts, where they have purchased small holdings. Hundreds of new settlers have purchased land and moved out where they can enjoy the freedom of the country and live more economically and be independent. Life in the country is natural, in the city it is artificial. Panics come and panics go, but the forces of nature, obedient to the efforts of the tiller of the soil, go on forever.

While the financial troubles were sweeping over the land last fall, making paupers out of milionaires and crushing the life out of the city dwellers, who are ever in jeopardy from the upper and the nether millstones of high cost of living and low wages, the country dweller remained calm and unmindful of the life tragedies that were so much in evidence in the cities. The carefully cultivated fields returned crops which were unaffected by financial troubles, there was fruit in the orchards and fat kine in the feeding pens. The bulls and the bears in the wheat pit might juggle prices in their mad struggles for wealth, but the farmer had the grain, and if the price in the markets did not suit him he could eat it, keep it or feed it to his stock. It contained the raw material from which the "staff of life" is made, and it had for the farmer a value which even the market manipulators could not affect.

There are no "hard times" in the generally accepted sense of the term in the country, nor will there ever be so long as air, water, rich soil and the efforts of man combine in the production of crops which are not entirely at the mercy of the influences that cause the financial ruin of thousands and dire distress for millions whenever one of those periodical waves of depression sweep over the land. The country dweller, of course, enjoys varying degrees of prosperity, for no two seasons are exactly the same, but the changes, no matter how violent, fail to deprive him of his livlihood that the soil will always give him. It is during hard times in the city that the lure of the country becomes the strongest. The city is cold and cruel to the sons of men; the country is warm and kind. It can never be the scene of such life-and-death struggles as are ever going on in the crowded walks of the city. In the city the struggle for existence is between men. In the country it is between man and nature, and nature, always kind, yields easily to those who seek her conquest.

That the present movement back to the soil will continue is almost a certainty. Aside from the positive assurance of plenty of the necessities, and at least some of the luxuries of life, which have always been available to the country dweller, the recent establishment of the free delivery, rural telephone and other advantages have brought the country much nearer to the conveniences of the city than was possible to imagine twenty years ago. —San Jose Times.

The members of the Cloverdale Viticultural Club have voted to appropriate $1 per acre of wine grapes to be used in advancing the interests of light wine consumption.

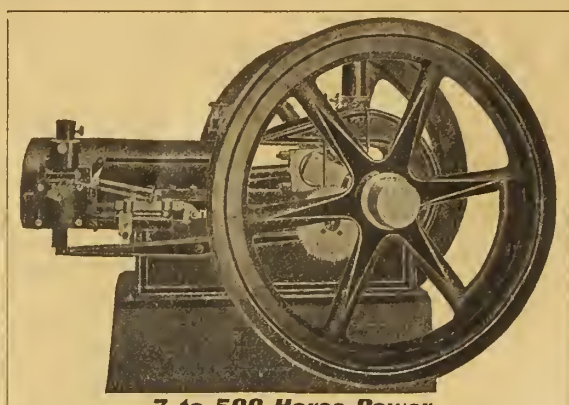
Antelope, Sacramento county, will have a big pear crop this season.

The Popular Western

Built In the West **Best** For the West

FACTORY AT YOUR DOOR

LONGEST LIFE LEAST FUEL FEWEST PARTS ALWAYS GOES



7 to 500 Horse Power

Irrigation Plants
Designed Constructed Installed

U. S. GOVERNMENT TEST

35 H.P. Western Engine Been Run 2 Years

RAN 87 DAYS DAY AND NIGHT

With One 20-Minute Stop to Lace a Belt

Send for the Copy of Test

Western Gas Engine Co.

Works and Office:

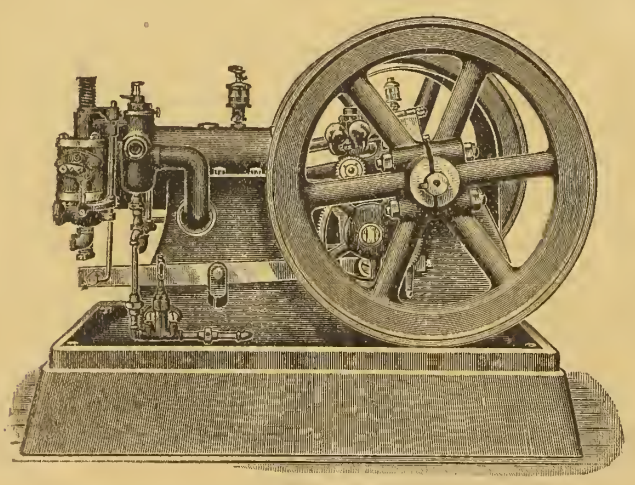
908 to 932 No. Main St. Los Angeles, Cal.

Send for Catalogue.

Harrison Machine Works

Have Been Appointed Los Angeles Agents for the Celebrated

Alamo Gas and Oil Hoisting and Stationary **Engines**



Best in price, appearance and quality. Self-starting and small operating cost. A complete line of repair parts and accessories always on hand. Complete pumping plants installed and we are prepared to construct all kinds of mining machinery on contract. Write for catalog and prices.

719-721 N. Main Street
Los Angeles, California

THE Latest Deep Well Turbine Pump

Guaranteed to deliver from 100 gallons per minute upwards, depending on the diameter and capacity of well, from a depth of 50 to 300 feet below the surface. Can be either belt driven or direct connected to electric motor as occasion requires.

Write for Catalogue 46B.

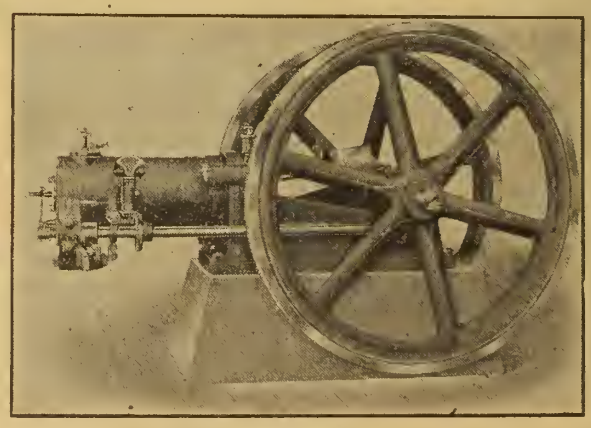
A deep well pump that has no valves or plungers to wear or get out of order, no gears, consequently no noise or breaking of teeth.

Compact, durable, always primed and ready to operate, constant flow, hence increased capacity of well.

This type of pump is fast taking the place of Vertical Steam, Deep well Plunger and Propeller Pumps.

Byron Jackson Iron Works

Main Office and Works:
Carlton Station
West Berkeley, Cal.



THE DOAK GAS ENGINES

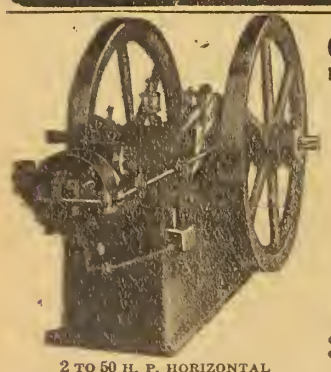
Stationary, Portable, Hoisting and Marine

All sizes from 3 to 50 H. P. carried in stock at all times. If you want the best, the most reliable, the most economical and the simplest engine in the market, **write for our latest catalogue before you buy.** Take broad gauge local train and get off at Oak Street Station.

Doak Gas Engine Co.

Business Office: Rooms 86-87-88 Bacon Building, Oakland

Sales Office and Factory: 4th and Madison Streets, Oakland



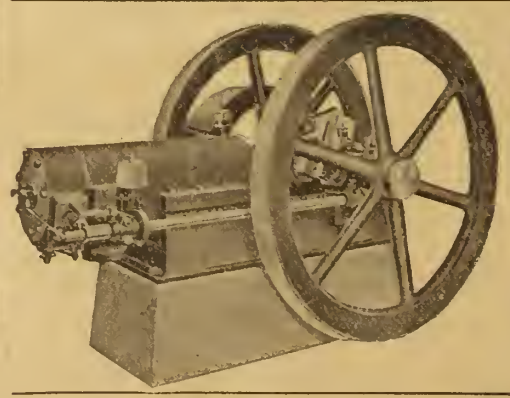
2 TO 50 H. P. HORIZONTAL

STOVER GAS ENGINES

The simplest and the best. We have had long experience installing pumping plants. We know our business. See us before you buy. 2 to 50 H. P.

LIVINGSTON & LEE

352 So. Los Angeles St., Los Angeles, Cal.



HERCULES DISTILLATE ENGINE

Heavy, Strong and Simple in Construction

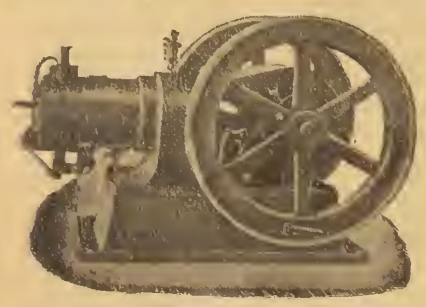
The Right Engine at the Right Price

Horizontal and Vertical; All Sizes. Buy direct from the manufacturer and save agent's commission. Send for our new Catalogue C.

The Hercules Gas Engine Works

Alameda, Cal.

Olds Gasoline Distillate Engines



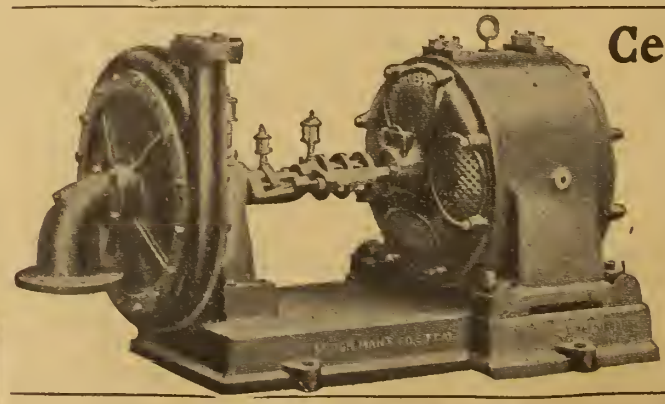
For all purposes, Stationary, Portable and Spraying. All sizes from 2 to 100 H. P. Simple, durable, warranted, are giving fine satisfaction to purchasers on the Coast. Prices and circulars mailed on application to

The Compressed Air Machinery Company

Dealers in all kinds of machinery

34 to 40 Jessie St., San Francisco, Cal.

SEND FOR BULLETIN NO. 15



Centrifugal Pumps

For high or low heads

Direct Connected or Belt Driven

Highest obtainable efficiency

Krogh Man'f'g. Co.

127 to 133 Beale Street
SAN FRANCISCO, CAL.

Send for New Catalogue No. 50 just issued.

Still Cheap Roberts Distillate Motors

2 to 120 H. P. Does Any Work Any Other Engine Will Do.

July 20th—Till further notice prices are *$80; $100; $150; $250; $350; $400; $500* f. o. b. Los Angeles for the following sizes: *2 HP 3 HP 5 HP 10 HP 15 HP 20 HP 30 HP*

Direct connection; no belts; no valves; no trouble; cheap to operate; a boy starts them easily.

Every expert pronounces them the greatest success on the market.

Cowham-Smith Co., Coast Agents, 224 H. W. Hellman Bldg, Los Angeles, Cal.

When writing advertisers, mention Cultivator.

630.5
CA

LIBRARY
OF THE
UNIVERSITY OF ILLINOIS.

California Cultivator

Published Weekly — One Dollar a Year

Los Angeles — July 30, 1908 — San Francisco

Citrus Fruits in Colusa County

IN this orchard are 500 trees. They average 373 boxes per acre. The product was formerly taken by the Palace Hotel, which always wants the best. Owing to the worth of these and many other fruits it is claimed that Colusa county could support a population of 600,000 people. It now has 15,000. There is a chance to grow. It is only a sample of California possibilities.

COLUSA county is six hundred or more miles north of the great orange producing section of the State, yet the scene herewith gives visible proof that the orange is perfectly at home. Such proofs of the wonderful climate and products of this State are plentiful. This scene is almost in line with Springfield, Ill., Columbus, O.; Philadelphia, Pa., and considerably north of Washington. Yet the gentleman in his shirt sleeves and the unprotected fruit are apparently doing pretty well. Is it any wonder the whole world wants to come to California?

A Railway on the Ranch

Saves Much of the Hard Labor

The equipping of the ranch with a ***Portable Railway*** is a very ***Profitable Investment*** and ***not*** very expensive.

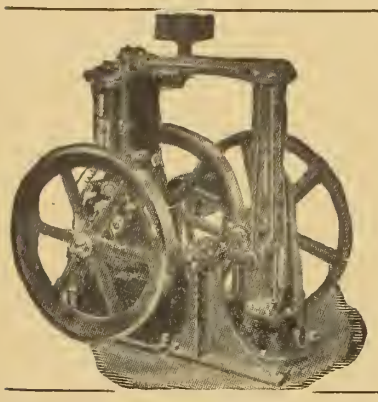
Our booklet S. F. 60 gives several suggestions for applying it to the Dairy and Ranch.

Works at Koppel, Penn.

Eastern Offices: Pittsburg, New York, Chicago, Boston

ARTHUR KOPPEL CO.

212 So. Los Angeles St., Los Angeles, Cal. ***Chronicle Building, San Francisco, Cal***



A Handy Little Engine

Just the thing to run the feed cutter, the pump, the churn, the grinder, or anything on the ranch. It's well named

The Little Wonder

Write or call on

Wm. Gregory

602 No. Main St. Los Angeles, Cal.

From photograph showing amount of

Ten-Inch Pipe

made by four men from 8 bbls. of cement in 9 hours — 280 two-foot joints, or 560 feet. This pipe was made with the

"K T" Moulds

An equal amount can not be made with any other tools in the same period of time. Write for "Brown Book" and price list.

KELLAR & THOMASON, Covina, Cal.

$4000 Clear Money In 100 Days

BY USING AN

Ann Arbor Power Hay Press

48 tons average for 100 consecutive days with an expense for repairs of only $1.89. This press for sale by the

Los Angeles Vehicle and Implement Co. 110 and 112 North Los Angeles Street, Los Angeles, California

---

Pioneer **RUBBER SANDED ROOFING**

BEST BY EVERY TEST

Our Booklet—"Roof talk"—together with samples of Rubber Sanded Roofing, will be sent post-paid upon request. Being absolutely rain-proof and sun-proof, Rubber Sanded Roofing is held in high favor by contractors and builders wherever it has been introduced—in Canada, Mexico and throughout the Pacific Coast States.

Let us put you in touch with our local agent in your community.

Pioneer Roll Paper Co. Department 11, Los Angeles, California

Makers of Rubber Sanded and Rubber Flexine Roofing and Refiners of Asphaltum

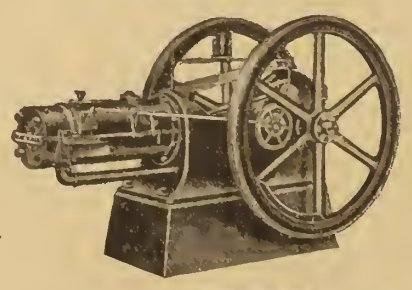
---

Commercial Gas Engines

are Better Engines than you have been using.

See One Buy One

So will your neighbors. Send for Bulletin No. 11

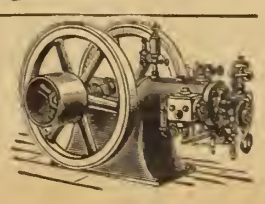


Commercial Engine Company

953-955 No. Main St., Los Angeles, Cal.

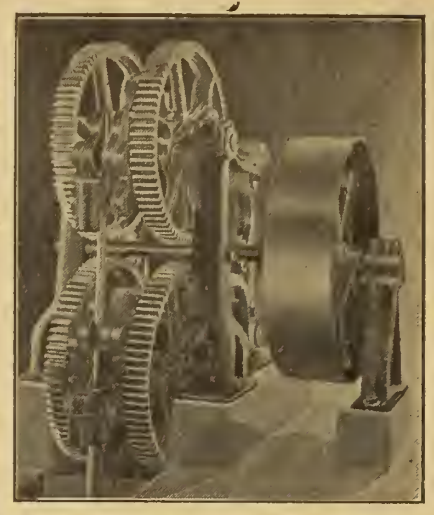
A Gasoline Engine 35 H.P.

Used short time; in good condition. For Sale at Half Price. A Bargain.



National Wood Pipe Co., 404 Equitable Bank Building, Los Angeles, California

---



This is a cut of the

NEW POMONA DOUBLE PLUNGER DEEP WELL PUMP HEAD

for raising water for all purposes. It is highly efficient, thoroughly reliable and the smoothest running deep well pump made. It is built in three sizes from 10 to 40 Horse Power. Send for new catalog to

Pomona Manufacturing Co.

Manufacturers
Pomona, California

or C. H. Weed, Porterville, Cal.

Samson Gasoline and Distillate Engines

The first home of the **SAMSON** engine is a large one. It's second home, which is everlasting, is a happy one.

They may be compared with the sea—always ready to roll.

Samson Iron Works

Office and Factory: 1100 to 1198 Aurora St. Stockton, Cal.

BRANCHES:
San Francisco, Cor. Market and First Sts.
Fresno, 920 J St.

ALFALFA — $3298.00

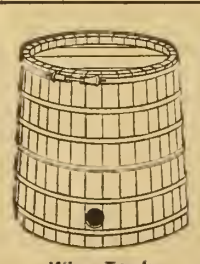
ONE SEASON'S EARNINGS

It will pay every Farmer who reads this "Ad" to write us especially if interested in Clover or Alfalfa growing. We can refer you to a man who made $3298.00 in Alfalfa last year.

HE WILL TELL YOU HOW IT WAS DONE

We manufacture the machine shown in the cut; it threshes, separates, hulls, and cleans ALL the seed for market. No other machine will do it. You should write us and get our Alfalfa Booklet FREE. It will give you valuable information. Mention this paper.

BIRDSELL MFG. CO., South Bend, Ind., U. S. A.



Wine Tank

Tanks Tanks

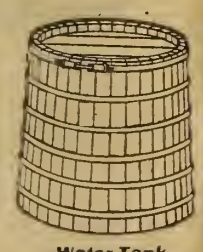
WINDELER'S PLANING MILL AND COOPERAGE

GEO. WINDELER, Prop

Water Tanks, Wine Tanks made from carefully selected stock by careful and experienced workmen. "Tanks that are well made last a long time." It will pay you to get my prices before buying.

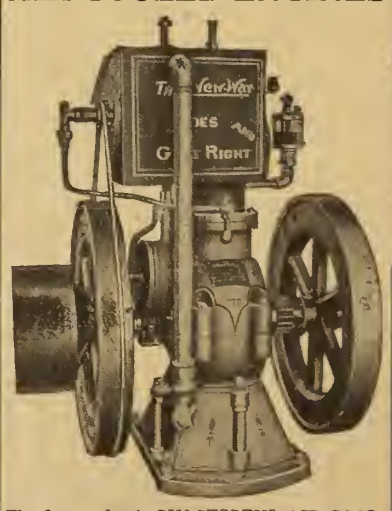
Geo. Windeler

144-154 Berry St. San Francisco, Cal.



Water Tank

THE NEW WAY AIR COOLED ENGINES



The first and only SUCCESSFUL AIR COOLED Gasoline engine manufactured

HENSHAW-BUCKLEY & CO.

Distributers for California Nevada and Arizona

San Francisco 219-221 Spear St. ***Los Angeles 335-337 E. Third***

Irrigating Hose

12oz. Canvas Coated or Plain. Good for several seasons.

1¾ Inch
2½ "
4 "
6 "
9 "

3 Inch

Galvanized or Brass Couplings.

Prices on Application

Tents, Stack Covers, Picking Bags

The Wm. H. Hoegee Co.

INC.

138-140-142 So. Main St., Los Angeles

BOTH PHONE EXCHANGES 87

California Cultivator

Vol. XXXI—No. 5 Los Angeles, California, Thursday, July 30, 1908 Subscription $1 a Year

An Elementary Lesson in Irrigation

Written by T. S. Van Dyke and Published in Irrigation Age. A Look at the First Mistakes

ABOUT all you know at first about irrigation is that it will cost too much to imitate rain. From which you quickly drift to the conclusion that the next best plan is to cover the ground with a sheet of water. You have a piece that looks very level and turn on a stream. But instead of spreading out, it slides off to one side, or collects in little pools with sloughs between. Or it may dish in the center, cut off from a ridge or slide off both sides. In any case it is likely to leave many dry spots, and their combined area will probably be too great to be ignored. Three solutions soon suggest themselves.

First to keep the water on long enough to allow the dry places to get wet by water soaking to the sides from the wet spots. If the dry spots are small and you are merely testing the fertility of the soil or in haste to get a few radishes or something of little value this may be the least objectionable of the three, for it may not have the water too deep or muddy unless you purposely make it so.

Number two, a special favorite with most tyros, consists in shoveling off the bumps while the water is running and throwing the loose dirt into the water in the low places. When the water goes down you find your uneven shoveling has tripled the number of bumps, and though none are as high as before they are still high enough in spite of the fact that you have raised the low places. And in the low places you have doubled or tripled the thickness of the paste that will bake under the hot sun and which, without your filling, would have been thick enough to stop many kinds of seed and sicken most of the plants that were strong enough to push through it.

Number three is a very choice method devised by those who discover the bad features of the other two. It is simply throwing up a levee around the piece high enough to raise water over all the high spots. You find it would not pay to shovel them off on a tract of any size even if you could do it, and also that increasing the quantity of water merely makes it cut more in the low places. The obvious thing is to back it up so as to cover. This is the origin of the "check" system, one of the leading systems of the world and one quite indispensable for many kinds of work. They are called "basins" by some; "borders" from the levees by others; "plots," "pans," etc., but "check" is the most common in all sections. "Basin" really belongs to a modified form in which only a part of the ground is wet instead of the whole.

Your selection of method number three may be very bad, as many plants cannot endure it no matter how well done. But assuming your choice all right you are quite certain to have grief in its details. The temptation to make the levee out of wet mud instead of waiting for the soil to dry after your first failure is quite irresistible when you are in haste to see something green or get a bite of fresh vegetables. On many soils such levees melt like mush when the water gets a few inches deep, and nearly all your attempts to repair them result only in more mush, more muddy water to form a paste inside, and final breaking in spite of you when the water is high enough.

If you wait and make them of dry soil you are quite apt to make them too thin, too loose with weeds, sticks and grass that may lead a small thread of water through, and so low that if the check is of any size the waves from the first wind will breach it. If your ground is so flat that a low, flimsy levee will suffice to hold water long it will probably mean that your ground generally is too flat for easy drainage and that the building of proper drainage ditches should precede any irrigation. For on many soils and for many plants a quick clearance of the water after being on long enough is essential. But you will naturally leave this discovery until after wasting a lot of time wondering why your stuff doesn't grow better.

Assuming that your levees hold and you have the highest points covered and some crop started, you may be surprised to find plants doing best on the highest parts. On the lowest parts they may not even have sprouted, being locked up tight under a blanket of paste. And even on the highest places they may look bad. It does not take you long to discover that the deeper the water the worse the results. This is due to some extent on most soils to the greater pressure tightening the soil and also to handling the water in such a way that it is muddy instead of clear, when the deepest parts get the most mud. Later on you may find that you have been wasting one-half or two-thirds of the water, because if the highest parts got enough to make a good growth of vegetation it is quite probable that the lowest parts had too much. From which you finally conclude that the whole should be graded down to a more uniform surface. A very sage conclusion, but you have little conception of the distance you are from the profitable part of its realization. You are quite apt to think that you have a fine eye to tell a level. But let me tell you that the longer a surveyor uses a fine level the more certain he will be to rely on the telescope and rod instead of his eye. There is but one thing of which you may feel sure, and that is that when you are looking toward high mountains, a level on the plains below will look down hill and a ditch running out from a cañon will seem to run uphill.

Relying on your eye you are quite sure to overlook such little trifles as a swell of two or three inches if it is broad enough. Or if you notice it you are quite likely to say it will amount to nothing and that the water will go over it anyhow. Still more certain you are to do this if the swell happens to be at the upper side where the water is delivered so that it will have to go over it to get into the check at all. This latter conclusion is all the worse because as long as the ground is bare it may be correct or nearly so. But when covered with a heavy stand of vegetation like grain or alfalfa it may collect all floating leaves or rubbish on its upper edge and throw the water off on the sides leaving a spot too dry when the rest of the field has enough. And in time this may become worse instead of better, the water swinging farther away and wasting in the lower places that would have enough without it. And this you may not notice until the growth becomes too valuable to change. This may happen when you are well aware of the necessity of perfect grading, for one is often inveigled into the snare through haste or anxiety to see something green. I have thirty acres of alfalfa scratched in hastily to get green pasture for the horses six years ago, although I knew better twenty years before that. It is the bane of my existence now, taking fully twice the water and work required by other tracts properly graded, yet paying too heavily to plow up. California is full of orchards in the same situation, for it is about equally bad under all methods of applying water. You may be fortunate if right here you make the worst sort of a failure. For in no other way can most people be made to understand the supreme importance of proper grading. Those who have been through the torment may talk and talk in vain. You will insist that the ground looks all right and is all right when nothing but the level, or leveling by water itself can tell you whether it is or not.

Proper grading is no serious matter if you only realize its importance at the outset and determine to allow nothing else. You do not have to make any large area flat or anywhere near it. But in whatever way you handle the water it should travel at a uniform velocity whether the head of water be large or small or whether it is to run a long time or a short time. And this does not have to be on one face or plane so as to shave off too much top soil. Even a small place may be laid out on several planes so that it can be evenly flooded, and, though in a certain sense this is like terracing, it may be quite free from the expense of terracing such as one commonly sees on hillside gardens.

It is impossible to go far into the subject of grading because it will vary so much with the area to be graded, the quality of the soil, the kind of vegetation on it and so many considerations. On the Mojave Desert in California I sweep brush, hillocks and everything with two large railroad bars slightly curved so as to keep the cutting edges down. One is set behind the other with strong chains and five or six horses are put on each end. With that power and two drivers I don't have to plow at all. Nor do I have to plow in making the checks. I first set four level stakes with the telescope and move the earth above that level with a carrying scraper and four horses abreast direct to the levees. The soil is so dry and loose that this is very easily done. The work is finally tested with water and then polished off with a grading machine when dry. Plowing, when unnecessary, is a nuisance because it increases so much the bulk of the soil that it is harder to work to the grade stakes.

But this would not do for many soils, while for small areas it might not pay to have such an outfit. A drag with a cutting and carrying edge is often better than the railroad iron if brush is not too heavy. But it should be so long and stiff that it will not climb bumps and sink into depressions, but shave the bumps and drop the shavings into the depressions. This should often be forty feet long and loaded with sand bags so as to take a dozen horses or more. No kind of a gouging scraper such as the common "slip scraper" will do good work, though on a small scale fair work may be done with the "buck scraper" by an expert. It may pay you at the start to have a good road grader, while for small garden work you had better grade with shovel and hoe than not at all. When you thoroughly realize its importance you will find a way to do it according to the size and quality of your soil, the value of your crop and the balance in bank. And beware how you try to economize on it for every dollar you save may cost you two or three without your knowing it.

You can now buy a fair level for $20, though

Continued on page 108.

Harness with a Pull

The load will follow the horse if traces, back strap, breeching and lines are *kept* soft and strong with

EUREKA Harness Oil

Makes harness strong because it keeps it *alive*—prevents sweat and wet from rotting it—makes it look and wear like new. You ought to use it.

Made by

STANDARD OIL CO.
(Incorporated)

EVERYTHING FOR THE FARMER

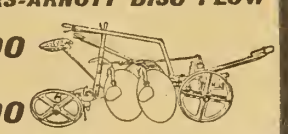
ARNOTT ORCHARD CULTIVATOR

Acknowledged the BEST
Five feet wide.
Spring teeth if wanted.
Horizontal lift.
No neck weight.

Steel and Malleable Iron. Dust proof wheels..... **$45.00**

SANDERS-ARNOTT DISC PLOW

SINGLE **$60.00**



DOUBLE **$80.00**

COLUMBUS WAGONS

Three inch Skein.
Four inch Tire. Brake and Pole.
$80.00

PACIFIC ORCHARD TRUCK

3¼x10 Skeins. 28x30 in. wheels.. **$32.50**

LEATHER TRIMMED

Guaranteed Twelve Months

$65.00

MONITOR WINDMILL

8 ft..... **$30.00**
10 ft..... **$45.00**

The New 8 and 10 Foot MONITOR

MONITOR ENGINE

Simple Economical

2 H. P....$130
4 H. P. $250
6 H. P. $350

Catalogue No. 9 Sent Free on Application
Address Department G.

ARNOTT & COMPANY Inc.

112-118 South Los Angeles Street — Los Angeles California.

With the Citrus Growers

HEALTH AND DISEASE IN THE CITRUS TREE.

TO DEFINE health and disease, particularly as applied to cultivated plants, is by no means easy While we all have a general idea of the conditions indicated by these terms and conceive of the two as opposed to one another, one being that which the other is not, yet a definition of each and a sharp drawing of the line between them is quite difficult. In the case of commercial crops, and even more especially with citrus fruits, it is often true that the condition of the plant or the nature of its product most desired for commercial ends may not be synonymous at all with the normal, natural development which we ordinarily regard as health. On the other hand, an unproductive condition or the development of undesirable qualities may be most disastrous commercially, and yet not indicate a condition of disease or anything abnormal in the natural development of the plant. In other words, the perfection of desirable commercial qualities is by no means the same as perfect, normal, natural development or natural health. The fact is that the work of the plant pathologist in California, particularly in the case of citrus fruits, is not limited to the study of actual disease and the means of avoiding it. He is rather called upon to advance commercial perfection and learn how to overcome conditions which are undesirable from this standpoint, whether they be one of actual disease or not.

Disease in the ordinary sense is the effect of some cause or condition which interferes seriously with the normal functions of organic life. We commonly understand such a condition as one of a somewhat more complicated nature than that resulting from a simple injury.

The causes of plant diseases are many. Most important ordinarily, or at any rate most easily accounted for, are those which are caused by the action of what we call parasites. Parasites are living organisms, either of an animal or vegetable nature, which live at the expense of other individuals, usually growing closely associated with their tissues and drawing nourishment from them. The plant pathologist does not ordinarily undertake to investigate cases of parasitic injury caused by insects, as the subject of entomology has become a large and important one. Plant pathology is, in the usual sense, the study of all diseases or troubles with plants other than those caused by insects. The parasites with which the plant pathologist has to deal are mostly of a vegetable nature and are largely of the class known as fungi. The fungi are real plants of a low order of development, many of which are parasites to a greater or less extent upon other plants. A great majority of our best known plant diseases are caused by fungi, such as the rusts, mildew and many blights, rots, etc., from which very few of our commercial crops are free. A number of other plant diseases are caused by bacteria-organisms of a still lower class, forms of which are responsible for most of the serious animal diseases, but of which only a comparative few affect plants. Some of the most distinct bacterial plant diseases are the pear blight and walnut blight, both well known in California.

Aside from the troubles caused by parasites it is well known that plants are affected in most various manners by influences resulting from the conditions under which they grow. Vegetable life is dependent upon certain indispensable factors which, acting in the proper degree, contribute to the normal development of plants. These factors may also vary to a considerable extent, without seriously affecting the life or condition of the plant, but beyond certain limits their influence results in injury, or may go still farther and bring about a condition which may be classed as a disease. The factors to which we refer are those upon which all plant life depends, namely, moisture, temperature, light, chemical food elements and freedom from other influences which might cause injury. In regard to these different factors, their general influence upon plant life is well known. We are all aware, for instance, that water is indispensable, but that either too much or too little is injurious. Also that the same is true in regard to sunlight, heat, cold and chemical food elements. While an excess of any of these factors may produce a very evident injurious effect on the plant, scarcely different from a mechanical injury, yet, when relative conditions in regard to these essential factors become complicated, we may and often do get results upon plants which are strictly of the nature of disease with definite symptoms, in which it is very difficult to establish definitely a simple succession of cause and effect.

Not Natural Conditions.

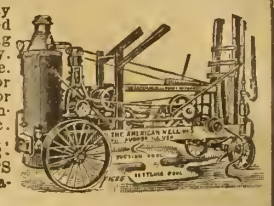
We must further consider the fact brought out at the beginning of this paper that simply a condition of natural health is not sufficient to satisfy commercial requirements, but that certain definite standards are set up of quality and quantity of the product, some of which may be radically different from those which nature intended. From this standpoint the control of the effect of natural conditions upon cultivated plants may be of even greater importance in relation to these more or less artificial qualities than as simply affecting ordinary health. Horticultural conditions in California are of such a nature as to make this phase of the subject of particular importance.

Our crops are grown largely under conditions which are entirely artificial, the plants themselves being natives of other portions of the world, grown here in places where the conditions which nature ordinarily supplies are largely under the control of man. Two factors particularly, those of irrigation and fertilization, are of the greatest importance in this connection. In the citrus industry we plant a tree in a place where it would perish almost immediately without constant attention and have at our disposal to withhold or supply in any desired amount two of the most important factors in plant growth, water and soil food. The amount to be supplied, the time of application, frequency and many other most important considerations are very largely in the hands of the grower, and the growth of the tree, its health, life and development, as well as the quality and quantity of its fruit, depend almost entirely upon the manner in which the grower handles these controllable factors.

Unfavorable Conditions.

It is further to be said that there is

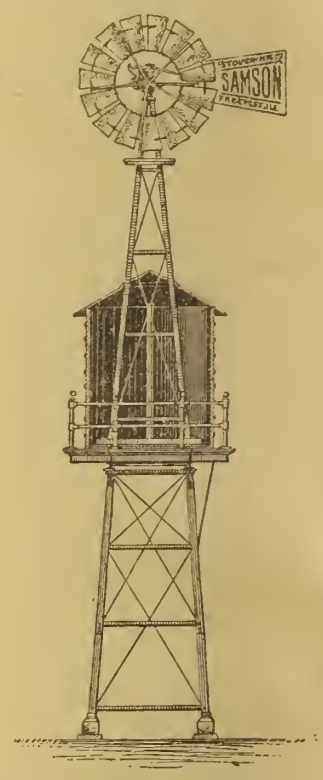
$10 a day may be earned by a man using our machinery. Some earn more. FULL LINE for prospecting for water, coal, mineral, oil, etc. Any DEPTH, any DIAMETER. PUMPS also. Free catalogue.



THE AMERICAN WELL WORKS
AURORA, ILL., U. S. A.
BRANCH OFFICES
Chicago, Ill., First National Bank Building
New York, N. Y., 2-4 Stone St.
San Francisco, Cal., 305 Market St.
New Orleans, La., J. H. Menge & Co.
R. B. Whitacre & Co., 205 Robert St., St. Paul, Minn.
Dallas, Texas Joplin, Mo.

SAMSON WIND MILLS

Have double gears, removable bearings and center lift, which double the life of the mill. They will last longer, pump more water and give better satisfaction than any other WIND MILL.



This is an up-to-date Sub-structure, Tank and Wind Mill outfit complete; substantial, economical and attractive. We build all kinds. Write us or our general agents for full information and prices, description &c., before purchasing.

The STOVER MFG. CO.
FREEPORT - ILLINOIS
30 California Avenue
CRANE CO., LOS ANGELES and SAN FRANCISCO
General Agents for California

ALL ABOUT THE

Orange and Lemon

Is told in our new book on Citrus Culture, embracing every phase of the subject from the seedling bud to the final disposition of the fruit in the Eastern market. The largest and best book on the subject ever printed — 50,000 words, 100 illustrations. You will want a copy, which we will send you for the small sum of 25 cents. Remember we are the largest growers of orange and lemon trees in the world.

The San Dimas Citrus Nurseries
R. M. Teague, Prop., San Dimas, Cal.

EDISON PHONOGRAPHS, VICTORS, ZONOPHONES
Records and Supplies, delivered at your nearest railroad station upon receipt of full retail price. Write for particulars and ask for catalogue. **Peter Bacigalupi & Sons, 1113-15 Fillmore St. San Francisco**

no tree more sensitive or easily affected by conditions of this sort than the orange or lemon.

To come more directly to the subject which we are expected to discuss, we may say in general that in our investigations of the diseases of citrus trees in California we have found no important citrus disease which is caused by any fungous or bacterial organism, or anything of that nature. If we except decay of the fruit and a very few exceptional cases of disease of the tree, the above statement may be made an absolute one. It is true beyond all question that our most serious troubles with citrus trees in California are the effects upon the tree of unfavorable natural conditions, and not those of active parasites. Some of these effects, it must be confessed, are at present most obscure and difficult or impossible to account for in any satisfactory manner. Yet the study of the various diseases and of the nature of the tree itself has been sufficient to show that this is true.

A Ring a Year.

In connection with the effect of natural conditions, such as temperature, moisture, food elements, etc., upon the growth of plants, two peculiarities of the citrus trees may be mentioned here. The first relates to its manner of growth. Most of our ordinary fruit trees are deciduous. Their life each year is marked by a period of growth during the summer and a period of rest during the winter. In their woody stems and branches the substance formed each year takes the form of an annual ring, the number of which corresponds very closely to the age of the tree. These rings are visible on acount of a difference in the structure of the wood formed in the spring and during the summer. At the beginning of each growing season large amounts of sap circulate in the tree and the first wood which forms at this time has a very coarse, porous structure, being composed of comparatively large open vessels which are mechanically adapted to conducting the large amounts of sap which are flowing at this time. As the season advances the woody growth in thickness becomes less, the amount of sap diminishes and the wood now formed has a closer, denser structure with much smaller vessels, until finally, toward the end of the summer, growth ceases altogether. The next spring another porous coarse layer is formed outside the fine grained wood of the previous fall, and from this difference in structure the annual rings are visible to the eye. The difference is also of importance, as just pointed out, from physiological reasons, the coarse-grained spring wood allowing the passage of the large amounts of sap which are flowing in the tree at that season.

Control of Growth.

In the citrus tree a number of growths takes place each year. Each of these is marked by a definite ring of wood in the stem and branches, so that if the tree makes five growths during the season, five rings will be found in the wood for that year. The fact pointed out above that the structure of the wood is of great importance as permitting or obstructing the flow of sap is the vital one in this connection. Citrus growth, while having a certain normal regularity under uniform conditions, responds in a very marked degree to the treatment which is given the tree, particularly that in respect to moisture. Growth naturally follows an abundant water supply and vice versa. If then the water supply should be extremely irregular disastrous results may follow from this peculiarity in the growth of the tree. During a period of dryness the woody tissue which serves as a channel for conducting the sap becomes dense, fine grained, and of poor conducting quality. If the tree is then suddenly supplied with a large amount of water its trunk and branches are not able to conduct that which is sent up from the roots and complications may result. Further than this the citrus tree is one in which the flow of sap from the roots is extremely free and abundant. One needs but to cut off the top of a vigorous orange or lemon tree and then supply the root abundantly with water to discover the remarkable freedom and promptness with which the excessive amount of water is sent up by the root into the trunk.

Gum.

The second peculiarity of the citrus tree alluded to above is one which shares with the cherry, peach, apricot and other stone fruits and a few other plants. This is a tendency to form and exude masses of a gummy substance as the result of injury or even from unfavorable natural conditions. The gumming is due to complicated physiological processes in the tree and occurs in the trees mentioned, often very profusely, from a great variety of causes. It may be due to mechanical injury, to the effects of fungi, as seen for instance in the peach blight, or simply to physiological derangements in the tree. The gumming disease may be likened to a form of indigestion, or in some degree to the abnormal activity of the mucous membranes seen in a person suffering from a cold.

CITRUS CULTURE IN FLORIDA.

As an indication of cultural methods in Florida, we quote from a Florida paper a part of a description of an orange grove:

This grove contains 750 acres of orange and grapefruit trees and is said to be the largest grove in the world. Whether this is true or not, it is certainly the largest in Florida and the most unique and interesting. Here is a grove that has never had a plow or cultivator of any kind inside of its broad gates, has never had one pound of fertilizer and yet is said to produce the largest percentage of fancy fruit and at least 95 per cent of brights. Not a forest tree of mature size was ever cut here, neither was there ever a fire on the ground, and the orange and grapefruit trees stand among monarch live oaks, magnolia and other original forest trees, nothing but the undergrowth of brush and vines having been cleared away. Nothing is burned here, as is the case in most of Florida farming. The grass is cut often and allowed to rot on the ground, and the leaves from the trees furnish the necessary natural fertilizer to produce the perfect fruit grown here. This land is very rich, as can easily be seen by the mammoth oaks and other trees. Many of these orange trees were never planted, but were budded on original wild orange and lemon trees that have no doubt grown in this wilderness for ages. The writer was particularly interested in this grove, because so many people in Florida, as well as elsewhere, think and thoroughly believe that all Florida land is so naturally poor that it will not produce anything without artificial fertilization.

ORANGES IN TEXAS.

The following from a San Antonio paper shows that the days of the California orange are numbered and that Texas will hereafter supply eastern markets with oranges. We have never heard of their being quoted in the market, but we note in the following that as one grower has gone from "Santa Clara in the San Joaquin Valley, the Land of Oranges," California must look to her laurels.

It is probable now that Santa Clara Valley will feel compensated for the statement which was made in a northern paper that Southern California is the prune center of the world. She was angered at being deprived of the glory of her prune production. Now comes this honor.

How long before this grower expects to wipe out California's thirty-million-dollar crop the paper does not say. The principal proof that Texas will win in this citrus production contest is the fact that real estate men there are getting letters asking about Texas land. The paper says:

"Texas is taking California's orange reputation away from it. This is becoming more and more evidenced every day by the increase in the number of letters received by the business men's club from people residing in California asking about the culture of citrus fruits in Texas. In the markets of the East and North, Texas oranges are fast taking the place of the California citrus fruit, and it is predicted by reputable business men and orange growers of the state that before many years have passed the Texas orange and lemon will be the best known on the market.

"The first California orange grower to brave the ire of the California people by picking Texas as the place in which to reside and raise the golden fruit was F. G. Hutchinson, who settled in Bee county recently and who has already started laying out and planting the largest orange ranch in the State. Mr. Hutchinsan came from Santa Clara, in the Joaquin Valley, the "land of oranges," as those not versed in what Texas can do and is doing, call it."

Imperial County Supervisors have enacted an ordinance providing a penalty for allowing Johnson grass to grow.

San Bernardino County Game Warden has recently released a number of Mexican grouse in the forest reserve.

Let Us Send You Free Samples and Book Valuable to Farmers About

J-M Asbestos Roofing

All kinds of Roofing at all prices. Write us before you buy ANY KIND

The roofing that is made of *asbestos* — an indestructible mineral — not affected by fire, rot, rust or stable fumes. The only roofing that has a natural white top surface and keeps buildings cool in summer and warm in winter.

It outwears all others because it is a *mineral* roofing, while others are made of organic and perishable materials. The cheapest roofing to use because it does not require coating or painting — the first cost the only expense — *no repair bills*. Easily applied — no skill necessary.

For Siding — Use Asbestoside

The most durable siding material known. Its natural white finish gives an attractive appearance without the expense of painting.

Old Roof Leak? Make it new again with **J-M Roof Coating**

Write us today for Catalogue 42 and Samples

H. W. Johns-Manville Co.
203 E. Fifth St., Los Angeles, Cal.

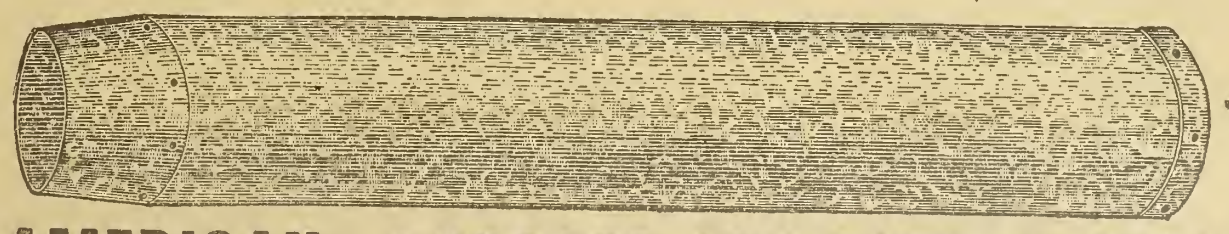
TENTS

Fumigating and Lemon Curing Tents our Specialties

Irrigating Hose, all sizes. Prices and Samples quoted upon application. Write your wants Wagon Covers, Hay Covers, and Canvas Covers of Every Description.

Mellus Bros. & Co

Phones — Home, F 4871; S. S., Main 3500
250 East Fifth St., Los Angeles, Cal.



AMERICAN SURFACE IRRIGATION PIPE

SAVES WATER, GRADING AND TIME

The **only** way to **Irrigate Alfalfa. Cheaper** than **Flumes.** This is only **one** of our **specialties.** We make **Riveted Water Pipe** in lengths of **ten feet** from **single sheets.** Let us **prove** to you that we make **Pipe** and **Tanks right.** WRITE FOR CATALOGUE.

AMERICAN STEEL PIPE & TANK COMPANY

FORMERLY TALLERDAY MANUFACTURING COMPANY

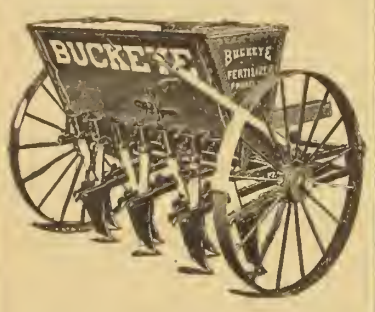
636-7 Pacific Electric Building **Los Angeles, Cal**

Fertilizer Drills

GET THE BEST

Buy the Buckeye

7 Hoe 7 Inch or 8 Hoe 8 Inch



Will furnish set of plates when requested (without extra charge) for sowing peas or vetch.

Hawley, King & Co.

Los Angeles St. bet. 2nd and 3rd Sts.
Los Angeles, Cal.

EMERSON DISC PLOWS

Plow your land now—no need to wait until the rain softens it. The Emerson Disc Plow will plow it, and you will get larger crops next year.

Some Disc Plows are better than others—the Emerson is the best. Let us tell you why it is the best. Write us for information.

Newell Mathews Co.

Los Angeles and
Market Streets.
LOS ANGELES, CAL.

FRUIT TREES

We have the **LARGEST and BEST STOCK** of Deciduous Fruit Trees we have ever grown.

Armstrong Nurseries
ONTARIO, CAL.

STROKE SELF FEED HAY PRESS

2 men can run it.
3 tons in one hour.
Easy draft.
Smooth bales.
Will save its cost.
Shipped on trial.
SATISFACTION GUARANTEED.

THE AUTO-FEDAN HAY PRESS CO. TOPEKA, KANS.
414 E. 10TH ST.
BRANCH OFFICE, 1821 W. 12TH ST., KANSAS CITY, MO.
Ask for Catalogue No. 28
1521 West 12th St., Kansas City, Mo.
Agent, John Schilling, Jr., Davies Warehouse 2nd and Central Ave., Los Angeles, Cal.

IT'S PENNY WISE

Policy to set out a good tree, costing good money, and then let the sun burn the bark or the rabbits gnaw it, when for $1 an acre you can get Yucca Tree Protectors that are practically indestructible. Write for free sample of the wrap. Yucca Manufacturing Company, 1380 Willow street, Los Angeles.

Deciduous Fruit Culture

WATER AND PLANTS.

A single leaf of an apple tree has 100,000 pores, and through each one of these pores water is continually passing off into surrounding atmosphere. Air has an enormous thirst for water, and the dryer the air the more water it consumes. When we stop to consider the way in which the atmosphere is constantly forcing not only the apple tree, but every other plant, to give up its moisture, the wonder is that after several days of hot sunshine, every plant does not wither and dry up. But, notwithstanding, those plants growing in light soils and exposed places seem to manage to withstand weeks of drought without even losing their greenness. But still more wonderful are the acacias and cacti, which not only grow but remain green out on the wastes of the fiery deserts in Africa and Arizona.

Plants have learned to adapt themselves to their situations, and to take precautions accordingly. Water to them is valuable, and where the supply is scanty they have learned to hoard it as carefully as a miser could his treasure. But they can not refuse to give up water altogether, for otherwise they could not grow. All their food is taken up by the roots, dissolved in water. The sap rises through their veins and feeds them. They make use of the mineral matter, and then let the water which contained it escape through their lungs (or leaves, more properly speaking).

If you pick a leaf from any plant or shrub—a hawthorn leaf, for example—it will be noticed that its upper side is much smoother than the under, which looks dull in comparison. This is because the upper side is exposed to direct rays of the sun. The glaze prevents the hot days sucking all the water out of the surface of the leaf. Some plants refuse entirely to part with water through the upper side of the leaf. Laurustinus and lilac leaves have no pores at all on the shiny upper surface of the leaves.

Pine trees inhabit dry, sandy soils. They refuse to grow wide leaves, but confine themselves to producing thick, fleshy needles, which have very few openings through which water can escape. Australia is the dryest of all continents, yet it has plenty of trees. But they never grow any more leaves than they absolutely need, and they seem to take the additional precaution of turning those leaves edgewise so that those water thieves, the sun rays, can not fall direct upon their broad surface. But the Australian acacias go a step farther. When they are fully grown they shed their leaves altogether; they keep the leaf stalk and produce two tiny wings, which present their edges to the sun.

Cabbages require an enormous amount of water, but unless the supply was absolutely unlimited their big leaves would give off so much to the air that, without some means of checking the over-liberality, they would wilt and die. Cut a fresh cabbage leaf and examine it. It has a sort of dusty, mealy look. Put the leaf under a microscope and you will see that this bloom is composed of tiny needles of wax. The cabbage has produced the wax to protect itself from the water-stealing rays of the sun.

In spite of these various precautions, the amount of water which growing plants part with to the air is almost beyond belief.

A square foot of long pasture grass gives off nearly four and two-fifths pints of water every twenty-four hours in dry weather. That is to say, there rises into the air 106 tons of water from each acre of meadow within the summer day and night.

One single cabbage has been measured to give off two and one-half pints of water within a similar period. As for the amount big trees give off, it is enormous. A sixty-foot elm will have 7,000,000 leaves. If spread out these would cover 200,000 square feet or five acres. From these leaves there pass out into the air within a summer day seven tons of water in the form of vapor.

THE APPLE SITUATION.

From an eastern correspondent who, from the very nature of his business is in close touch with the situation, the California Promotion Committee has obtained for the benefit of Californians the following report regarding the prospects for this season's apple crop in the East, and the knowledge will enable California growers to act intelligently in marketing their products:

"The New England States will have a total crop about equal to last year. In Maine and Connecticut the crop will be lighter, in Massachusetts about the same and in New Hampshire and Vermont heavier. New York promises another good crop. In the Valley of the Hudson River, proper, the quantity estimated is less than last year, but the western part of the State shows a big increase. The crop in Pennsylvania is the same as last year. In Ohio, Michigan and Wisconsin it is slightly heavier. The Middle West, where the principal shipments are Ben Davis, had very few apples last year, and the prospects this season are no better. Virginia, West Virginia and Maryland will do as well, or better than last season. California promises a big increase, and Oregon, Montana, Washington, Idaho, Mexico, Utah and Oklahoma will have twice as many as last season. The crop in Canada does not at present appear to be as large as last year, but if the fruit reaches normal size they will probably ship as many barrels. Nova Scotia had a large crop last year, and this year it will probably be less. Generally the quality of the different kinds promises good with the exception of Ben Davis, on which there is reported to be considerable scab. Taking the country as a whole the prospects are that there will be more apples than there were a year ago. These comparisons of prospects are based on the prospects of a year ago and, while we would not venture an opinion at the present regarding market values this fall, it would appear that apples will have to be purchased on a much lower basis than they were last year to allow speculators to realize any profits."

NUT GROWERS' CONVENTION.

The seventh annual convention of the National Nut Growers' Association will be held in Chattanooga, October 27-28-29, 1908. This gathering promises to be of particular importance to the industry. All members are urged to attend.

Let it be borne in mind that this convention is in the interest of general nut culture in all parts of the country, and although the pecan interests of the South may seem prominent, it but illustrates the potentialities of other sections and other nuts.

INVENTIVE GENIUS OF CALIFORNIA HORTICULTURISTS.

Commenting upon the inventive genius of California horticulturists and the application of this genius in useful machinery, Edward F. Adams, in the San Francisco Chronicle, says:

"Our horticulturists are, upon the average, without doubt, the most intelligent body of farmers, of equal number, to be found on earth. They are largely men of education and good training, who have been attracted to the fruit industry by sentimental reasons. Many of them graduated into horticulture from business life. The scarcity and dearness of labor, and the necessity of finding economical ways of cultivating their orchards and manipulating their fruit for sale in distant markets has sharpened their inventive faculties and made them pioneers in the practical arts of horticulture. We have forms of pruning saws and fruit ladders in common use which are not found elsewhere. We have devised machines for grading oranges and other fruits into sizes without injuring the fruit. We were pioneers in the use of refrigerator cars for shipping fruit long distances, and now we have devised machinery for cooling fruit before shipment. Some of our tools for cultivating orchards are peculiar to us, and we have the seeding machine which has revolutionized the raisin business. The spray pumps in general use were devised on this coast, and give better satisfaction than any which are imported from the East. In whatever ways good work or good results can be promoted by mechanical devices of any kind our orchardists have been skillful to invent and prompt to adopt."

WALNUTS.

The crop of the Persian walnut (Juglans regia) in the United States amounts to somewhat over $1,000,000 annually, yet the 17 or 18 other species of walnuts known to botanists are still growing wild with the exception of the very limited cultivation of the fine Japanese species. By hybridization and selection these wild nuts may be greatly improved and brought into cultivation. The wide extension of nut culture in all parts of the United States is also quite practicable by means of hybrids produced by the use of the hardy wild species. It is quite possible by this means to increase the nut resources of the country tenfold.

In Asia, South America, Australia and Africa are several genera of wild nutbearing trees, each genus represented by several species. Some of these nuts have a finer flavor than any nut grown in the United States today, are hardy and if properly handled by modern methods would add greatly to the wealth of the United States.

A few weeks ago we made a notice of a new variety of black cherries originated by Mr. Paul on his mountain ranch at Ukiah. Mr. Paul has sold the exclusive rights to his new cherry, which has been named the "Paul," to the Leonard Coates Nursery Company of Morganhill and stock will be available for the season of 1908-09. This cherry is highly recommended by Prof. Wickson, Burbank and others.

Pruning the roots has reference only to the bruised and broken portions. The more roots a young tree has the better; but the broken or bruised ones are a hindrance to growth for the time.

California Horticulturally

THE TABLE GRAPE SITUATION.

THE table grape is having its innings now and there is more attention being paid to it in the upper country than to any other fruit at the present time. Northern San Joaquin and Southern Sacramento counties are the centers of the table grape boom, for boom it is, and some of the stories of profits derived from this fruit are almost as incredible as were some of the stories told of profits from oranges in the early days of the citrus industry. Net returns of $200 and $250 per acre are common, while $300 is not surprising, and several vineyards were quoted to the writer in which the returns had been $500 per acre, over and above all expenditures. Now, that's pretty good. It is no wonder, in the face of such returns as these, that grape land is quoted at $1000 per acre, with little offered.

There is something in the soil or climate of the section mentioned, which seems especially adapted to the production of the Tokay grape, and this for the Eastern trade, is the grape par excellence. It is showy, the berries are large and their bright red, transluscent coloring makes them look like drops of sunshine; the clusters are large, and it is in all ways attractive to the eye, and the average man purchases on the recommendation of his sight. All these attractive qualities in the Tokay grape are produced in their fullest in the section of which Lodi is the center and which has a radius of some twenty miles, and from this section the great bulk of this fruit finds its way to the Eastern market. What the orange is to the southern part of the State the Tokap grape is to this section. Upon it depends the living and prosperity of thousands. Lodi and Acampo, both prosperous towns, and the former claiming to be something more than a town, have been practically built upon the output of table grapes, and there is not a more prosperous town in California than Lodi. People there talk grapes, think grapes and note every movement in the markets. They are prosperous and naturally want to remain so.

There are now some 7000 acres of table grapes, mostly Tokays, in bearing within the section of which Lodi is the center. All the products of these 7000 acres are shipped from Lodi. The demand in the East is sufficiently strong to absorb all the output at present, and there is little danger of a glut in the market so long as it is not greatly exceeded. But ahead of the growers there looms a dark cloud. There are nearly 20,000 acres of vineyards which have been set out in the past few years, which have not yet come into bearing, but which will soon be adding their output to that already going into the market. All of these added acres will be in bearing now in the course of two or three years, and the planting is still going on. The great question now troubling the grape growers of Lodi is: Will the market absorb all this added output at profitable prices, or will there be a slump on account of overproduction, and their profits be gone?

Already a movement is on foot to organize the table grape growers of Northern California, somewhat as the orange growers are organized, in order that there may be no oversupply rushed to any one market, and that the shippers may keep in constant touch with the markets. What is usually known as overproduction is really faulty distribution, the rushing of a larger amount of goods to one market than it can consume, while others which could use the surplus are left untouched. With effective organization this can be overcome and only so much of the products sent to any point as it can effectively consume. The Lodi grape growers appreciate this and are moving in the direction of organization for the protection of their markets before a distressing slump shall force upon them the necessity for such action.—John Isaac.

ANOTHER IMPORTED PEST.

Professor Woodworth, entomologist of the State University, has proclaimed the discovery of a new imported insect which he declares is even more to be dreaded than the White fly which caused the destruction of Marysville's citrus trees, her greatest beauty and her pride. Professor Woodworth states that this new pest is an ant which has been imported into the United States from Argentina, where it destroys everything before it, nothing being safe from its ravages. It appears in vast swarms and carries death and devastation in its track, even children have been attacked and destroyed by it. It has obtained a foothold in some of the southern States, and has now been found in an area of a mile square in Oakland. As it is a subterranean insect, and it was necessary to cut down the trees to get control of the White fly, it may be found necessary to raze the houses and dig out the basements to get rid of this. The matter has been passed up to the State Commisioner of Horticulture for action.

HEAVY FRESH FRUIT SHIPMENTS

The shipments of fresh fruits from Northern California this year will be unprecendented in the history of the fruit industry here. Already there has been shipped nearly as much as during the whole of last year and that was the heaviest shipping season up to that time.

We are now about in the middle of the shipping season, but owing to the coming in of Eastern fruit, California exports will probably drop off somewhat, allowing for this probability. It now looks as though the deciduous fruit shipments for the present season will greatly exceed 10,000 carloads. The principal shipments so far have been cherries, apricots, peaches and plums. Grapes are now coming on and there will be a very heavy crop of these to be disposed of. In addition to the old acreage there is a very large new acreage adding its output to the total. The deciduous fruit crop, too, has been exceptionally heavy this season and the canneries are running full handed to dispose of it.

Georgia and Florida nut growers effected a permanent organization at a meeting in Monticello, Fla., May 19 and 20.—W. C. Jones, of Cairo, Ga., was elected president; Ray C. Simpson, Monticello, Fla., secretary. The purpose of the organization is to promote the mutual interest of its members and to encourage the planting of nuts as a commercial enterprise.

Old crop raisins are being delivered to market very rapidly.

Ruddy Harvester Oil

For Harvesting Machines, Mowers, Hay Tedders, Feed Cutters, or any farm machinery, this will be found superior for all around use, and particularly on loose bearings. It is a heavy bodied oil, never turns rancid, never gums. Flows freely, no matter what the temperature. It lessens friction, saves wear and tear on horses and cuts down repair bills.

Put up in one and five gallon cans, half-barrels and barrels.

At all dealers in farm machinery.

STANDARD OIL COMPANY
(Incorporated)

Make $2,000 a Year Raising Sugar Beets

WE have claimed and have proved to a great many buyers that our land at Corcoran, was as GOOD as the BEST in the world for Sugar beets. Here is proof:

Mr. T. H. Schultz, 460 West Sixth Street, Long Beach, Cal., is known all over Southern California as one of the most successful Sugar Beet growers in California. Mr. Schultz went to Corcoran and thoroughly investigated our land, and so well was he satisfied that he bought a large tract and this year will plant the same to Sugar Beets, Mr. Schultz says:

"After a most careful investigation of the soil, climate conditions, water supply, etc., I am satisfied that I can not do better than to add a large tract of land in Corcoran, on the Pacific Farms Tract of land in Corcoran, to my holdings, and have done so, and I recommend this land to any buyer for sugar beet raising or for onion growing."

NOW doesn't it stand to reason that if our land is good enough for "experts" it is good enough for those just starting in—and is it not a wise move to be a near neighbor to those who know how?

YOU can make a success by going into the sugar beet raising industry, and you will make a success of it on our land.

PRICE of our land is $100 per acre, on easy terms. This price includes the water developed, the ditches made and the roads built, so that your tract fronts on a good road. Call or write for "Profitable Realty," our magazine which tells how to get an income for life in California.

GEORGE C. PECKHAM & COMPANY
202-6 Union Trust Building - Los Angeles, California
Member L. A. Chamber of Commerce

FLYFOE

That is just what it is. Sprayed on stock it kills or keeps off all those awful pests, flies, mosquitoes, gnats, etc. Do you realize what that means? Use it and note how much easier it is to keep your stock in condition and how comfortable they are. Sprayed on your cows the increased milk yield will many times pay for its cost. You should use something of the kind and

FLYFOE

will be found the most effective "fly bouncer" on the market.

If your dealer does not keep it, we will ship a 1-gallon can at $1.25 or a 5-gallon can for $5.00, and will prepay the freight. If not fully satisfied with it money refunded. Made by the

West Coast Mill
Los Angeles, California

TREE TANGLEFOOT

A Sticky Preparation Applied Directly to the Bark of the Trees

Will not injure trees. A band 5 inches wide and 1-16-inch thick cannot be crossed by any climbing insect pest. Remains sticky five to ten times as long as any other known substance. You can test it at slight expense, as no apparatus is required. Used by the carload in New England against the Gypsy and Brown-Tail Moths. In California it preserves prune orchards from the Canker Worm Wherever the Gypsy or Brown-tail Moths, Tussock Moths fall or Spring Canker Worm or Web Worm appear TREE TANGLEFOOT is of great value, and should be used when the caterpillars begin to crawl while they are very young.

Price 25c per lb. Liberal discount on quantities. The only safe and effective banding preparation. Send for testimonials.

THE O. & W. THUM COMPANY
Manufacturers of Tanglefoot Fly Paper — Grand Rapids, Michigan

When writing advertisers, mention Cultivator.

Irrigation and Forestry

USE OF WATER.

THIS paper on irrigation was read at a recent farmers' institute in Idaho. It contains advanced ideas on the proper use of water and will be of interest to those who irrigate.

At the Right Time.

Irrigation means the supplying of water in the right amount at the right time. Water is the one element necessary to plant life, which is under the control of man and the good irrigator can control plant growth with as much certainty, almost, as he can the shape of his building. The man who does not understand something of plant growth can never become a good irrigator. Water must be applied in a scientific and rational manner, because it is the lever which controls production. Moisture, air, heat and plant food are the elements which control plant growth. Water is the vehicle which carries food to the plant. Descending into the soil it dissolves the chemical food elements, and rising by capillary attraction, carries that food to the plant. Bear in mind that it is not the water going into the soil, but that coming up that feeds the plant.

A Chance for Air.

Plants should grow continually from the time the seed sprouts until they mature. If they are supplied with moisture in the right quantity and in the right way they will do so. If the soil is saturated with water to such an extent as to expel the air, the growth of the plant is checked. This is one reason why irrigation by the corrugation method, or in small trenches, is preferable to flooding. Bear in mind never to keep the soil saturated. Water in the soil forms in thin layers around the soil particles. If these particles are cubes with inch surfaces, there would be a film of water on all sides of the cubes. If this cube were pulverized or changed to a powder, there would be as many films as there are soil particles. Then a fine soil will hold more moisture than a coarse soil, because there are more interstices to be filled. Ten per cent of moisture in these interstices and a balance of air is about the ideal proportion.

Thus good cultivation, in having the soil well pulverized, is an aid to good irrigation.

The roots of a plant are always larger than its top. That is, the roots extend further into the ground than its top above it. The roots may run along near the surface or may be made to penetrate deep into the soil. If the soil is kept wet when the plants begin to show, their roots will keep near the surface. But if moisture is withheld, the plants will hunt for it, the same as an animal, and send their roots deep after it. The deeper the roots go the larger the feeding ground of the plant, and the thriftier the plant will be.

Water May Injure.

Thus, by the application of water, the irrigator may benefit or injure plant growth. A plant with roots near the surface will require frequent irrigation. One deep-rooted requires much less water. Thus by starting right the irrigator may either make or save himself work.

As between the corrugating or flooding methods, he preferred the former, for two reasons: A better and quicker distribution of water, and less liability of checking plant growth. In the corrugating or furrow method, furrows three or four inches deep, and two feet apart, should be made in the field immediately after planting, before the seeds sprout. These furrows readily conduct the water, carrying it across a field in much less time than when flooding is resorted to, and distribute the water more easily. The rise of an inch or two in a few square rods of ground is scarcely noticeable. Yet water cannot be forced upon such ground without impounding it by dams and making the low places too wet while the high ones are not getting moisture enough to make the plants grow. Where a furrow four inches deep is made through such high places the water flows without interuption, and soaks in about 12 hours from one corrugation to another, leaving the surface generally dry, and supplying the water to the roots where it is needed.

The best results are obtained in permanent ditches by placing spouts made by nailing lath together in the ditches to take the water from the ditch to the corrugation. One spout will supply two corrugations. These spouts should be placed in the side of the ditch, about one inch or so below the water-level, when the gates are closed. For instance, say the fall is two feet to the half-mile, and your ditch 18 inches deep. If the gate were put in at the lower end of the ditch it would back water up only three-fourths along or across the field. But being about 200 yards from the upper end of the ditch, and put in a gate that can be raised and lowered, not quite as high as the banks of the ditch, so that water will run over the headgate or as many as are required. The greater the fall, the more gates required. When you want water close the gates and raise the water above the spouts. When through, raise the gates, the water level falls, and the water harmlessly passes away. When ditches are constructed this way, it is a pleasure to irrigate and requires little time.

Begin Right.

In preparing your ground for irrigation (for permanent fields,) do it right. Made right once, it is always right. If no more than 10 acres can be prepared in one year, do it right, because it will pay in the long run. Have your land level. By level is meant free from knolls, with a slope. Water can not be made to run up hill. If the slope is too great run the corrugations around the slope in steep places or parallel with the ditches, as near as may be necessary, instead of from it. A fall of an inch to a rod makes a good flood for corrugations. When the land is quite level and has a gradual fall to the southeast, with the water coming upon the land at the highest point, the northeast corner, construct a ditch clear around the tract, with gates so that the water can be flowed westward and fed through spouts to the northern part of the field, the surplus part of the water passing away in the ditch on the west.

The surplus water on the field will be caught in a cross-ditch, a third of the way down the field, and may be used to water the central part of the field or allowed to waste in the ditch on the west, or if it is desired to water the middle or lower parts of the field, the water can be turned down the ditch to the east, and forced into either cross-ditch as desired, and the water confined to the land intended to be watered. If the field cannot be properly laid out without the services of an engineer, it will be much cheaper to get one than to try and get along in a slipshod manner by attempting to drive water where you want it with a shovel. Irrigating is easy where the ditches are properly laid out. Where they are not, it is slavery.

For Grain.

Unless the soil has moisture sufficient to bring grain up and keep it thriving until it is in the milky stage, irrigate before planting. Irrigate again in the milky stage, and with ordinary soil this should be sufficient to mature the crop. When the soil five or six inches below the surface will remain in a ball when squeezed in the hand, it does not need water. If not, it is time to irrigate.

Live Stock and Dairy

DECREASING COSTS.

A YEAR ago the probability seemed great that the milking machine would be in every large dairy by this time. Naturally we ask why the success has not been rapid? The next series of county fairs will bring the dairymen together and the agency people will also be there in force, and we will find out all about these things. The failure, from what I have been able to glean, of the dairymen to make use of the milking machines more largely lies in the fact that the skill to handle them has cost more than the price of butter could stand. The Danish government does not recommend a milking machine for the dairy milking less than fifty cows. We cannot make brains for men; the rise comes slowly in general intelligence along any line, and we must work with the brains of today. We have, however, in our milkers a class of men especially expert in their calling. The wages of milkers on a full string of cows run from $40.00 to $50.00 a month and board $18.00 added. This brings up the cost quickly on the cows that are loafing along. One question that seems strange is that on every hand we are trying to retrench and we find merchants' goods of every class cheaper; everything has come down except the farm hand. Wages are still $1.25 for men who are good workers.

Milk by the Pound.

When cows are shrinking in milk it has grown to be a custom in many dairies to pay the milker ten cents a hundred for any increase in milk. Many amusing experiences have grown out of this practice, for where the milkers are not watched the natural resource is to add water. One of Fresno's landmarks is Fulton Berry. He always had great pride in maintaining a high standard of food in his hotel. Milk did not suit him, therefore he put some cows on his ranch to furnish milk sweet and pure for his guests. The milk kept up in quantity but gradually it grew bluer and bluer, until on investigation it was found the men were watering it to save milking the cows. They were paid by the gallon and did not care. You remember the story of the boys filling the pump spout with turnips and then arousing the milkman from his sleep to tell him his best cow was choking to death on turnips? Everyone who has paid milkers by the pound without keeping a constant record of butterfat has been tricked in this way. These little things should amuse us and not worry, for in life we must learn to lift the grind of the wheels with a little oil of humor.

The Silo.

The way people worry amuses me at times. Just now the men on the ranch are divided and worrying over the silo filling. There are some that doubt the keeping—they are sure that it will all be wasted—that it is folly to dump all that good green corn fodder into that round tower to rot. The work of getting ready is being pushed. Every morning from six to nine or ten the men are coating the inside with coal tar. This coating prevents the action of the acid of the silage on the boards. The coal tar is cut by being stirred into gasoline. Then from three long ladder boards, crossed and tied to form a rough scaffolding, the men use whitewash brushes and daub it on from iron buckets. The hours for the work are made short as it is not easy to stay longer in the fumes of the gasoline. It becomes sickening—the same unpleasant stifling feeling that comes over one in the long tunnels following behind a couple of oil burning locomotives.

Promptness.

Filling a silo is like hay making—to be done at a minimum of cost only when plans are carefully laid and every team is made to count by falling into line exactly on time. The way to be sure of this is to be ready before beginning down to the smallest particular. The wagons and entire outfit are lined up in front of the blacksmith shop and Dad puts them right before the season opens. Every ranch seems to mave a Dad on it, some good, old fashioned trained man who can do general repairing from welding up to wagon wood work—one that the men in affection christen Dad. In a way his advice is received by every one. From the owner to the Chinese cook he has only friends. So Dad takes the wagons in charge. Every two-horse vineyard truck and all the small two-horse wagons are pressed into service. The two-horse wagons have the beds and reaches removed. Three sixteen-foot scantlings, two by fours, are chained to hang below the axles and then back of the wheels a rack six or eight feet high is placed; a like rack at the back is also put in but none on the sides. The Indian corn, as it is cut, is laid in bundles across the low bed. If two long ropes are used and the load built on them, it can be lifted off by hitching the team on the end of a stationary block and tackle at the cutter. This lengthened out wagon bed will hold as much Indian corn as three good horses can pull out of the field. The low vineyard trucks cannot be lengthened out as the wheels are already low and the bed would be on the ground. These trucks have beds or racks on the front and back and are widened by having outriders of plank on the sides.

Engine.

The cutter has been overhauled and now the engine is brought in from the irrigation and started up and its work tested. A couple of loads of fox tail is cut in to the silo to see that everything runs easy. Now is the time for the cutter. if it possesses any of the spirit of magnanimity to break down, for there is time now for repairs.

I sometimes think it would pay to sell a piece of machinery at the first break rather than repair it. The expense of repairs is considerable in a year but small compared to the loss of money incurred by teams and men waiting to start a job. I owned an engine once that stands in expense something like this: Annual repairs, including expert's time and car fares, $367; loss of time of men and teams as figured, $408. You see I could have buried that engine and got a new one with a year's guarantee of repairs and been no poorer off. The practical engine for my ranch has been proven (I have had nine others) to be the steam one.

First, it burned straw, then bundled brush and now the same old plant is burning crude oil. It goes from irrigation pump to straw cutting, to silo filling, to wood sawing, then to stemming raisins; all work comes alike to it.

Water.

The use of plenty of water in the silo ensures good settling and a soft succulency in all the silage. I saw some good looking silage last year that looked right; but in handling, the edges of the corn stalks proved to be hard and sharp. I wanted to see how the man feeding felt about silage. He at once complained it was not good feed, and he did not believe in it. I saw that the cows, which were not overfed, were leaving the silage and eating hay instead. I spoke to him about the sharp edges of the stalks and proposed he should get a wheelbarrow-load and we would pick out the sharp pieces. I was called away, however, by my host. I saw the man afterwards. He came to the ranch and told me he had thought it over and tried picking out the sharp pieces. The cows ate it well and he believed he had convinced the boss that the silage needed wetting. I have found water falling from an inch pipe rather too much at the bottom of the silo and about right at the top. Beginning with a half flow we increased it at the top until the faucet is at full flow. This is easier than to attempt to put the water in at the top by hoisting up the pails with a rope.

Corn Cutters.

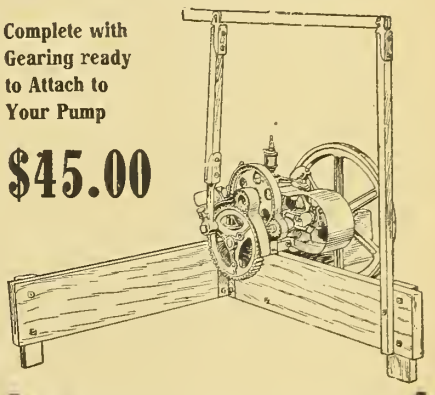
A corn cutter would no doubt be a paying investment. I have never owned one, for the amount of money in tools on a ranch is appalling and I have never had it to spare at the corn season. We use the long knives that are in use in the vineyards for "slashing" vine ends when they grow too fast. Two men at the side of the wagon cut, catch in their arms and lay the bundle of corn across the low wagon as fast, nearly, as they can walk. When the teamster has his load he drives off and the next falls in line. Should any little hitch take place, then into the silo the men go to tramp the edges. Here a good singer comes in—and the men often roar out in hoarse tune as they tramp the silage down, "Tramp, tramp, the boys are marching."—M. E. Sherman.

MAKING OF BRAN MASH.

One of the most common of all feeds is the bran mash, yet not every one knows how one should be made. It is only in racing stables and large studs, as a rule, that one sees it done properly. To make a bran mash first wash out a bucket with boiling water, then pour in the quantity of water required. say three pints, and stir in three pounds of bran. Cover up and leave it for a couple of hours or more if not required for immediate use. A mash takes hours to get cold and is often given to a sick horse too hot and refused when it would have been taken if properly prepared and given warm instead of scalding hot. The addition of a tablespoonful of salt in the ordinary mash of a Saturday night can be recommended to keep down parasites and promote digestion, but should not be part of a sick horse's diet unless specially ordered. A mixture of linseed and bran is often prescribed, both as food and a poultice. To one part of linseed, two of bran is a desirable proportion for both purposes. To get all the feeding value out of linseed, several hours should be allowed for cooking, not merely infusing, as with a bran mash, but gently simmering on the side of the stove. The vessels should be filled and towards the end the lid may be taken off and evaporation permitted while cooking.—Journal of Agriculture.

Warranted to Give Satisfaction.
Gombault's
Caustic Balsam

Has Imitators But No Competitors.
A Safe, Speedy and Positive Cure for Curb, Splint, Sweeny, Capped Hock, Strained Tendons, Founder, Wind Puffs, and all lameness from Spavin, Ringbone and other bony tumors. Cures all skin diseases or Parasites, Thrush, Diphtheria. Removes all Bunches from Horses or Cattle.
As a Human Remedy for Rheumatism, Sprains, Sore Throat, etc., it is invaluable.
Every bottle of Caustic Balsam sold is Warranted to give satisfaction. Price $1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars, testimonials, etc. Address
The Lawrence-Williams Co., Cleveland, O.

Aermotor
Gasoline Engine
Complete with Gearing ready to Attach to Your Pump
$45.00

Will pump all the time, wind or no wind, and deliver as much water as an 8 ft. Aermotor in a good wind.
From 225 to 1600 gallons per hour, depending on height water is to be raised.
Air cooled, uses Gasoline or Distillate.
A reliable, durable engine at a very low price. Can You Afford to be without one.
Send for Special Circular.
Tanks Towers Pumps Distillate Engines
Smith-Booth-Usher Co
Machinery and Supplies
Successors to
S. J. Smith Machinery Co. and L. Booth & Sons
212-214 S. Los Angeles St., Los Angeles
Home, Ex. 1090—Sunset, Main 1090

Plan to Visit
Yosemite Valley
This Season
It Is a Quick, Comfortable Trip
—VIA—
YOSEMITE VALLEY RAILROAD
An ideal outing in the Sierras amid the grandeurs of Yosemite. Cost reduced to popular prices. Ample hotel and boarding-camp accommodations. Write for descriptive folder.
For Tickets and Connections see
Southern Pacific or Santa Fe
OR ADDRESS
H. H. VINCENT, General Agent
553 South Spring St., Los Angeles, Cal.

PURE BRED BERKSHIRES
Young Stock For Sale
Wm. H. Bird Box 6, Compton Cal.

U S U S U S
THINK OF IT!

BIOKNELL, IND., June 26, 1908.
Have used a U. S. six months; it's perfectly satisfactory. I made 17 pounds of butter the week before using the U. S. The following week with the U. S. I made 27 pounds from the same cows, under the same conditions. It's the best investment I ever made. ALEX. NEAL.

An Investment Paying
33⅓%

and this is exactly what the U. S. earned for Mr. Neal over his former methods of skimming.
If you are not using a reliable

U.S. CREAM SEPARATOR

but skimming your milk by some other method, you are losing just as large a per cent. of cream (which is money) as did Mr. Neal.
It is clean skimming that counts, and the U. S. holds World's Record for clean skimming, therefore it is the separator that every one ought to purchase.

Send to-day for Catalogue No. 20

16 distributing warehouses in U. S. and Canada
501

VT. FARM MACHINE CO., BELLOWS FALLS, VT.

Prompt Delivery Assured
California Customers from San Francisco warehouse. No delays. Address all letters to Bellows Falls, Vt.

FARMERS' BOOKS

Order Through the Cultivator

FEEDS AND FEEDING.—By Prof. W. A. Henry. Is a thorough, accurate and reliable handbook for students and stockman, giving most practical and useful knowledge on plant growth and animal nutrition, feeding stuffs, feeding animals and every detail pertaining to this important subject, indispensable to every owner of live stock. 658 pages. 6x9 inches.
Cloth $2.00

AMERICAN GRAPE GROWING AND WINE MAKING.—By George Hussmann of California. With contributions from well known grape growers, giving wide range of experience. The author of this book is a recognized authority on the subject. Illustrated. 269 pages. 5x7 inches.
Cloth $1.50

STANDARD OF PERFECTION.—By the American Poultry Association and used as the standard for judging all shows. The thing for dealers in fancy stock.
Cloth $1.50

PERFECTED POULTRY OF AMERICA.—This is the most recent publication, and is one of the finest poultry books ever issued. It contains full page illustrations of all breeds and varieties of poultry, turkeys and water-fowl. On many of its pages are represented the feathers from each section of the fowl. Gives the information necessary for the selecting of the best specimen in your flock.
Cloth $2.50

A. B. C. AND X. Y. Z. OF BEE CULTURE.—By A. J. and E. R. Root, the leading authority on Bee Culture Its reputation is known to all Beekeepers. 536 pages.
Cloth $1.50

CAMPBELL'S SOIL CULTURE MANUAL.—By H. W. Campbell. The originator of the "Campbell System of Dry Farming." A complete guide to scientific agriculture as adapted to the semi-arid regions. Of great value to all Western ranches. 320 pages.
..... $2.50

Cultivator Publishing Company

Your Eastern Trip

SOUTHERN PACIFIC

May be arranged so that you may travel by way of

New Orleans and the Sunset Route

San Francisco and the Ogden Route

Portland and the Shasta Route

Enjoying the balmy air of the South or the cool and bracing air of the North.

Personally conducted excursions every day from Los Angeles via all routes without change to principal eastern points.

City Ticket Office:
600 S. Spring St., cor. Sixth
Southern Pacific

THE HORSE IN HOT WEATHER.

The average farm horse is usually a hard worked and poorly cared for animal. It is not at all uncommon to find horses' shoulders cruelly galled and yet they are kept at work during the hot days, and poorly fed and little or nothing is done to relieve their pain. In most cases these conditions could be easily prevented by proper care. A few hints, therefore, on the general care and management of the work horse may prove of value. A horse can do a maximum amount of work only under proper conditions. The right kind of feed and grooming, protection from flies and the proper adjustment of the harness bring about the desired result.

Good Feed.

The first rule in feeding is regularity. This is equally true of working. Do not feed much hay and be sure that what is fed is free from mold or dust of any kind. If dusty hay must be used if it is sprinkled with water just before feeding, bad effects will be prevented. The amount of grain fed must be determined by the feeder. Some horses are harder "keepers" than others and the quantity must be changed with the severity of the work. In all cases the heaviest feeding should be done at night. About one-half of the day's ration should be fed at this time. A bran mash given once a week is beneficial. If possible, a yard should be provided where the horses could be turned out in the evening to roll. This will do them more good than spending a half hour on each of them with a curry comb and brush and it is easier for you. Salt and charcoal should be placed in this yard so the horses can get it at will.

Shoulders.

During the hot weather the neck and shoulders should be thoroughly washed each evening in cold water to which a little salt has been added. This is the best remedy against collar boils and sore shoulders. It is also a very good plan, when resting in the field, to raise the collar from the shoulders so as to remove the pressure and allow the air to circulate. Some farmers take a barrel of water with them to the fields and give each horse a pailful once or twice each half day. This is certainlly an excellent thing to do, and it would be well if the practice were universal.

No Pad.

It would be a blessing to the horse kingdom if all horse owners could be convinced that the sweat pad is a bad thing, especially in hot weather. All sweat pads are made of material which draws and retains heat and moisture and when used in warm weather they are sure to leave the horse's shoulder in such condition that they will be easily galled. Throw away the sweat pads and have the collars properly fitted and the horses will feed and work better. A collar should fit snugly at the sides of the neck; and at the bottom there should be room enough so that you can pass your hand between the collar and the horse's neck. Do not have the collar so narrow that the shoulder muscles used in pulling can not have a firm contact.

Fitting the Collar.

In fitting a collar after you have one of the proper size the following method is good. Place the collar in water to soak over night. Next day put it on the horse on which it is to be used, put on harness and buckle hames up properly and then work the horse until the collar is dry. This will shape the face of the collar to fit the horse's shoulder exactly. After the collars have been thus fitted be sure to never change them around. After it has been fitted the surface should be polished to reduce the ill effects of friction. To do this make a heavy lather with a good soap, apply to surface and rub with a good hardwood stick. The collars should be well cleaned each evening after they are removed. A hardwood stick is preferable for this. Never scrape a collar with a knife as it makes the surface rough. When the collar is not in use always have it buckled at the place of adjustment and hung up. Good stiff leather or zinc bridges should be used at the top of the collar. The yoke strap ring at the back of the belly band should connect with the straps from the crupper or breeching. Many think that breeching and crupper straps are unnecessary, but remember it is important that the harness should fit snugly though not tightly. The above mentioned straps are for that purpose. The harness should be kept well oiled so it will adapt itself to the horse easily. Always use wide and comparatively thin straps rather than narrow and thick ones.

Flies.

Not of least importance in properly caring for the horse is the protection against flies. We have known men to work their horses all through fly season without an attempt at such protection. This is cruel and inhuman. There are three portions of the horse, where flies bite excessively; about the ears and neck, the belly and the legs. These parts should be protected as much as possible by means of proper nets. There are various preparations on the market which are applied to the horses in the form of a spray, which are said to keep flies away, but it is doubtful if they will prove practical for the average horse owner. The kind of net to be used will depend largely on the owner of the horse. A good leather net is probably the most economical. Be sure to get a net with long strings to afford protection to the legs. White muslin blankets with holes cut on each side, well up towards the backbone to permit of ventilation, make very satisfactory fly protection. In fact many prefer them to nets. It is claimed that they are as cool as nets and afford as good or better protection. These are matters, however, which must be decided by each individual himself. Look well to the comfort of your horse. He is your faithful servant and will repay you for good care and kind treatment in long years of usefulness. —Pacific Homestead.

TEACHING COLTS TO EAT.

The following advice given to me by my old teacher I have found in rearing over fifty colts to be absolutely true, and I hope it may help some other horseman. While the mare is nursing her colt, feed her once a day on hay cut in inch lengths, mixed with bran, shorts or other ground feed and moistened with water, just enough to make it adhere to the hay and not be sloppy.

Arrange the feed box so the colt can learn to eat with the mare. In this way, by weaning time, he will be able to keep his colt flesh, and weaning will not hurt him. A little of this feed will digest easily, is economical, will distend his stomach, and, if followed until he is 4 or 5 years old, when his digestive organs are in perfect working order he will be practically immune from colic or stomach trouble.

THE BOAR.

In the first place, get a good one. Get the breed that best suits your needs and stick to it. If you can't trust your judgment in selecting a boar, then rely on some reliable breeder. Expect to pay a good price for a good hog. You can't get something for nothing. If you can pick up a good mature boar that a neighbor has to get rid of—see that there is no disease—then you can use him at once. But the usual way is to get a mere pig.

The boar pig must be fed so that he will develop symmetrically and come up to your expectations. Pedigree will not make a good hog out of a pig poorly nourished. If you neglect feed and care, then don't blame the breeder who sold you the pig, if you fail to get good returns for your money.

Give the boar a well fenced yard—not less than quarter acre—all by himself. It should be well drained if possible, shaded by trees or a shade built. Have a comfortable little house that can be kept clean and a feeding floor on which is the trough. Ashes, charcoal and salt should always be available. Keep the lot and house clean. Whitewash and spray the house with disinfectants to prevent disease. Burn the old bedding frequently and put in fresh.

The feed should be succulent at all seasons. Soiling is possible in summer if pasture cannot be given. Roots, pumpkins or silage will do for winter. In addition to the succulence, feed a good ration that will produce growth without excessive fat. Very little corn or barley should be fed to a growing boar except in winter, when about one-third or half of the grain may be corn, the rest shorts or highly nitrogenous feeds. Vary the ration, but keep the balance. Clover and alfalfa hay will be readily eaten *dry*, which can be put in a feed rack or it may be cut and mixed with the slop after soaking. These hays give bulk and protein at the same time and are good bone makers.

Make the boar take exercise by feeding him as far from the house as possible, especially during the breeding season. Have a breeding pen and limit the service if you want him to last. A boar should not be sold as soon as the season is over and a new young boar bought the next time needed. When you get a good sire, keep him and use him, even to the extent of in-breeding. Less harm will come from it than continually using an immature animal.—Successful Farming.

DISEASE OF SCOURS APPEARS SUDDENLY.

Scours or calf cholera in many instances differs from diarrhoea in the adults and has special features of its own, taking the form of infectious intestinal catarrh, which is far more serious than the ordinary diarrhoea of the full grown animal. This disease generally appears suddenly. A perfectly healthy calf may be seized all at once, apparently, without any change in food or care. The symptoms of this infantile diarrhoea usually appear during the first two or three weeks of life. In many cases it appears within a few hours after the animal is born, and the calf may die within from twenty-four to forty-eight hours.

It is common for the calf to be afflicted with scours immediately at birth, even before it has had time to suck or take any nourishment whatever.

The faeces or manure are very thin and watery. They have a sour dis-

Creamery Supplies

Cream Separators Milk Cans
Combined Churns Milk Bottles
Babcock Testers Brushes
Butter Moulds Wrappers
Engines and Boilers Milk Coolers

Pasteurizers
Milking Machines

Creamery and Dairy Supplies and Machinery of all Styles and Sizes

Send List of Goods Wanted and we will Quote Prices

O. J. WEBER COMPANY
555-57 S. Los Angeles St.
LOS ANGELES, . . . CALIFORNIA

MORE MILK—MORE MEAT

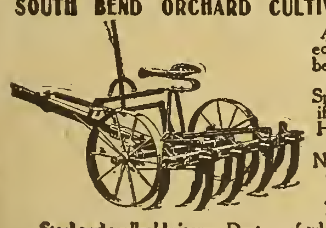
I can positively testify to the merits of Lilly's Best Fly Killer. This is the first year that I have not had to fight grub in my cattle. I used it at first last summer having little faith, but the results quickly converted me. My cattle gave more milk, and kept in better flesh on less feed as a result, and I kept them in the stable all night.
A. F. CHAPMAN, Monohan, Wash.

For Sale by Dealers

CUTTER'S
Anthrax
and
Blackleg
VACCINES

Are given the preference by 80% of California stockmen because they give better results than others do.
Write for prices, testimonials and our NEW booklet on Anthrax and Blackleg
The Cutter Laboratory
Berkeley, California

SOUTH BEND ORCHARD CULTIVATOR



Acknowledged the best, 5 feet wide. Spring teeth if wanted. Horizontal lift. No neck weight.
AGENTS WANTED
Steel and malleable iron. Dust proof wheels.
ARNOTT & COMPANY, Los Angeles, Cal.
Write for Catalog. 112-118 S. Los Angeles St.

VENADERA HERD
OF REGISTERED JERSEYS
I have for sale a number of richly bred young bulls, some of them from cows that have high official yearly records.
GUY H. MILLER,
Route 3, Modesto, Cal.

John Lynch Breeder of Registered Shorthorns
MILK STRAIN
Box 321 Petaluma, Cal.

When writing advertisers, mention Cultivator.

agreeable odor and are usually light colored. The evacuations are frequent and expelled with force.

The first indication of the presence of the disease is the soiled condition of the tail, loss of appetite, sunken eyes, sometimes the saliva flowing from the mouth, no attempt being made to swallow it. They have a staring coat, grow thin and lose strength rapidly. Death usually follows in from twelve to twenty-four hours, unless prompt measures are taken to check the disease. If allowed to continue for any length of time the scouring will be accompanied by congestion and ulceration of the intestinal mucous membrane caused by the irritating secretions. As a result of this disease partial or total blindness is sometimes brought on.

To prevent scours in calves proper care should be given to the mother while pregnant, that she may be able to give birth to a healthy calf. As it is a germ disease, it is very important that the calf have none of these germs in its system before it is born. Calves from mothers which are affected with the disease of abortion are most apt to die of scours. It is, therefore, very necessary that the cows be kept free from the disease. Calves born infected with the germs of this disease in their system are in a position to spread the disease to other calves that they may come in contact with in the same herd, or if shipped to other herds. This is another proof of its infectious nature.

The most important factor in the raising of cattle is their care while young.

Do not think that you are doing the correct thing if you are only managing to keep the life in the calf until it is three months old, and then have it get fat on grass before the winter comes. If you do this you will be apt to have a lot of "scraws" with their digestive organs destroyed and which will never make strong, healthy steers or cows and will not be good for either dairy, beef or breeding animals.—Dr. David Roberts, Wisconsin State Veterinarian.

HUMANE CATTLE KILLING.

Consul Maxwell Blake reports that in spite of much initial opposition on the part of Scotch cattle killers of the poleax style, a new device is being introduced in the Dunfermline slaughter house as a humane substitute for the old style of killing. The consul describes the new instrument as follows:

The weapon is about a foot in length. The barrel is rifled and the muzzle shaped like the mouth of a bell and angled in order to adapt itself to the slope of a bullock's head. By unscrewing the opposite end from the muzzle the cartridge may be inserted. The breech piece having been readjusted, there is a steel guard protecting the hammer, which sets off the bullet. This guard is not displaced until the weapon is about to be used. When the bullock has been firmly drawn up, the operator places the bell well up on the forehead, and with a sharp tap of a mallet all is over, the beast generally falling down without a struggle. If the bullet has been properly placed, its path should be along the spinal cord, completely severing it. If the instrument has not been well placed, death is a little longer in ensuing, but in any case there is no pain to the animal. Care in the use of the weapon is all that is required, as it is not a thing which can be handled recklessly with impunity.—Scientific American.

Wood Soled Boots and Shoes. Boots, $3.25; Shoes, $2.00. O. J. Weber Co., 555 South Los Angeles St., Los Angeles, Cal.

HOG NOTES.

See to it that the pigs have plenty of salt, charcoal and sulphur.

Keep the little pigs growing. Do not let them be at a standstill for a single day.

Hot dirty pens will take more off from your pigs, than you can put on with a month's feeding.

Pigs do not trouble pasture fences ordinarily when the feed within is sufficient to supply their needs.

Weed out the sows that persistently fail to grow good litters. They may make better pork than they did mothers.

Little pigs do best when they have plenty of "run" in a large pasture where tender, appetizing feed is plentiful.

If there are no trees in the pasture, provide some other kind of shade for the hogs. Otherwise you'll have several cases of skin disease on your hands.

Coarse bulky feeds are best for pigs at this time as they distend the digestive systems, and get them ready to handle large quantities of fattening feeds in the fall.

Loose wire fences are great teachers and trainers of little pigs. It will be only a question of time until they can surmount, go through or go under almost any fence.

Boys sometimes itch to go hunting but when pigs itch or rub it is time for the farmer to go hunting the dip can and kill off hog lice and mange. This is safe hunting and the reward is always sure.

DAIRY SHOW.

The Third Annual Dairy Show will be held at Chicago and in the Coliseum, Dec. 2nd to 10th inclusive.

The purpose is to make this exhibition of cattle and machinery something more than a show. It is the purpose to make it a strong educational affair where questions of national import may be discussed and plans made for a greater development of all dairy interests. The first two shows were a success, and it is the desire to make the coming one better, bigger and more instructive.

The address of the association is 154 Washington St., Room 307, Chicago, Ill.

Why do not more of the cattle raising farmers combine for the purchase of a good bull? By so doing they would be able to purchase the breeder's best calf instead of his poorest. True, co-operation is sometimes unsatisfactory; each member under the co-operative arrangement has a will of his own that he wishes to cater to, but such minor eccentricities should be put aside for the sake of economy and better results. In this western country where more freedom and less restraint exist than anywhere else in the civilized world it is often very difficult, if not impossible, to get a half dozen farmers in the same community to agree even upon the same breed, to say nothing of the same type and quality. This condition will lessen as crease. "United we stand, divided we may stumble," should be the motto of development and competition in all breeders.

County Veterinarian Hunter says that between fifty and sixty thousand sheep have been dipped in various parts of Santa Clara county.

Heaviest grain crop in years, is reported in many sections of Colusa county.

Cream Separators, all sizes, all prices. O. J. Weber Co., 555-557 S. Los Angeles street, Los Angeles.

EXCLUSIVE Tubular ADVANTAGES No 5

EASE OF OPERATION

Lest you forget, we review the four previous exclusive advantages we have mentioned.

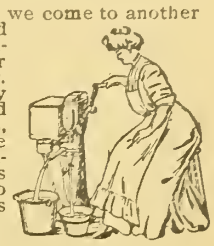
No. 1. The light, Suspended Bowl.

No. 2. The Low Supply Tank.

No. 3. The Perfect Self-Oiling arrangement.

No. 4. Ease of Cleaning, 3 minutes to wash the 3-piece, light Tubular Bowl.

No. 5. Now, we come to another important and exclusive advantage in favor of the Tubular. Having so many less parts, and what few it has, being of the simplest construction, means less weight to turn and less friction.



Let your wife test the easy running Tubular in comparison to others, and see what she says. Remember, we've been making Tubulars for 28 years. That means skill and perfect workmanship.

Write a postal for Catalog No. 260; it will open your eyes on separator building.

The SHARPLES SEPARATOR Co., West Chester, Penna.
Toronto, Can., San Francisco, Calif., Chicago, Ill.

Water Pipe Cheap

25 CAR LOADS NOW BEING UNLOADED

250,000 feet of this shipment is second-hand pipe, practically as good as new, and is now on sale at a big discount by the Adams Pipe Works, 2025 Bay street. Sizes and prices: ¼ inch 1½ cents per foot; 3-8 inch, 2 cents per foot; ½ inch, 2½ cents per foot; ¾ inch 3½ cents per foot; 1 inch, 4¾ cents per foot; 1¼ inch, 6 cents per foot; 1½ inch, 7 cents per foot; 2 inch, 9¾ cents per foot; 2½ inch, 15 cents per foot; 3 inch, 18 cents per foot; 3½ inch, 20 cents per foot; 4 inch, 32 cents per foot.

Oil well casing prices and sizes: 2 inch, 7 cents per foot; 2½ inch, 9 cents per foot; 3 inch, 13½ cents per foot; 3¼ inch, 15 cents per foot; 3½ inch, 17 cents per foot; 4 inch, 18 cents per foot. All pipe is carefully inspected, new coupling and new thread are put on every piece, every joint is guaranteed to be first-class, serviceable pipe. This pipe is sold in any amount; small orders are given the same attention as large ones. Mail orders promptly filled. To reach the Adams Pipe Works, take car marked Pacific Boulevard, starting east on 7th St. from Broadway. All lines will transfer to East 7th St. new line. Ask conductor to let you off at Bay St., and go east half-block. Phones, A1917, Broadway 1264. Los Angeles, Cal.

Live Oaks Farm
Frank A. Meacham, Proprietor.
Importer and breeder of RED POLLED CATTLE, SHROPSHIRE SHEEP, RAMBOUILLET SHEEP, HORNLESS AMERICAN MERINO SHEEP. Both sexes for sale. Take electric car at Petaluma or Santa Rosa for LIVE OAKS STATION. Address all mail to
Petaluma, Sonoma Co., Cal.

Berkshires--Shorthorns
My Berkshires took every blue ribbon and Gold and Silver Medal in the female classes. Choice pigs at low prices. G. A. Murphy, Perkins, Cal.

Thoroughbred Poland China Swine
Black Minorca and Barred Rock Poultry
High Grade Stock of Best Strains.
Young Stock For Sale
M Bassett *Hanford, Cal.*

The Whiting Jersey Stock Farm Company
Is making the very best strains of blood fresh from the island of Jersey a specialty.
Whiting Jersey Stock Farm Co. Heber, Imperial Co., Ca

Geo. C. Roeding, Fresno, Cal, breeder of
Thoroughbred Holstein Bulls and Heifers
Thoroughbred Berkshire Boars and Sows

When writing advertisers, mention Cultivator.

California Cultivator

ESTABLISHED 1889
Subscription price One Dollar per year.
Payable in Advance

Thursday, July 30, 1908

Address All Communications to
CULTIVATOR PUBLISHING CO.
115½ No. Broadway, Los Angeles.
733 Merchants Ex. Bldg., San Francisco.

Copy for Change of advertisement must be in office on Saturday preceeding date of issue. New advertising copy should reach the office not later than Tuesday to insure insertion.

CULTIVATOR PUBLISHING COMPANY
H. A. PERKINS, EDITOR AND GEN. MGR.

C. B. MESSENGER - - - - Associate Editor
FRANK H. THOMAS - - Advertising Manager
H. G. HUTCHINS - - Subscription Manager

EDITORIAL CONTRIBUTORS:

J. W. MILLS - - Deciduous and Citrus
JOHN ISAAC - - - Horticulture
J. B. NEFF - Walnut Culture and Irrigation.
Mrs. M. E. SHERMAN - Live Stock and Dairy
Q. A. LOBINGIER - - Vegetable Garden
S. S. TWOMBLY - - - - - - Poultry
W. E. FOSTER - - - - - Pigeons
L. M. FALL - - - Law Queries
RALPH E. SMITH - - Plant Pathology
S. A. PEASE - Plant Diseases and Injurious Insects

Entered at the Post Office at Los Angeles, California, as Second-class matter.

Contents

CITRUS FRUITS IN COLUSA COUNTY, Cover.

AN ELEMENTARY LESSON IN IRRIGATION, 99.

WITH THE CITRUS GROWERS.—Health and Disease in Citrus Trees; Oranges in Texas, 100, 101.

DECIDUOUS.—Water and Plants; The Apple Situation; Nut Growers' Convention; Inventive Genius of California Horticulturists; Walnuts, 102.

CALIFORNIA HORTICULTURALLY.—The Table Grape Situation; Another Imported Pest; Heavy Fresh Fruit Shipments, 103.

IRRIGATION AND FORESTRY.—Use of Water, 104.

LIVE STOCK AND DAIRY.—Decreasing Costs; Making Bran Mash; The Horse in Hot Weather; Teaching Colts to Eat; The Boar; Disease of Scours; Humane Cattle Killing; Hog Notes; Dairy Show, 105, 106, 107.

EDITORIAL.—Standard Oil Case; Wasting Water; Even for a Farmer, 108.

AGRICULTURAL NOTES OF THE PACIFIC COAST.—Northern, Central, Southern, the Coast, 109.

POULTRY FOR PROFIT.—Alfalfa as Poultry Food; Poultry Brevities; Poultry Manure; Dry-Farm Feed; Turkey Pasture; Fattening Turkeys, 110, 111.

ORNAMENTAL GARDEN.—California Gardens; Iris, 112.

SMALL FRUITS AND VEGETABLES.—Care of Tools; Irrigating Potatoes; Potash for Potatoes, 113.

QUERIES AND REPLIES.—Rostrata and Jarrah; Up-to-Date Machinery; Insect on Grape Leaf; Packing Grapes; Sex of Eggs; Exterminating Flies; Turkestan Alfalfa; Sweet Corn; Blackberries; Red Scale; Twig Borer; Frog Raising; Best Separator; Cutting Alfalfa; Aphis-Weevil, 114, 115.

GENERAL AGRICULTURE.—Good Roads; Soil Culture Manual, 115.

HOUSEHOLD.—A Glass of Buttermilk; A Paymaster's Flight; Homely Hints; Grant and Religion, 116, 117.

PRODUCE MARKETS.—Los Angeles Market; San Francisco Market; Citrus Markets, 118 119.

STANDARD OIL CASE.

The suit under the Elkins law against the Staudard Oil Company was begun in October, 1906, at Findlay, Ohio. In March, 1907, the particular suit in which the Judge Landis opinion was rendered was begun in Chicago and the Company was found guilty in April. In August the maximum penalty, amounting to $29,240,000, was levied by Judge Landis. On July 22, 1908, the United States Circuit Court of Appeals set aside the fine and reversed the lower court by unanimous decision. The President has directed the Attorney-General to take immediate steps for a retrial of the case.

The reversal of the decision did not in any sense touch the merits of the case except in-so-far as the size of the fine was concerned. There is no doubt of the guilt of the defendant or of the exceptionally grave character of the offense. The President regards it as a gross miscarriage of justice if, through technicalities, the defendant escapes puuishment, and will do everything in his power to avert such miscarriage. In his turn, Judge Grosscup, of the United States Circuit Court of Appeals, says: "Corporations should be made so secure as a form of holding property that the corporate domain of the country will invite investment by the people, just as the farms of the country are distributed among the people. I would like to see every clerk, every mechanic and every other kind of employee have a proprietary interest in the enterprise to which he is attached, and this can be done if we go about the work of corporate reconstruction sanely and reconstructively."

The decision of Judge Landis was held to indicate that great corporations were face to face with the majesty of the law. The reversal of this opinion by the higher court does not change their position. The prosecution will go on and no matter what the ultimate result may be, the American people will bow to the supremacy of law. If the present law is not sufficient, legislation will make one that can control public corporations.

We have little patience with the subsidized railroad organ praising with undue vehemence the decision of one court while aiming to discredit the honest though possibly erroneous opinion of another. We have little patience with the yellow press declaring justice blind and courts subject to venal considerations. Between the two extremes stands the great mass of intelligent American voters on whom rests the security of our government. They will rise to any occasion necessitating preservation of peace and maintenance of right and say to either extremist, thus far and no farther.

It is unfortunate, to say the least, that it is not now true that the corporations of this country are so managed as to invite investment by people of small means. But existing conditions will be changed under the law and with the fullest respect to property rights.

WASTING WATER.

As has been the case since irrigation began, the farmers are still engaged in wasting water. We do not say this from any knowledge of a specific case, but from the general knowledge of methods of work among irrigators. The waste begins in the winter time when the floods rush unchecked to the sea; later in the orchard, which was not prepared to receive the falling rain, or when plowing is delayed until weeds have exhausted a large part of the supply which fell from the sky; still again, by not properly packing the subsoil and holding the moisture which was in part saved by the late plowing; and more by faulty methods of irrigation with a scant supply which is given to many farmers this year. There is much to be learned in the question of irrigation and the diverse methods which are followed show need of study and observation on the part of irrigators. One man will run water for 36 hours while his neighbor on similar soil adjoining will get as good results with 24 or possibly 12 hours' run. Auother irrigates two or three times during the season, while his ueighbor must irrigate every two or three weeks to keep his crop in the best of condition. We have no pet scheme to suggest. In fact, there is uone, for the varying conditions which confront the farmers must be studied and every farmer adapt scientific methods to his own circumstances. Here let us suggest that this word "scientific" should not be the bugbear which to many men it seems to be. Let it be suggested to some farmer that he follow a more scientific plan of work and almost immediately his hands are in the air iu horror at that term. But until he learns to apply these principles to his own conditions, no farmer will achieve highest success with any crop he may attempt to raise.

Aloug this line we believe every farmer iu this State should study the principles underlying so-called "dry farming," or, as some prefer, "arid farmiug" operations. Whether one irrigates or otherwise, we believe these principles are of great value aud can be applied to auy crop or any orchard grown iu this State.

EVEN FOR A FARMER.

The Cultivator is in receipt of a letter from a valued subscriber asking where the boy of the family may secure an agricultural education. He has just fiuished grammar school and does not care to attend high school. But the parent adds, "Yet we feel that he ought to have a little more education, even if he wants to be a farmer." Of course the Agricultural College of the State University is not the place for such a boy, for a grammar school does not advance him sufficiently for entrance to that institution. It is probable that the State Polytechnic School at San Luis Obispo offers him the desired opening.

But the point in the letter which calls for mention of this fact on this page is in the words "EVEN if he wants to be a farmer." That expression, we believe, is only an indication of the feeling quite general amongst farmers the State over. If our sons and daughters aspire to be lawyers or doctors, or are going into the city to compete there in the life race, then every point is strained in order to give them an education just as good as the "city folks" are giving to their sons and daughters. A more vital mistake was never made than in this valuation which farmers put upon their own calling. If any class of people are entitled to, and even required, to have the best of education to secure the highest results, it surely is the farming class. The various problems of soil chemistry, the physical condition of the soil, insect, fungous and bacterial life, injurious or beneficial, the manner in which plants feed and grow, their climate requirements and a thousand and one other questions are confronting the farmer every day. To be sure, some of the most ignorant of farmers have often succeeded in farming operations through their inherent "horse sense" guiding them in the ordinary operations of farm work. Such men are usually natural money makers and have not succeeded because of their ignorance, but in spite of it.

It seems to us that these complicated questions facing soil culturists are such that our brightest young people should thoroughly fit themselves to meet these diverse conditions and not enter life hadicapped by having untrained minds which are not qualified to solve these problems. The time was when "main strength and awkwardness" were sufficient to win a living from the soil, but these opportunities are growing less and less every day.

The best is none too good, "even for a farmer."

ELEMENTARY LESSON IN IRRIGATION.

Continued from page 99.

you had better pay twice that. Its use is no such great trick as is commonly imagined. Any boy or girl of 15 can soon learn to use it well enough, and so can any man, no matter how old, if he can add and subtract two figures. No irrigated ranch should, under any circumstances, be laid out without it, and if necessary neighbors should club together and buy one. For small work a carpenter's level fitted with fine rifle sights does fair work if the rod is not over twenty feet away. Errors will amount to nothing if distance of the rod is reduced to ten feet, as most of them will balance each other. Instead of having a rod reading in feet and inches, or feet and tenths of a foot, have it all in inches. The elevation of the telescope will average about four feet above ground while the variation of levels will not be over two feet. A rod with the figures starting at three feet above grouud and running to five feet will thus give you tweuty-four inches which cau be marked off in ink if you have no black paint handy. The remainder of the problem, after adjusting the telescope, is about as intricate as going uptown with 24 cents, buying a 5-cent cigar, finding a dime and then figuring out your balance in pocket. There is absolutely no excuse for neglecting it because you can't afford to hire a surveyor and have on your tongue's end the old stock lie "can't teach an old dog new tricks." Maybe you have seen the man who can't write his name. His excuse is "didn't have no schoolin'." The combination of nine letters that make up John Smith is entirely too great for him. But he has not the slightest difficulty with the thirteen cards that make up a suit and the combinations that make a poker hand. Don't imagine you can't run a level because you did not go to a polytechnic school. Get one and don't lay out a ditch or a bit of land without it. Leveling by the water is too slow where the soil takes much time to dry. The carpenter's level on a beam to be dragged around or an upright on the beam with a plumb bob hanging from it, or the plum bob hanging from the top of a big triangle will do fair work on a small scale, but for work of any size the telescope will soon save you in time and bother all it costs to buy and learn to use it.

Agricultural Notes of the Pacific Coast

Northern California

Ferndale, Humboldt county, is planning for its coming fair.

Chico alfalfa prices are $6.50 to $7.00 per ton in the stack.

Sutter county fruit buyers are offering $25 per ton for cling peaches.

Seventy thousand brook trout were recently released in the upper Feather River.

Sonoma apple crop will be exceptionally large but the fruit is unsatisfactory in size.

Sutter county prune growers are reporting the loss by dropping of prunes as quite serious.

The Armsby Preserving Company commenced its fall canning campaign at Yuba City on the 17th.

Soil experts Dorsey and Mackie are investigating soil conditions near Yuba City, Sutter county.

Nearly 50 families are camping in tents at the grounds of Yuba City fruit cannery, Sutter county.

California Fruit Canners' Association opened its cannery at Marysville, Yuba county, the middle of the month.

The Sacramento Valley Sugar Company will commence operations at Hamilton, Glenn county, on August 1st.

Harvesting fruit at Chico, Butte county, is progressing satisfactorily with sufficient laborers to handle the output.

Early peach growers are generally drying their own peaches, owing to unsatisfactory prices offered for the green fruit.

Orland, Glenn county, reports a shortage of only about 25 per cent in its yield of grain, which is of very fine quality.

The bills of sheep inspectors of Yuba county have finally been allowed after having been held up on technical grounds.

Owing to low water, navigation of the upper Feather River has ceased, compelling producers to depend on rail transportation.

The grain harvest of Sutter county has been practically finished. Wheat is now selling at $1.50 to $1.60 and barley $1.05 and $1.10.

Sonoma County Co-operative Poultry Association has raised its local price, quoting now at only 1½ cent below the San Francisco prices.

Grain is pouring into the warehouses of Dixon, Solano county, at a rapid rate and the output wil be far in excess of earlier expectations.

Sonoma county is facing a shortage of barley. At one time a few days ago it was claimed there was hardly a sack, whole or rolled, in the entire county.

Placerville, Eldorado county, pears are of exceptionally high quality this season, there being very little scab and small proportion of wormy fruit. Prices are satisfactory.

Banner shipment of fruit through Sacramento was on July 1st, on which day 61 cars were sent on their way to eastern markets. The largest prior record was 49 cars in one day.

California Fruit Distributors recently forwarded 45 cars of fresh green fruits in one day. This is the largest green deciduous shipment by any one concern in the history of the State.

Central California

Del Rey, Fresno county, shipped its first Thompson Seedless the first of the month.

The cost of hauling potatoes from farm to market in California is said to be 16 2-3 cents per ton mile.

Gilroy, Santa Clara county, hay will be the finest ever, as it is quite short, but the yield will be light.

Fosters and Tuscans are being shipped in large quantities from Parlier, Fresno county, to the Fresno cannery.

Hatfield, the self claimed "rain maker," has recently been telling how he secures the precipitation of rain.

County Entomologist Morris of Santa Clara county addressed the grange at San Jose recently on the red ant pest.

About fifty million gallons of wine were produced in this State during 1907. Less than one-fourth of this amount has already been distributed.

The Maple Grove Creamery at Hanford has received the contract for 100,000 pounds of butter. This is a compliment to Kings county dairymen.

An irrigation system in Santa Clara valley, the Madrone Water Company, is about ready to turn water on a large tract of formerly unirrigated land.

Farmers at Prunedale, Monterey county, are urging the Board of Supervisors to legislate against ground squirrels, which have become a veritable pest.

Lodi, San Joaquin county, is just establishing a grape juice factory which it is thought will take up a large quantity of the inferior grapes of that section.

Discovery of a new pest, the Argentine ant, is reported by the State Experiment Station, a colony being found near Oakland and also in the Santa Clara Valley.

The waters of Tulare Lake are receding rapidly and grain will be sown this fall on much land which for the last two or three years has been covered with water.

Refusal to be stampeded and sell fruit at ruinous prices has resulted in the growers of San Joaquin valley securing better returns than appeared at the opening of the season.

The stockholders of the Salinas Creamery at Salinas have recently received a dividend of 8 per cent. This creamery has paid dividends every year since it was started.

Forest rangers are proposing to make an example of every one who violates the forestry law which places a penalty of $25 to $500 for carelessness in starting forest or field fires.

The Horticultural Commissioner of Monterey county reports that the fruit growers of that section have been very prompt this season in spraying for fruit pests and the fruit will be of very fine quality this year.

Congressman Needham is distributing sample packages of Tangier peas which it is claimed has been remarkably satisfactory both as a winter crop and as a green manure or cover crop. Farmers should apply for this seed so as to secure it before September 15. Congressman Needham's address is Modesto.

Southern California

Ventura county is agitating a good roads movement.

Imperial valley is busy planting quantities of corn.

The canncry at Pomona is already running on peaches.

Orange county apiarists are marketing a fine quality of honey.

Canning has begun on peaches and a good crop is being marketed.

Anaheim ships about 350 cases of 30 boxes each of raspberries daily.

Ventura county beans are not looking so well as last year at this date.

Chino recently shipped 280 head of fat cattle to the Los Angeles markets in one shipment.

Spraying of celery to prevent blight will be general in all the celery fields of Orange county.

Oxnard sugar factory which was recently started is reported to be running very smoothly this season.

Celery planting has just begun on the peat lands of Orange county. About 3000 acres will be planted.

Riverside citrus shipments aggregate about 5000 cars, less than 400 of which are lemons.

Apricots at Ontario were badly smutted this year because of orchardists not properly spraying the trees.

Nearly all apricot dryers in Southern California have finished the season and are now waiting for peaches.

Youngsters burning out bees to get honey started a fire which destroyed a young eucalyptus grove at Whittier.

Ontario has over 500 hands at work in her cannery, which is the largest force ever employed there at one time.

Grain heading has been completed in Yucaipa valley. The amount harvested will be fully as great as last year.

Hesperia supply of wood which was thought to be almost inexhaustible is now estimated to have in sight only about 6000 cords.

Tree Warden Reed of Riverside is offering a number of cash premiums for the finest lawns and handsomest shade trees of that city.

Water's Cannery Company at Pomona has finished on blackberries and apricots, using 325 tons, the largest tonnage of these fruits of any one year.

The Kingsbury Preserving Company at Redlands has shipped 40,000 pounds of its fancy marmalades to Denver. This concern is proving a profitable industry for that place.

Imperial valley has shipped, to the present time, over 1700 cars of cantaloupes, which it is now feared will not bring one penny of income to the producers owing to the serious slump in markets.

Forester Pinchot arrived from Washington recently and has inspected forestry conditions of Southern California and attended the meeting of the Tri-Counties Re-Forestation Committee at Riverside last week.

The wild turkeys recently released in the mountains back of Redlands have created a suspicion that they are nothing more nor less than tame turkeys. In any case they prefer the nearest barnyards to the range of the mountains.

The Coast

Natches valley, Oregon, is marketing an exceptionally heavy crop of potatoes.

Moro county, Oregon, will give a crop of grain considerably short of that of last year.

Miles of grain were leveled by a severe hail storm which visited Idaho in the neighborhood of Grangeville last week.

Le Grande, Oregon, hopes to give an average crop of grain this season, but has been somewhat alarmed by shortage of rain.

Crops in Walla Walla, Washington, have been seriously injured by drought which prevailed nearly up to the middle of July.

The cherry show held at the Dalles, Oregon, was one of the most successful ever given by this organization. There were forty-four exhibits of cherries.

A convention of logged-off land owners, recently held at Everrett, Washington, discussed manner of clearing and making tillable land of that section.

Wenatchee valley, Washington, was favored with an exceedingly heavy rain July 14 and 15, and the farmers express it as being "worth $100,000 a minute."

The State of Washington will be represented at the National Irrigation Congress to be held at Albuquerque by a full delegation, which has already been appointed.

The sugar cane plantations of the Hawaiian Islands are seriously affected with the cane borer for which a remedy has been sought in the form of parasites.

The Utah Agricultural College has conducted what it calls a dry farm excursion, leaving Salt Lake City and taking in several of the principal dry farming sections of that State.

The Grangers of Pullman, Washington, recently held a big grange picnic at which valuable premiums were awarded to the best housekeepers. The contest was very spirited.

"Red Hot" is the name of a disease which is attacking the stalk of the sugar cane. It has been found to be a fungus and is being studied by the Department of Agriculture.

A standard of fruit grades has been established by the fruit associations at North Yakima, Washington. Lack of uniformity in the various packing houses has been confusing to buyers in the past.

The cannery combine of Oregon is endeavoring to buy up cherries for three years, at a price "to be fixed by general market conditions." The sellers seem to think there is a colored gentleman in the woodpile.

Canneries of the northwest are busy denying the charge that they have formed a trust or combine. but the proof seems to be sufficient to make most of the farmers think that at least a "gentlemen's agreement" prevails.

At a meeting of the directors of the Portland County Club and Live Stock Association, it was decided to hold a poultry show in connection with the first annual Pacific National Live Stock meeting to be held in Portland, December 21-26.

PER 2 BUSHEL SACK **$1.90** PER 2 BUSHEL SACK

Buy the World's Famous Egg Food No. 4

MIDLAND

IF YOU WANT EGGS
YOU WILL FEED NO OTHER.

Used by the largest and best breeders in the country. Thousands of poultrymen are using it, and it is the acknowledged standard of the world. Haphazard feeding is no longer profitable. Try Midland Food and be convinced.

Petaluma Incubators and Brooders

The acknowledged standards of perfection. All poultrymen who have used these machines have supreme confidence in their ability to hatch and breed. Hence their ever increasing popularity. Winners of the Gold Medal at the St. Louis World's Fair for the greatest hatch, with 40 different makes of incubators in competition. How's that?

St. Louis, Mo., Dec. 8th, 1904.—Petaluma Incubator Co., Petaluma, Cal: My dear Sir—The awards have been held up owing to a controversy between the Exposition officials and the national commission, but today I am able to state the award of a gold medal on your Petaluma Incubators has been confirmed. You are at liberty to make use of this in any way you see fit and in due time the diploma will be issued and the medal obtainable. Congratulating you upon this evidence of the merits of your incubators, in which there was very great competition, I beg to remain, yours very truly, J. A. Filcher, Commissioner.

And Now Comes New Reward for Merit

Read the following telegram received from the Lewis & Clark Exposition at Portland:
"Petaluma Incubators and Brooders just awarded Gold Medal at Lewis & Clark Exposition."

WRITE FOR CATALOGUE 47—A BEAUTY

Petaluma Incubator Co.

Main Office and Factory, Petaluma, Cal., Box F.
Los Angeles, 636 South Main Street.
San Francisco Office and Salesroom, 83 Market St.

Coulson's Cresolene

**LICE KILLER
DISINFECTANT
AND DIP**

Dilute With Water Before Using

CRESOLENE is a powerful disinfectant, insecticide, and germicide obtained from coal tar. It is non-poisonous, and non-corrosive and will do no harm to the most delicate skin.

It mixes readily with water, forming a milky emulsion, and can be diluted from 50 to 100 times its own bulk, in accordance with the different uses to which it is put.

Thus when you purchase 1 gallon of CRESOLENE you can make up to 100 gallons of the best disinfectant for use with stock, poultry, dogs or as a general disinfectant and insecticide.

This reduces the cost to 1 1-4 cents per gallon which is cheaper than anything else on the market.

PRICES: Quart can, 50c; one-half gallon, 85c; gallon, $1.25.
Freight paid on orders of one gallon or more.
Manufactured by

Coulson Poultry and Stock Food Company
Petaluma, California
Germain Seed Co., Los Angeles, Distributing Agents for So. Cal.

Little Chicks should be fed on **Excelsior Chick Food**

prepared from clean, sound grains, seeds, beef scraps and charcoal in proportions to make a well balanced ration and produce strong, healthy chicks and keep them continually growing. For sale by all dealers and grocers. Take no other.

Excelsior Cereal Milling Company

242 Central Ave., Los Angeles

Mammoth Bronze Turkeys---S. C. White Leghorns

From our large, vigorous White Leghorns, the largest eggs produced by any Leghorn breeder in the West. $1.50 for 15, $7.00 for 100 and $60 for 1000.

To make room for young stock we must dispose of a large number of this year's breeding birds. They are two years old and the pick of our flock and must be sold at once. Write us your needs. The price is right.

STUHR-WILLIAMSON POULTRY COMPANY
378 Bandini Ave. Home Phone 1490 Riverside, Cal.

Now is the time to hatch **BANTAMS**
Golden Sebright, Buff Cochin, and Light Brahma Eggs, $2 per 15. Prize winners.
M. E. Dillingham Box 67, San Gabriel, Cal.

White Wyandottes Exclusively
Good, White, Typical Birds. Stock and Eggs For Sale
W. A. SEYMOUR
470 No. Beaudry Ave. Los Angeles Cal.

Profit in the Poultry Yard

We solicit short articles of a practical nature from the fancier and utility breeder, giving their experience with poultry. All inquiries pertaining to feed, management, disease and its prevention will be answered through these columns.

ALFALFA AS POULTRY FOOD.

FEW people realize the value of alfalfa as food for domestic animals. To a large majority of people it is simply hay and they fail to recognize the fact that there are few products raised on the ranches of California that are so rich in that most important and costly constituent of animal food, protein, as alfalfa. A good sample of wheat bran contains about 12 per cent of protein; a good sample of alfalfa hay may run as high as 14 to 16 per cent protein and the protein of alfalfa is as digestible as that of bran. A pound of protein in bran at the present time costs 14 to 15 cents, while a pound of protein in alfalfa hay can be bought for 5 cents.

A correspondent asks why feed protein matter at all if so much more costly than the other constituents of animal food.

The making of lean meat, the production of milk and eggs are largely dependent on the supply of nitrogenous material in the food. All these substances are rich in nitrogen, consequently the food must contain it in order that they be produced. A dog fed on butter will die of starvation nearly as soon as if fed nothing, because this substance is so low in protein, while horses fed on alfalfa hay without grain will sweat readily and fail to stand up to their work. In each case the ration lacks an important constituent of food, and is more than amply supplied with the others; i.e., the ration is unbalanced. The first feed, the dog lacks protein. The second feed, the horse is low in carbohydrates.

In feeding poultry we get an ample supply of starchy material in barley, wheat, Kaffir corn, etc., and we look to wheat bran, cocoa oil meal, linseed cake and beef scraps substances to supply the protein that is lacking in these grains, but as was previously stated, a pound of protein in bran costs at the present time 14 to 15 cents while it can be bought in alfalfa for 5 cents.

Alfalfa in its green state or when cured as hay is a very satisfactory poultry food, and the use of alfalfa meal is becoming a common practice with poultrymen. Poultry will feed readily on the dry leaves of the alfalfa plant when they have access to it and much of the fine material scattered off from the hay in the hay mow may be used to great advantage in feeding them. As this scattered material is mostly leaves, it is the best part of the plant and can be fed alone or mixed with other feed.

The nitrogenous element of alfalfa is just what is needed for the development of the young fowl as well as for the production of eggs, and a number of so-called poultry foods are said to be composed in part of ground alfalfa. It is best for poultry to use the alfalfa cut before or in early bloom. It is softer in texture, has a larger proportion of leaves, less woody matter, and is more succulent, while poultry of all classes will eat alfafa hay or at least the leaves from it and thrive. It is probably a better practice to chop or grind it and mix it with ground grain or mill products low in protein.

The method is practiced by some of steeping the cut alfalfa hay in hot water and letting it stand for several hours before feeding. If this is done and the grain ration mixed with it, the effect is practically the same as when green alfalfa is fed. Corn meal and ground alfalfa or alfalfa leaves steamed to soften it, makes an ideal balanced ration for the production of eggs.—S. S. T.

CORRECTION.

In the article on Kaffir corn in this department last week the expression occurs: "In interior valleys and on irrigated lands." It should have read on non-irrigated lands. One of the strong points in favor of Kaffir corn is that it can be raised where a crop of Indian corn would fail for lack of water.

It is true that it gives much heavier yields when irrigated, but in such localities Indian corn is usually preferred.—S. S. T.

POULTRY BREVITIES.

Neglect to exterminate lice causes more loss among little turkeys than any other cause and their presence is quite frequently unsuspected.

* * *

Kill lice on the hen turkey before she is set and dust her and the little ones with insect powder three times per week while they are cooped.

* * *

Use carbolized vaseline for greasing the heads of little chicks and turkeys when bothered with head lice.

* * *

Turkeys do best if kept and fed separate from hens and chickens.

* * *

Young Turkeys require food oftener than young chickens.

* * *

Poultry Manure.

I have a small orange orchard and also keep a large flock of hens, and at times have opportunity to buy hen manure for the orchard, but am at a loss to know what I can afford to pay. I have seen statements in poultry papers that as fertilizer, it is worth $5.00 to $20.00 per ton, while I am offered some for $12.00. I have read that poultry manure loses its fertilizing value very rapidly and consequently care must be taken to prevent this. Will the Cultivator tell us what we can afford to pay for hen manure for fertilizer and also the best methods of preventing loss of fertilizing material in the same.—E. H. K., Colton.

Hen manure and poultry manure, in general, are very rich in fertilizing constituents, especially nitrogen, and this plant food is in a very readily available form. Again being so readily available as plant food it is easily lost unless precautions are taken to prevent such losses. We should remember, as in case of other natural manures, that hen manure is very variable in composition, depending on the stage of growth of the fowl, the character of the food and the care taken of the manure.

The nitrogen has been found to vary from 0.7 to 2.8 per cent; the phosphoric acid from 0.5 to 2 per cent and the potash from 0.25 to 0.9 per cent. This snows that such manure well cared for is much richer than that of other animals, but as stated above, it quickly loses nitrogen by fermentation and deteriorates in value if not mixed with absorbants or preservatives. Various methods of preventing this loss have been proposed from time

to time. When the manure is not used fresh it is well to mix it with dry earth or land plaster, gypsum. Sandy material has no value as an absorbant. A common practice is to sprinkle the dropping boards frequently with plaster and in order to put the droppings in good form for distribution on the soil to compost them with loam.

The Maine Experiment Station reported comparative tests of land plaster and acid phosphate singly and combined with sawdust as preservatives of hen manure.

Three nights' droppings of 180 mature hens amounted to about 45 lbs., containing, when fresh, 2.8 per cent nitrogen, 1.8 per cent phosphoric acid and 0.9 per cent potash. This was mixed with the preservatives and stored in barrels from May to November. An examination at the end of that time showed that when the manure was stored by itself or with sawdust more than half the nitrogen had escaped. The lot stored with 40 pounds of plaster lost about one-third of the nitrogen while that stored with 80 pounds of plaster and 15 pounds of sawdust lost none. The lots with acid phosphate both with and without sawdust lost practically none of the nitrogen. This carefully concluded experiment demonstrated that as a preservative for hen manure acid phosphate holds first rank; another advantage of this substance is that in itself it is a valuable fertilizer, carrying large per cent of phosphoric acid. In this connection I may say that acid phosphate is equally valuable for preventing loss of mixture in horse and cow manure. Acid phosphate, sometimes called super-phosphate, may be bought from any of the firms handling fertilizers at 26 to 28 dollars per ton containing 18 to 20 per cent phosphoric acid.

Now a word as to what one can afford to pay for hen manure as a fertilizer.

As previously stated analysis shows nitrogen varying from 0.7 to 2 per cent. An average sample would contain about one per cent of or 20 pounds to the ton at 20 cents per pound for the nitrogen which is about what it costs bought in commercial fertilizers. We have $4.00 for the value of the nitrogen; one per cent for phosphoric acid gives us 20 pounds at 7 cents per pound, giving $1.40 as the value of phosphoric acid in one ton. Ten pounds of potash at 7 cents equals 70 cents for potash; total $6.10 cents as the value of one ton of hen manure of the composition assumed. A very excellent sample carefully preserved might be worth $10.00, but at the present rates for fertilizing material it would not be advisable to pay more than $7.50 per ton on the orchard.—S. S. T.

* * *

Dry Farm Feed.

We are feeding at the present time some 400 hens and chickens, so the question what shall we feed is one of absorbing interest to us. As we are located where irrigation is not possible and intend to raise the most of our chicken feed; we would like your advice as to what we can raise from which well balanced rations can be compounded.—J. W. M., Shandon.

The great difficulty in locations of this kind is to secure sufficient material rich in nitrogen to balance the starchy food that can be easily grown in such situations. Barley, wheat and Kaffir corn are all crops that supply abundance of starchy food. The Kaffir corn will produce a crop with a small amount of moisture as compared with many other crops. The durum wheats are strongly drouth resistant and are also richer in protein than other wheats. A variety of this is known as speltz, but where alfalfa cannot be grown it is seldom possible to get enough protein without buying more or less bran, cocoanut oil, oil cake, beef scrap, etc. Another difficulty in non-irrigated regions is green food during the summer months.

If kale is started early in the spring it will continue to produce for a long time and give a generous supply of green stuff. Pumpkins, roots, etc., will help out where they can be grown.

* * *

Turkey Pasture.

Will you please tell how much alfalfa pasture it will take to raise 100 trukeys if it is fenced in two parts so that one part may be free to grow while they are eating on the other? And, of course, considering that they are to have the needed daily feed of grain.—Mrs. E. N. P.

It is rather hard to say how much alfalfa pasture would be required to feed 100 turkeys. During the early part of the season while they are small only a small patch will be needed, but as they get older they will dispose of a much larger quantity and when six months old their capacity to dispose of alfalfa will be surprising to say the least. I think you will find it advisable to provide two or three acres of good alfalfa divided into three lots. During the early part of the season you will find it necessary to cut this for hay but later on the turkeys will take care of a goodly quantity. An alfalfa field with plenty of shade and good water makes an ideal place to raise turkeys. Under these conditions a pound of turkey meat can be produced at a cost that leaves a respectable profit to the grower, providing the mortality among the young poults is not too great.—S. S. T.

FATTENING TURKEYS.

Of all farm animals, none pays better for the extra flesh that can be put on than the turkey, because it sells for more per pound. A little different treatment is required than for chicks and fowls. Turkeys will not usually do well in close confinement, though some English feeders pen them for fattening. Those to be kept over for breeders should be separated, as well as those not yet old enough for market. The best and most vigorous should be selected for breeding stock, and not the late-hatched that are too small to sell. Feed the fattening birds three times daily (some feed four times) unless they have the run of grain fields where they can play the part of scavengers. The first meal may well consist of cooked potatoes, turnips, beets, squash, pumpkins, sweet apples or other vegetables, and a little beef scrap, the whole thickened with corn meal or corn and oats ground, and bran. Milk is excellent for moistening this mess. Feed this as early in the morning as possible. A little pulverized charcoal two or three times a week is a helpful addition. The other meals of the day should consist of whole corn—old—varied with wheat and a little barley. If absolutely necessary to use new corn, begin moderately with it. Grit or gravel should be handy, and water or milk for drinking. Turkeys which are regularly and heavily fed will not be so active or inclined to roam like those lightly fed, and be more likely to come for their feed. About three weeks is required for fattening properly, so if one begins in late October, he should have his turkeys ready for the Thanksgiving market, as prices for choice turkey are highest at that time. Medium-sized turkeys are most in demand, large sizes being desired by few.—Farming.

MOVED.

The Pioneer Hatchery Company is moving into its own building at 108-110 and 112 East Eighth street, where it will have one of the largest hatcheries of its kind. The old location at 711 South Main street, was entirely too small, and the new quarters will give ample room for this firm's rapidly growing business. They would like to hear from any one that has thoroughbred eggs to sell in large quantities of any variety.

A COMPLIMENTARY EDITORIAL.

It is generally true that an external remedy that is good for an animal is also good for the human body, and Gombault's Caustic Balsam is no exception to this rule. In fact, we sincerely believe that there is no liniment or external remedy on the market that is as good or as safe and reliable to apply to the human body as Caustic Balsam. We can safely recommend it in all cases where an external application could benefit. It is also cheaper according to cost because it requires very little, and that little is effective—["Horse Review," Chicago.

Sacramento valley wil make an extended exhibit at the Scattle exposition.

FEED YOUR PULLETS

As well as your Laying Hens, on

Coulson's Egg Food

It will bring them to maturity in health and vigor and ensure you lots of eggs in the Fall when prices are high. It can be fed moistened as a mash, or dry in hoppers. Manufactured only by

Coulson Poultry and Stock Food Company
Petaluma, Cal.

GERMAIN SEED CO., Los Angeles, Distributing Agents for Southern California

Send for our Free Book, "Poultry Feeding for Profit"

Poultry Supplies

Best of All Kinds at Lowest Prices

West Coast Seed Co.

707 So. Spring St., Los Angeles, Cal.

Black Langshans Well, we won again at Los Angeles. Two firsts, one second, one third on five birds shown. Best stock ever in show room in California. Eggs, $2.00 to $5.00 per 13, $10.00 to $20.00 per 100.

White Rocks Large and vigorous. Improve your stock with a setting or get a fine flock with an incubator lot. Eggs, $1.50 to $2.50 per 13, $8.00 to $12.00 per 100.

S. C. White Leghorns Order eggs now, we have plenty of them. Have had all winter, great big white ones. Eggs, $1.00 to $2.00 per 13, $6.00 to $10.00 per 100.

Phone East 915 **Foster's Poultry Yards, 128 W. Avenue 41, Los Angeles**

Trap-Nested White Wyandottes

That won 22 ribbons out of 25 and 6 Silver Cups and a carving set and a cut glass vase. All the National White Wyandotte Club Ribbons. Second on 10 pullet pen, contest open to all breeds. Mammoth Bronze Turkeys, winners of 5 blue ribbons, all at Los Angeles County Poultry Association Show, December 7, 1907. White Wyandottes were judged by H. Berrar of San José, Cal., and W. W. Browning of Ogden, Utah. Hens and Pullets, $15, $20 and up.

MISSION VIEW POULTRY RANCH, MRS. C. D. HUBBARD, SAN FERNANDO, CAL.

HOMERS
Prolific Breeders
Winner of 1st pen at Breeders' Show
Satisfaction Guaranteed
C. E. Bunker
San Jacinto, Cal.

Baldwin's White Leghorns

First prizes San Jose '06, and State Fair '07. Three 1sts and special, San Jose, '07. $50 cup best display Petaluma '07. Send for free '08 Catalogue and price list. Good breeding stock for sale cheap to make room; also young c'k'ls.

Frank E. Baldwin
46 Washington Ave. - San Jose, Cal.

An Income for Life

May be had by planting a grove of **Eucalyptus** trees. We are headquarters for all varieties of **Eucalyptus Seed.** Also carry a good assortment of trees in flats. Write for our 1908 seed catalogue. It describes the kinds and tells what the wood is best suited for. Don't delay. Do it now.

GERMAIN SEED COMPANY

326-328-330 S. Main St. Los Angeles, Cal.

Placer Nurseries

We have now growing for next season's delivery a large stock of all leading varieties of trees and vines. We propagate only the best commercial sorts. Our trees and vines are the best that good care can produce and in their selection, propagation and growing we spare no labor or expense; and they are true to name. That is what you want.

Contract now the trees and vines you will want for next season's planting.

Write us.

Silva & Bergtholdt Company

Newcastle, California

When writing advertisers, mention Cultivator.

EUCALYPTUS SEED

Eucalyptus rostrata, the Red Gum
E. corynocalyx, the Sugar Gum
E. tereticornis, the Forest Red Gum
E. globulus, the Blue Gum
E. citriodora, Lemon-Scented Gum
E. cornuta, the Yate Tree
E. polyanthema, the Red Box
E. leucoxylon, Victorian Iron Bark

and Many Other Valuable Sorts

I shall be pleased to correspond with prospective buyers and give particulars as to prices on the seeds I am offering. Trial packets of any variety 15c each, 2 for 25c, or twelve for $1.25. Also young trees of many varieties for sale. Send for circular and cultural directions.

THEODORE PAYNE

NURSERYMAN AND SEEDSMAN

Home Phone A2480

345 S. MAIN ST., LOS ANGELES

Eucalyptus

We have made a specialty of eucalyptus for the past ten years. We are no mushroom concern. We are prepared to accept contracts for raising eucalyptus for next season's planting. Take advantage of our **Low Prices on Contracts. Do It Now.** Twenty of the leading varieties to be seen at our nursery.

Saint & Warner

Sycamore Grove Nurseries

4584 PASADENA AVE., LOS ANGELES

Burbank Crimson Winter Rhubarb

Plants and Seed for sale in any quantity. Warranted the genuine article. Orders filled promptly

A. L. Fratt, Ventura, Cal.

When writing advertisers, mention Cultivator.

For the Season of 1908-09

We Shall Have to Offer

Pedigreed Fruit Trees

SEVERAL NEW FRUITS AND NUTS OF IMMENSE VALUE TO CALIFORNIA

Eucalyptus Trees

BY THE 1000 OR 100,000
NO BETTER STOCK GROWN

Please send us your name and address, and you will get all particulrrs. We are now taking contracts for ***Eucalyptus Trees*** in large quantities.

Leonard Coates Nursery Co. Inc.
Morganhill, Santa Clara Co., Cal.

Eucalyptus Seed

We are headquarters on all varieties of this seed. Be sure and get our prices on high quality stock. 80 varieties, your selection, 15c per pkt. Or we will mail postpaid, 1 pkt. each, E. Rostrata, Globulus, Tereticornis, Rudis, Corynocalyx, Leucoxylon for 50c with Cultural Directions.

MORRIS & SNOW

555 South Main Los Angeles

Pacific Seed Co.

C. Bagnall, Prop.

GROWERS AND IMPORTERS OF

Grass, Vegetable and Flower Seeds

All Kinds of Bulbs and Onion Sets

609 J St., Sacramento, Cal.

Send for Catalogue. Please mention Cultivator.

STRAWBERRY PLANTS

Strong one-year-old plants for August planting; Brandywines, $2.50 per M. Klondike, Lady Thompson, A-1, Excelsior and Midnight, $3.00. A full line of this season's plants later. New catalogue ready in September, giving full description of our improved strawberry plants and other small fruit.

G. H. HOPKINS & SON Burbank, Cal.

Balfour, Guthrie & Co.

IMPORTERS OF

THOMAS PHOSPHATE POWDER

AND

NITRATE OF SODA

SAN FRANCISCO FRESNO LOS ANGELES

WRITE FOR PAMPHLET A D PRICES

The Ornamental Garden

CALIFORNIA GARDENS.

AS CALIFORNIA has evolved from many styles the beginning of an architecture wholly suited to place, climate and people, so is she slowly recognizing her needs along the lines of architecture and sculpture in her flower gardens, writes Gussie Packard Du Bois in the Los Angeles Times. Here, as in building, adaptation and creation must work together.

This article is intended to give a few suggestions as to ways in which people of other countries have handled architectural accessories to flower and shrub. For while mere mimicry can only be absurd, the principles of true art are everywhere adaptable.

This has aptly been called "The Little Italy," but the Italian garden architecture will not bear transportation here as an entirety, but the pergola has been assimilated and is already naturalized, as other elements have been absorbed in other countries.

Four things are essential in the purely Italian style. First, there must be a sloping site, terraced from successive levels so that a constantly changing outlook of scenery is the result. Then the vistas provided by walks and avenues are frequently broken by buildings, fountaings, statuary, or long lines of steps, thus creating varied contrasts. A third item is that of the distinctly architectural effects of all these structures, and the fourth is that of fountains and cascades.

Obviously, here in California, where water is of such intrinsic value that the mere touch of its fingers, Midas-like upon the desert soil, is sufficient to make it blossom like the rose, there can be no waste of it in fountains. Then after one has lived for a time in California any large display of running water seems to be out of harmony with the general scheme. Small fountains that drip and splash into pools of aquatic plants, little streams that run shallow over rocks and into basins where lurk gold fish and other finny denizens, these seem wholly in keeping, but not the great leaping fountains aud long tiers of cascades that form a part of every formal garden of sunny Italy.

California Reproductions.

It would be absurd for us to attempt to reproduce here in Califoruia the exact copy of any of these methods of garden architecture, but, at the same time, it is wise to adapt to our use such methods as lend themselves readily to the prevailiug couditions. Genius lies in making use of the material at hand, and so profitiug by the experience of others as to make the best use of it.

Many elements are lacking here that are available elsewhere, but the reverse is equally true.

There is a weirdly decorative effect in the long lines of eucalyptus trees on the road, their shining bare white truuks stauding almost as imposiug in appearance as the rows of statuary or urns in an Italian garden, or of stone lanterns in a Japanese.

Our palm avenues, especially of the old trees, are truly oriental. Paul de Longpre's grounds in Hollywood, The Outpost, and others are well worthy of note.

Westlake Park, Los Angeles, has many fine effects, notably that of the desert, to be seen in the cactus snarl. Busch's sunken garden in Pasadena is an excellent example of the use of the material at hand, even unsightly surroundings, to create a thing of surpassing beauty.

On California street in Pasadena is a plot of ground that makes so perfect a setting for the house as to give the impression of a finished picture. The structure is a very long, low bungalow, with many casement windows. It is surrounded with a perfect tangle of California poppies, with a few of the cultivated variety, the true poppies, mixed in. There are roses along the walk, but the effect is that of a house and a field of poppies both growing wild from self-sown seed.

Great Possibiilities.

The possibilities of garden growth are almost miraculous in California. There are many poppy fields, but it was left for one to build a house that seemed to grow naturally with these cups of gold. There are hundreds of thousands of eucalyptus trees, but only here and there are avenues of naked trunks, or a single citrodora, as picturesque in a California landscape as is a stone pine in an Italian one.

Italy is poor now; many of her old gardens have fallen into decay; others have been rejunevated by wealthy Americans. On the contrary, California, the golden State, is rich. Wealth sooner or later commands beautiful surroundings, and whoever makes of his grounds a beautiful picture hastens the time when this shall be true of us as a State.

The long aisles of a lemon or orange orchard, the regular exactitude of a well set vineyard, these in themselves are beautiful, and already many growers have enhanced their effectiveness by imposing and artistic gateways, diagonal avenues of palms, good architectural schemes in necessary offices and buildings set with an eye to mountain and valley in the distance.

IRIS.

Irises are of three classes: The first is the bulbous, which is very much like tulips and about same size. These are called the English and Spanish. They have been grown in the west for some years but have been discarded. They are not robust and hardy enough. We want something that can take care of themselves. Another class belongs to the Rhizotomous family because the roots are rhizomes. They add bulb to bulb somethiug like potatoes uutil they increase rapidly. This comprises the large German family. Then there are the tufted varieties which also multiply rapidly and every two years at least the roots must be pulled apart.—Denver Field and Farm.

Lilies have various methods of increasing. All of them reproduce themselves by divisions of the main bulb as it grows older, which is also the case with tulips. The outside scales of the bulbs are also used to increase the stock of rare varieties. These scales when planted in flats or sandy soil form bulblets on the lower end but are left in the flats until the secoud season. Some varieties of lilies like the Elegans, Auratum and Speciosum when planted deeply in light soils form bulblets along the stem under ground. Many of them mature into bulbs if not damaged otherwise or they may be takeu up and grown for a season in flats or seed bed. The tiger lilies, as is well known, produce their bulblets in the leaf axil and these should be planted as soon as mature. It requires two or t hree bulblets to come to the blooming size. —Field aud Farm.

Small Fruits and Vegetables

THE CARE OF TOOLS.

I HAVE seen so many people trying to work with rusty tools that I want to emphasize the fact that the ease of handling and the perfection of work done by bright tools more than repays the slight attention necessary to keep them bright. A new tool is quite bright—keep it so! If the other tools are rusty, scrape and grind them or polish with emery. Of course the soil will grind the rust off the hoe when it is used; but this polish will extend but an inch or more up the blade and the labor consumed in doing this polishing should have been expended in pulverizing the soil. The entire blade of a hoe and all tools used for working the soil should have a bright polish. The soil sticks to the rusty portion of the blade, preventing the proper working of the tool, and, moreover, the soil in falling off is thrown over the plants, smothering the small ones.

If the parts of a wheel hoe are rusty, the soil piles up on the hoes or cultivator teeth instead of sliding over them, and falling on small plants, smothers them. That is the explanation of the complaint that the wheel hoe could not be used for small plants. With bright tools and short strokes it will do the work properly.

When through with a tool wipe the blade of the hoe or tines of the fork dry, oil, and put away under cover. Any heavy oil, tallow or cosmoline will do for this purpose, provided it does not have salt in it. A convenient way is to put a small quantity in a tin box (a baking powder tin will do,) place a brush or piece of waste in the box and keep it at hand in the tool house, and use it every time that a tool is put away. Every gardener ought to have a tool house or closet devoted only to the tools.

All metal parts that do not come in contact with soil need a coat of good paint—this refers to shanks, ferrules, rake and fork heads, etc. The paint will prevent rusting and save time in cleaning.

The handles need attention as well as the blades. Give a coat of linseed oil about once a year. Allow this to dry in before the tool is used. This treatment will make the handles moisture proof, they will wear smooth, and will not splinter.

Cutting tools need sharpening; they work better and easier then. This applies especially to hoes which are sharpened on the underside or back of the blade with a rounding bevel. The wear comes on this side, and tools sharpened this way will keep in good condition with very little attention. Do not give a straight bevel as to a chisel, for the fine edge thus produced soon dulls, and, moreover, the tool will not work any easier in the first place.

IRRIGATING THE POTATO FIELD.

Regarding the details of irrigating the potato field, the manner of laying out the rows, there are a few simple points which are essential to the successful raising of a potato crop. First, you should not irrigate potatoes up if it can possibly be avoided. Wetting the land at this time is very likely to bring on attacks of disease which will result in a poor stand and serious injury to the plants throughout the growing season.

Ordinarily the first irrigation should not be given until the tubers are set. If the tubers have a chance to form in a comparatively dry soil, the majority of them will be formed at one time; then when water is applied all will have an equal chance to develop; the result should be a crop of even sized potatoes. The water should always run shallow in the furrows, never deep enough to stand around the tubers, but a sufficient amount applied so that the moisture may seep up into the ridges.

In this way the soil about the growing tubers may be kept damp but not soggy. This is the ideal condition for the potato plant but unfavorable for the growth of potato diseases. An effort should be made to keep the soil moisture uniform by frequent light irrigations. If the ground is allowed to become dry, the growth of the tubers is checked; then when water is again applied, a second growth starts in, which results in knobs and irregular growth. The tubers of some varieties crack badly under this treatment.

It is essential that the potatoes should mature in comparatively dry soil. If the soil is kept wet until harvest time, the tubers contain an excess of moisture and this necessarily results in poor quality. Then, too, potatoes dug when the soil is wet present a poor appearance on the market, because of the quantity of soil which is bound to stick to them. In order to have the soil in proper condition at digging time, and the potatoes of the best quality, it is necessary to stop irrigation three or four weeks before the usual time for frost.—Western Farmer.

POTASH FOR POTATOES.

A safe and effective dressing of muriate of potash for potatoes is 250 pounds to the acre. Wood ashes sown evenly, broadcast, at the rate of one ton to the acre, is also an excellent and safe fertilizer.

Do Irrigation Work--Quicker and Easier

For Leveling Fields—For Cutting and Clearing Laterals

The photo is from an actual field-scene in New Mexico, where a 20th Century Grader is leveling seed-beds on the great truck-farm of Herman Blueher. He says: "Your 20th Century Grader has no equal for land-leveling, seed-bed making, ditching and for all kinds of irrigation work. I have reduced my force one-third since buying this machine." The

20th Century Grader

weighs only 600 lbs—light and handy—and is easily handled by one man and two horses. It is all steel and malleable iron. Price very reasonable. It pays for itself in one season. If your dealer hasn't it ask for name of nearest agent. Write now for new free booklet with large cuts showing every part.

Baker Manufacturing Co.

281 Dearborn St. Chicago, Ill.

Paid Semi-Annually

7%

Assured Profit

We offer you Cane Sugar Lands in Mexico. Perfect title. Give 50-year contract to cultivate for you, guaranteeing 7%, paid semi-annually, until crop profit exceeds this amount. Offer these lands for cash or on easy terms.

A Life Income from Land

Sugar Plantations produce the greatest continuous yield of any known crop. Tropical Mexico stands today unmatched in soil, climate, water. We own over 9000 acres in the heart of the best section—near Tampico. You become a land-owning profit-sharer in this project. We do all the work for you.

Sugar Plantations the Most Profitable Crop in All the World

One Acre Should Produce $203.52 Annually
Five Acres Should Produce $1017.60 Annually
Ten Acres Should Produce $2035.20 Annually

GOOD LIVE AGENTS WANTED

Free Trip to Property Communities or syndicates buying 50 acres or more, may send representative to property at our expense

Tampico Sugar Company

Los Angeles California

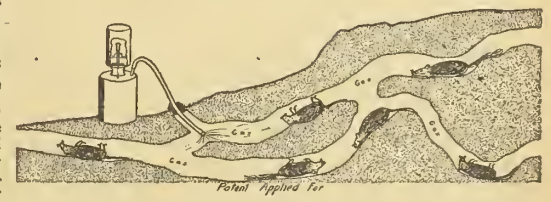
References: Citizen National Bank

501 Union Trust Building

KILL

Pocket Gophers, Moles and Squirrels

More than 500 feet of holes flooded with gas in five minutes, at a cost of three cents, no pumping required, kills them by the dozen in a single operation. Not an experiment, but a sure destroyer of the pests; just turn on the gas and the work is done. Guaranteed not to injure vegetation. No danger. Any one can operate it.



Fully guaranteed. Your money back if it fails to do the work. Sent prepaid on receipt of price, with supply of carbide for ten acres, ready for instant use $5.00; without carbide $3.50.

Patent applied for. Agents wanted.

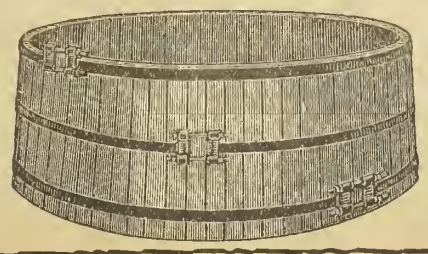
Write today for catalogue and description.

W. H. Lamb, Director in Bank of Santa Cruz County and Hardware Merchant in Santa Cruz, Cal., says:

I am sole agent in Santa Cruz County for the Rodent Destroyer. Am selling them rapidly and have never heard of one that did not give satisfaction. THEY DO THE WORK. The owners of the patent are reliable people.

W. H. LAMB.

Peerless Rodent Destroyer Co., P. O. Box 307 Santa Cruz, California



TANKS

Wine Tanks, Water Tanks, Stock Tanks, Cyanide Tanks. Two million gallons of wine tankage built this year. Write *now* for my prices. Lumber direct from the forest. This means low prices.

R. F. WILSON

General Manufacturing STOCKTON, CAL.

Queries and Replies

Questions to be answered in this department should be received at this office one week before reply is expected. Write plainly on one side of the paper and sign full name and address. Unsigned communications receive no attention.—Ed.

Rostrata and Jarrah.

You recommend E. Rostrata or red gum for the Imperial Valley. What variety of eucalypti is best for us here in the San Joaquin Valley? Have been experimenting with the famous "Jarrah" of Australia. It propagates well but soon dies here at Fresno.—J. V., Fresno.

We think without question you will get good results from Rostrata in the San Joaquin Valley. It is fully as drouth resistant and more resistant to frost than the blue gum. The blue gum grows a little more rapidly than the red. We thank you for your report on the Jarrah, Eucalyptus marginata, which is in line with all the reports so far as we have heard in this State.

Up to Date Machinery.

A subscriber at San Bernardino and others have written the Cultivator asking for information as to steam power and up to date machinery in doing ranch work.

Other than the ordinary traction engines, usually of steam power, though more recently the gasoline engine has been used in traction power, we know of no generally practised method of power on the farm. Cultivation has been done by the cable system, but we do not believe it has been practised to any great extent in California.

Insect on Grape Leaf.

A subscriber whose address is lost sent the office a grape leaf which was being destroyed by a small beetle. This was forwarded to Prof. Quayle and he writes:

The insect on the grape leaf is a beetle, which may do the injury indicated, but I have no previous record of such an insect doing any such important injury. It may, of course, be killed with lead arsenate or paris green. If you can give me the location of the vines where this leaf was taken, I may be able to have an opportunity of looking into the matter in the field.

Packing Grapes.

I would like to ask a question regarding your cluster packing. How many pounds do you put in the baskets? Do you ever use more than one layer? What is your opinion about using tarleton?—K. C., Lodi.

In regard to the bunches of grapes in packing clusters, only those are used that are of such a size that two, three or four fill the large basket. This holds from ten to twelve or even more pounds, according to how high it is cleated in the crate. The points of the bunches lie under the shoulders of each other, or sometimes two are placed with stems at opposite ends of the crate and one or two smaller bunches are cunningly worked under and between them by lifting up their sides. It is all in the packer's idea of spacing them so that the stems will appear scattering and the ribbons be far enough apart to look well. We never pack more than one layer of fruit in cluster work in a basket. The old style two-tiered crates may exist somewhere but I have not seen one in use here for some years. Tarleton is rather an improvement in holding a package in shape at the other end of the line. It keeps the grapes from working out and hanging loose to be crushed between the crates. This is mussy looking and may also set up moulding if a car is at all delayed. The first use of the tarleton was intended to keep the men from handling the grapes, after the carloads were broken up into express packages. The grapes were torn and the bunches marred by pilfering fingers. The trade did not like to have the packages come in not full. It seems a pity we cannot ship some cheap fruit to these men that long for it. The fruit they take is far beyond their means to use.—M. E. S.

Sex of Eggs.

Please inform me through the query column if there is any way of distinguishing which eggs will produce only pullets. I have tried the air cell system which does not give satisfaction.—C. A., Napa.

The failure of your test of the air cell system is only in line with every effort that has ever been made to determine the sex of the chick which will come from the egg. Theories have been advanced that the slim, longer egg produced the male, while the shorter round egg produced pullets. But the most scientific tests have failed absolutely in producing any way of telling.

Exterminating Flies.

Please tell me through the queries as to whether lime scattered on manure will injure its fertilizing qualities? If so, what can I use to keep the flies away?—H. G., Bloomington.

Use of lime on manure injures only in that it aids in escape of ammonia which contains the nitrogen, and thus causes something of a loss in the most expensive element contained in the fertilizer. However, as between the two we would use the lime, and freely, although we may say that the best way both for economy in handling manure and for hygienic reasons, is to keep the manure cleaned up and scattered in the fields. Then with the sun drying the moisture from it there is no opportunity for flies to use it for breeding their young. In this line it is perhaps in order that we should quote from a bulletin issued by the United States Department of Agriculture on this subject.

It is unpardonable carelessness, it is almost criminal negligence to permit this pernicious pest in our homes.

Its suppression is a matter of difficulty.

Screened windows and doors, and the use of sticky fly paper avail much, but the most certain method of reducing the number of house flies is to attend to their breeding places.

Manure heaps should be so covered that flies are deprived of a breeding place. Stable droppings should be immediately cares for. They ought to be sprinkled with one ounce of white arsenic in a gallon of water, or with a little kerosene or chloride of lime, or still better they could be placed in a fly-proof box. Outhouses should be made fly-proof and the pest can be kept down in numbers. An isolated farmer troubled with the pest has but himself to blame. A community needs concerted action from all its members, and a material reduction of house flies can be assuredly promised.

House flies breed in fresh horse manure, human excrement and nowhere else.

They scatter filth and spread disease wherever they alight.

House flies are capable of multiplying into the millions in a month.

The flies parading over food and dishes have every one of them just come from a bed of filthy excrement.

Flies are made so that they have to "spit" first on everything they eat before they can swallow it.

"Flyspecks" are twice voided excrement, first by the horse, then by the fly. Should we tolerate them?

House flies are responsible for more typhoid fever than bad drinking water is.

And lastly, house flies can easily, simply and effectively be checked.

Turkestan Alfalfa.

Kindly inform me whether Turkestan alfalfa, alfilaria and Wonder Plant will grow well in Imperial Valley, and if they will pay better than alfalfa.—Subscriber, Chicago.

We think you will find alfalfa more profitable than the plants you mention, though the one which you call Wonder Plant we do not know by that name in this State.

Alfilaria is a native annual in this State and grows in many sections where the rainfall is sufficient. We do not believe it has been cultivated to any great extent and we are quite sure the rainfall of Imperial Valley would not be sufficient to mature a crop of it. And if it is to be irrigated it would in no sense equal alfalfa.

Turkestan alfalfa (Medicago sativa var. Turkestanica) has been tested in many parts of the United States and has been found, in a few sections of the more arid northwest where irrigation is not followed, to be much hardier than the ordinary alfalfa. It has been proved to resist a much lower temperature and also to be much more drouth resistant. It was introduced from Central Asia many years ago and in 1900 the Department issued a bulletin upon it which will give you more particular information. At the Pomona station the 1900 report states that it was tested on both alkali and arid sand soil. In both these localities it proved superior in drouth resistance to the common variety. At the Paso Robles substation of this state, where the total rainfall of the season in which the report was made was only five inches and the soil shallow and very poor, only two forage plants remained green during the summer. One of these was the Turkestan and the other the Australian saltbush. We doubt, however, either of these living through the summer season in the Imperial Valley without irrigation. In case you can irrigate we would strongly advise the ordinary alfalfa.

Sweet Corn.

Is it too late to plant sweet corn for roasting ears or to plant beans for string beans? Will carrots and parsnips do well planted now? Is it too late to set out sweet potatoes? What kind of shade trees can I set out now that will start to grow at once?—Subscriber, Hemet.

No. Sweet corn may be planted as late as middle of August and enable you to secure roasting ears—unless you are located where very early frosts occur. The same answer applies to string beans. Neither carrots nor parsnips would likely germinate for you during the summer under ordinary conditions. They start very slowly and need cooler weather like February and March to start. It is doubtful if you could mature a crop of sweet potatoes planted so late as this. You can set out any kind of shade tree now that you can buy at the nurseries that are grown in pots. Of course it would not be possible to take up trees from open ground that are in active growth and transplant them successfully unless with a great ball of earth—which would make them expensive. From December to April is the best time to set out shade trees.—Q. A. L.

Blackberry.

Will you kindly inform us through the columns of your paper as to the care of blackberry bushes, as to training, pruning, irrigating, etc.? Do they need irrigating now that they are through bearing? We would also like information on the culture of cauliflower and of sunflowers.—F. S. E., Glendale.

The pruning and irrigation of blackberries from this time until the close of the season will depend upon what you wish the plants to do for you. If you would like some fruit throughout the season, it will be necessary to irrigate enough to keep them in active growth and shorten back the main stalks to 2½ to 3 feet and the side branches to 12 or 15 inches. This treatment usually forces a partial crop the latter part of the season. This is especially true of Crandall's Early. Scant irrigation and no pruning will leave you wood that will bear next season and it should be thinned out to 3 to 5 canes to the hill and shortened back as recommended for summer pruning, any time during January. At that time also the canes that have previously borne fruit should be cut out.

The culture of cauliflower is very similar to cabbage but a little more exacting in its requirements. It is folly in California to sow the seed earlier than July, unless it should be adjacent to the seas, for the intense heat we usually have for a few hours each day in September and even October is almost always sure to destroy any that is sufficiently advanced to form heads. Plant the seed from July to March. Make the ground very rich and never allow the plants to suffer for water from start to finish. Be sure you get good seed.

The culture of sunflowers is of the simplest kind. Plant the seed in rows very much as you would plant corn—cultivating and irrigating just as you would corn. Thin out so that a good plant will stand about every 10 or 12 inches in the row. Plant any time from middle of March until May 1st. It will be much easier to produce the crop than to preserve it—from the birds.—Q. A. L.

Red Scale.

A subscriber from Selma sends leaves from an orange tree on which are a number of insects he wishes identified.

These are nothing more nor less than the dreaded red scale, the only satisfactory remedy for which is a thorough fumigation with hydrocyanic gas.

Twig Borer.

E. B. P., Helix, San Diego county, sent a twig which was forwarded to Prof. Quayle, and he writes:

I am unable to say positively just what the trouble is. I am suspecting that it is the peach twig borer, but the sample has been broken off too

Anthrax Cure, Milk Fever Outfits. See O. J. Weber Co., 555-557 S. Los Angeles street, Los Angeles.

short to determine this positively. This is an insect which bores in at the base of the leaves near the tips of the twig, killing the part above the place of puncture. There is apparently also a little evidence of curl leaf on one of the leaves, but the grower is no doubt familiar with this trouble and would have selected a better sample.

Frog Raising.

Will you inform me through the Cultivator as to where I can secure information on how to raise frogs for market? —B. C., Winters, Yolo county.

We do not know where you can secure information, although we are told that Miss Elizabeth Stege of Stege, Contra Costa county, has the largest frog producing farm in the United States. She markets from thirty to thirty-five thousand frog legs a year and we understand makes reasonable profits.

Best Separator.

Will you please tell me what you think is the very best separator? I want to get one and am not able to experiment with several.—S. W. T., Loomis, Placer county.

There is no best separator. The one best to buy is one that has a good agency closest at hand. Supplies and repairs will then be readily obtained. I have used two De Lavels, two Sharples, one Empire, one U. S. and I do not care greatly which make the next one purchased will be, for when operated according to directions all did good work. I have recently seen in Southern California one of those sent by the mail order houses. It was flimsy and after only a short time in use had been soldered again and again. I would not buy a light weight machine, for the speed at which they are driven or turned is high enough to make them self destructive if not made of good stuff. The difference then of the standard makes is like that of sewing machines and pianos—many are good and will do their work well.—M. E. S.

Cutting Alfalfa.

When is alfalfa ready to cut to make the best hay?—Subscriber, Stanislaus county.

Formerly we were told that when alfalfa was in full bloom it was ready to cut. But more recently it has been determined that the farmer who cuts his alfalfa when coming into bloom will secure practically as much hay at each cutting, possibly secure an extra cutting during the season, and in addition secure the very highest quality of hay. We hope to answer this question more at length later, and in the meantime, we ask our hay making subscribers for their experience.

Aphis-Weevil.

What is the best remedy for black aphis affecting cucumber and squash vines? Also what is the cause of the little brown bug that infests shell beans during the winter and what is the remedy or preventive?

A weak solution of kerosene emulsion is sufficient to rid your vines of the aphis, or at least to kill most of those which are now infesting the vines. But reproduction is so exceedingly rapid that you will doubtless have another group come back very quickly. Even spraying with water from the garden hose, if of strong pressure, will usually take them off the vines. Best remedy is to have a change in the weather which will probably give you immediate relief. The little brown bug we imagine is nothing more nor less than the bean weevil. The remedy is carbon bisulphide, which must be confined in a tight room with the beans for several hours.

General Agriculture

GOOD ROADS.

HOW fortunate we ought to feel, as a people, that the highway improvement proposition is taking direct form in California. We have waited so long for this much felt want that many of us had almost despaired of living a sufficient number of years to realize the fulfillment of our hopes.

The University of California may properly be credited with being the pioneer in this good cause, for the subject of good roads has occupied an important plan in its institute work for several years. Closelly allied with the University idea, have been the agricultural newspapers of the State, which, unreservedly, have advocated a better system of road building from the farmers' point of view.

But it matters little where the idea first found promulgation, it is enough to know that all over the State people are endorsing the movement, and that from Stockton to San Diego, good roads societies are being organized,

HARVESTING.

with the single idea of pushing the highway improvement project to a complete and successful ending.

In Los Angeles county the sum of $3,500,000 is to be voted upon today to build 307 miles of macadam road in the county of Los Angeles.

At a recent convention, held at Stockton, I am informed the Governor urged the adoption of a resolution asking the incoming legislature to appropriate $18,000,000 to aid the highway commission in building a vast and complete system of good roads in this State. Stockton is already at work on a plan to improve several hundred miles of roads.

The spirit of highway building for the Pacific Coast is here; it is reaching into Oregon and Washington, not to the same extent, nor with the same enthusiasm, as in California, but it is moving, and soon will be widely extended and all pervading.

Now, to collate a long argument for improved highways into a brief but concrete one, let me make these points:

Good roads are elements of growth; the best proof of intelligence; they build up a community and enlarge social and religious advantages; they add to the value of property and bring farmers nearer to market; they save wear and tear of horses, harness and vehicles; they save time, labor and money; they open the avenues of commerce and distribute the products of our industries; they are the property of the common people, rich and poor alike; they belong to all, benefit all alike, and all should contribute to and support them—especially the farmer, who derives the most direct benefit therefrom.—J. J. Steadman, Hollywood.

Congressman Needham has been in Pajaro valley investigating methods of apple shipping and the needs of apple growers.

SOIL CULTURE MANUAL.

"The proper fitting of the soil for the conservation and control of moisture and the development of soil fertility; how moisture moves in the soil by capillary attraction, percolation and evaporation; the relation of water and air to plant growth, and how this may be regulated by cultivation."

The above quotation is from the title page of Campbell's 1907 Soil Culture Manual, by H. W. Campbell, Lincoln, Nebraska. It is a book of 320 pages divided into forty-five chapters and with a valuable index. It is illustrated throughout with drawings and halftone engravings. Its price is $2.50, which at first look at the book seems rather high, but doubtless tne contents is of such a nature that it was an expensive book to compile In any case it contains much of value to the soil culturist. In his introduction Mr. Campbell says:

"The reader will not find in the pages of this Soil Culture Manual a universal guide to success in farming. But he will find something here that will be of immense value to him if he but has the patience and industry to master the principles and is willing to give a fair trial to the methods which are here described for the treatment of soils. It is presented with a confidence born of years of investigation and experiment, and of success in many seasons of adverse conditions spread out over many States with soil and climate as different as it is possible to have.

"This Soil Culture Manual has to do with just one subject, or rather one branch of agriculture, but it so happens that this lies at the very foundation of all agriculture. Production is the end and aim of all farming. Production is possible only where soil conditions are right, for no matter what may be the climate or the extent of cultivation, there cannot be crops if there is no fertility available in the soil. Available fertility may exist, under most favored conditions, where there has been no cultivation; but it is more often true that fertility comes from conditions brought about by cultivation done intelligently."

"It is not intended that this Soil Culture Manual shall contain any simple code of imperative rules to govern every act of the farmer in his culture of the soil. The nature of the subject forbids this. What must be done is to give the inquirer a clear statement of general principles, with simple directions for applying the same under many varied conditions, and to explain the reason for doing certain things then to leave it to the intelligent direction of the farmer to do the rest. These general principles relate to soil physics, to the character of the soil, the texture of the soil, the movement of moisture in tne soil, the development of soil fertility or those elements essential to plant growth, and what can be done and must be done by cultivation to affect the quantity and quality of the crop. One who comprehends clearly these principles and labors with the knowledge that is in him, will find the way to profitable agriculture."

SEED.

FOR SALE—EUCALYPTUS RUDIS SEED, fresh, by pound or ounce. MINNEWAWA VINEYARD, Fresno, Cal.

Classified Liners

Rates 1½ cents per word per issue. No ad accepted for less than 25 cents. Our classified columns are the clearing house for the readers of the Cultivator. Here you can insert an ad for the small sum of 1½ cents per word per issue, and be sure that it will be read by thousands.

MACHINERY.

FOR SALE—ONE NO. 8 CENTRIFUGAL pump (vertical,) good as new, with all fittings; very cheap. We have an all steel frame traction running gear without power, very cheap. One 20-H. P. firebox boiler and 15-H. P. engine, all mounted and in fine shape, ready to go to work. Come and see it. One 6-H. P. gas engine, all in fine shape, good as new, for $75. A. CANNADY & CO., 1029 N. Alameda St., Los Angeles, Cal.

CLOSING OUT GASOLINE ENGINES NEW and secondhand standard makes 5 to 60-H. P. See us before buying. Can save you money. BAILIE & BRANDT CO., 943 N. Main St., Los Angeles.

BRAND NEW—DISTILLATE ENGINES 10-H. P., $250; 20-H. P., $400; 30-H. P., $500; 40-H. P., $700; 60-H. P., $900. Best in the world for pumping plants. See ad page 120 COWHAM SMITH CO.

FOR SALE—AT HALF ACTUAL VALUE No. 7 U. S. Cream Separator, good as new. One No. 9 machine new, to close out. K. B. Norswing, 5833 S. Main St., Los Angeles.

FOR SALE—MEHRING MILKING MAchine with extra parts and covered pail, all in good order. WM. H. BIRD, Box 6, Compton, Cal.

FOR SALE CHEAP—LIKE NEW—25-H. P. Peerless distillate engine; also centrifugal pump. N. W. cor MAIN and BRUNO STS., Los Angeles.

FOR SALE—ADDISON DEEP WELL PUMP head and cylinder cheap. BAILIE & BRANDT CO., 943 N. Main St., Los Angeles.

FOR SALE—3-H. P. ALTERNATING CURrent motor in good running order. Will sell cheap. 117 BRUNO ST. Los Angeles.

FARM LANDS FOR SALE.

RANCH FOR SALE—105 ACRES AT $40 AN acre; 85 acres in cultivation; nearly all of remainder can easily be put in cultivation; 45 acres level land; 800 full bearing apricot trees; 5-room dwelling; good large barn; fruit drying plant; 5 miles north west from Moorpark; half mile of school; land suited to beans, hay and corn. For further information apply to WM. ROBINSON, Moorpark, Ventura county, California.

FOR SALE—1 TO 10-ACRE TRACTS ON CAR line, between Riverside and new cement works; good for chicken ranches, alfalfa or gardening; will sell on easy terms; plenty of water on each tract. C. C. POND & N. R. BELL, Riverside, Cal.

FOR SALE—A BARGAIN—20 ACRES ALfalfa; 2 wells; 12-H. P. pumping plant; 9-roomed house, barn, furnished complete, with cows, pigs and farming tools; family orchard; ¾ mile from town of San Jacinto. Address L. BOX 37 or 'phone 676 Home.

EGGS FOR HATCHING.

ORPINGTONS, BUFF AND BLACK, THE winners of the lion's share of honors at the Los Angeles County and Breeders' shows this year. The birds that win in the keenest competition and lay eggs all the year. Birds that pay as they go. Handsome catalogue free. Guaranteed fertile eggs in any quantity. Proven breeding stock very reasonable. Write today. Orpington Reservation. ROSS & TATE, Altadena, Cal.

EGGS FROM MY PRIZE WINNING BARred Rocks; won all firsts, all seconds but one, and all specials on Barred Rocks at L. A. C. P. A. Show, 1907. Eggs from best pens, $3 per 15; $12.50 per 100. Stock for sale. CHAS. E. SMITH, Gardena, Cal. San Pedro Interurban car to Smith's Crossing.

POULTRY

BUFF ORPINGTONS—WOULD YOU LIKE the very best at the price of common stock? Sullivan's COMMONWEALTH STRAIN you may have at HALF PRICE FOR THE BALANCE OF THE SEASON. Write us and learn the reason; get record and illustrated catalogue FREE.—MR. & MRS. W. S. SULLIVAN, Agnew, Santa Clara Co., Cal.

KILLAMITE KILLS THEM—BEST INSECT powder made for fowls or plants. 50c for 2½ lb. sifting can, express prepaid by us if your dealer hasn't it. Regular 10c can free, postage paid, for 10 addresses of poultry keepers. WEST COAST MILL, 705 Griffin Ave., Los Angeles Cal.

FOR SALE—STOCK AND EGGS OF THE following standard bred poultry: Black and White Orpingtons, Brown and White Leghorns. J. J. Verkouteren, Route 3, Hanford, California.

PARTRIDGE WYANDOTTES—C. ANdrews, 823 W. Franklin Ave., Hollywood, Cal.—1st cock, hen, cockerel and pullet; 2 cups, Poultry Breeders' Show, 1908.

WANTED—MALE HELP.

NINETEEN JOBS GOING AT PRESENT—Electricity, plumbing, bricklaying taught in few months; tuition back after two months; advanced students paid wages. Free catalogue. UNION TRADE SCHOOL & CONTRACTING CO., 120-126 E 9th St., Los Angeles, Cal.

CATTLE.

FOR SALE—TWO YOUNG JERSEY BULLS—For particulars address DR. C. S. LANE, Santa Barbara, Cal.

DOGS.

SABLE AND WHITE COLLIE PUPPIES—Sires, Brandane Wishaw Squire and Glen Fana Bounder, litter brother to Aufield Model. Dams, Ormskirk Gloriana and Presidio Nellie. $10 to $25; 2 to 8 months. GLENALPINE KENNELS, Grandville, Cal.

FOR SALE—COCKER SPANIEL PUPS, 8 weeks old; blacks, $10 each. MINNEWAWA VINEYARD, Fresno, Cal.

TREES.

FOR SALE—1,500 EUREKA LEMON TREES and 1,000 Washington navel orange trees, true to name. Also street and ornamental trees. Clean, healthy stock only offered. GEO. B. WARNER, SANTA ANA, CAL.

What MORE Could You Desire In A Savings Bank?

20,000 Depositors
Strong Directorate
Capital and Surplus Over
$900,000
Resources
$10,000,000

GERMAN AMERICAN SAVINGS BANK

Tallest Building in Los Angeles

SPRING & FOURTH STS.

Heart of the Business Center

Model Banking Facilities

State Mutual Building & Loan Association

LOS ANGELES, CAL.

223 SOUTH SPRING STREET

ESTABLISHED 1889

Largest Association in California

6% Interest Paid

Assets [Jan 1, 1908] $2,002,111

No Admission or Withdrawal Fee

Only 30 Days' Withdrawal Notice

Money to Loan for Building

From March 1 to July 1, 1908, the Association has made 192 real estate loans, amounting to $232,800, mostly made for building purposes, and during the eighteen years of its existence it has never failed to meet all demands when due, and has repaid its investors in that time over three million dollars. During the recent financial stringency it met all demands on 30 days notice and made loans to its customers without delay.

OFFICERS AND DIRECTORS

DR. W. G. COCHRAN, President.
A. E. POMEROY, Vice President.
W. D. WOOLWINE, Vice President.
C. J. WADE, Secretary.

D. M. CUTHBERT, Loan Inspector.

Send for Booklet and Statement

Mention This Paper

KELLOGG'S ANT PASTE

The original ant paste. Absolutely guaranteed to rid your house of ants. If your druggist can't supply it write to factory, enclosing 40c for package prepaid.

KELLOGG'S ANT PASTE CO.
910 East Ninth Street Los Angeles, Cal.

Household Department

A GLASS OF BUTTERMILK.

When the day is almost over and you've waded through the clover.
And have left the plow a-sleeping out beneath a spreading tree;
When the meadow land looks dreary and your head and legs are weary
From the toil that makes a living in this world's eternity.
Then a cool, fine glass inviting,
That you wouldn't think of slighting
And if choice is left to merit, then, it's buttermilk for me.

What a treat to reach the dairy with its incense sweet and airy,
Like a store house steeped in treasures just as precious as can be,
And to just sit back and ponder on the clover sweets out yonder
That have helped to make a beverage that brings us ecstasy.
Rich with stores of health and honey
From a realm of blue grass sunny
And if some may want their nectar, it is buttermilk for me.

Comrade cows are idly grazing where the summer clouds are raising
With a swallow darting homeward in the sunset from the sea,
Ah! this dear, sweet life 'o Farming, all a fellow's fears disarming;
It is better than the glory of the city charms that be.
So pour out the drink that's dandy,'
Have another portion handy;
And if some may call for nectar, then, it's buttermilk for me.

—W. Livingston Larned.

A PAYMASTER'S FLIGHT.

WHEN I was a sergeant in the ——th United States cavalry in the far west I was detailed one day to command eight men acting as a guard to Major B., who had paid off the force at our post and was going to pay those at the next. He was a small, baldheaded, lean man, except a round stomach, which begins to protrude upon some people after they pass 40, with a crafty eye and a silent tongue. The only words he spoke were directions as to handling his safe, a small affair that could easily be lifted by two men and for which a place was arranged on a buckboard wagon which the major always used to transport the treasure. His clerk drove the horse, while the paymaster sat beside him, the safe between his legs.

The country through which we escorted the paymaster contained a wild and lawless people. I thought at the time that eight men, though drilled soldiers and well armed, were a small guard for such a purpose. Whether the major thought so or not I didn't know at the time, for he said nothing about it. I learned afterward that the colonel commanding wouldn't give him any more, and the paymaster entered on the trip under protest.

We were crossing a part of what is called the Great American desert, or alkali plains, with nothing there higher than a man's waist. I rode a couple of hundred yards in advance, keeping a sharp lookout in every direction. For more than half a day not a living thing except the members of our party and gophers was in sight. But suddenly in turning to look to our right and rear I saw on a rise far in the distance a mounted figure looking at us. I judged from the general outline of horse and man that he was an Indian. After what appeared to be a careful survey of us he disappeared on the other side of the rise.

I felt a bit uneasy. Turning, I directed each man to see that his arms and ammunition were in order and notified the paymaster of what I had seen. It didn't seem to trouble him much. We jogged on for a few miles and when emerging from low ground suddenly heard a mingling of yells and saw on our right a motley crew several times as large as our own coming down on us. They were evidently a mixture of road agents and cowboys, with a sprinkling of Indians. Their leader rode in advance, a revolver in each hand, the only one of the lot who was not yelling.

I had just time to draw my men up in line between the oncomers and the buckboard before they came within close range, and I told each man to pick one in front of him as nearly as he could estimate. My men were armed with repeating rifles, while the attacking party had some guns, but mostly revolvers. I waited till they came within 200 yards before I gave the order to fire. Nearly every one of my troopers brought down his man. The gang hesitated, and I gave the second order to fire. This halted them; but, rallied by their leader, they came on, bringing us within range of their revolvers, and my men began to get hurt. For some minutes there was a continuous firing on both sides, several of my men being put out of the fight, though but one was killed. My effective force was reduced to four men besides myself, Major B. and his clerk. It began to look as though the robbers were going to get the safe.

> Be honest, but hate no one; overturn a man's wrongdoing, but do not overturn him unless it must be done in overturning the wrong. Stand with anybody that stands right and part with him when he goes wrong."
> —Abraham Lincoln.

Suddenly I was astonished to see Major B., who had stood in the buckboard using a rifle, jump down from the wagon, cut the traces, spring on the horse's back and away he went like an arrow. The act demoralized my force so that they broke. I failed to rally them, and we were all soon tumbling after the paymaster. His clerk mounted the horse of the man who had been killed and joined in the flight.

Never have I been so incensed in my life. The paymaster, a commissioned officer, by his cowardly act had cast discredit on me and my men. I had the mortification to see the bandits ride down on the safe and caper joyfully about it. All I could do was to help the wounded men of my command along, supporting them by turn in their saddles.

But what surprised me was the fleetness of the major's horse. I am no judge of horseflesh, and I had mistaken the animal that drew the buckboard for a mere beast of burden. Looking ahead I could see the paymaster miles in advance, fleeing as for dear life, and in time he disappaered altogether. For once in my life I placed money before human life and wished he were in the safe and the funds were on his horse. I thought with some satisfaction how I would prefer charges of cowardice against him as soon as we reached the post we were making for.

The bandits, having secured the safe, paid no further attention to us, and we rode on to our destination. What was my astonishment on riding into the garrison to see Major B. sitting coolly smoking before an extemporized desk with heaps of bills before him paying off the enlisted men. His belly was gone. It was plain that he had taken it off and placed it—a heap of money— on the desk.

"Thanks, sergeant," he said, "for your fine defense. I have reported you for gallantry, and you'll hear from it. The robbers got a safe with nothing in it. I'd rather rely any time on that mare of mine than a safe. Sorry any of your men got hurt. Next!" And, having paid off the man before him, he devoted himself to the next in line.—Spokesman Review.

HIS RECORD.

"So you wish to marry my daughter. What assurance can you give me that you have the ability to support her? I know very little about you. What have you ever done to show that you possess any business ability—stick-to-itiveness?"

"Do you remember Hibbard & Denton, the tailors?"

"Yes."

"I worked for them once."

"What of that? They failed. You did not seem to possess enough ability to keep them from going to the wall."

"I had no opportunity to do anything in the line of managing their affairs. I merely did collecting for them. In fact, I am the young man who succeeded in getting you to pay a bill of $65 which you had owed for four years and which seven other collectors had failed to get, although they had been after you for—"

"Ah, um—by the way, when did you and Lucy think of having the wedding?"—Chicago Record-Herald.

NO MISTAKE.

A New York produce commission house which prides itself on filling all orders correctly received a letter from a New Jersey customer recently, saying:

"Gentlemen:

"This is the first time we ever knew you to make a mistake in our order. You are well aware that we buy the very best country eggs. The last you sent are too poor for our trade. What shall we do with them?"

The fair fame of the house for never making an error seemed to be at stake, but the bright mind of the junior partner found a way out of it. He wrote:

"Gentlemen:

"We are sorry to hear that our last shipment did not suit you. This was, however, no mistake on our part. We have looked up your original order and find that it reads as follows: 'Rush 50 crates eggs. We want them bad.'

"Henry H. Day."

NEARER TO IT.

Two Irishmen were digging an irrigation ditch the other day. One of them was a big, strong man about six feet four inches in height, and the other one was a little, puny fellow about four feet six inches. The foreman came along to see how the work was progressing, and noticed that one of them was doing more work than the other. "Look here," he cried, "how is it that little Dennis Dugan, who is only half your size, is doing nearly twice as much work as you, Patrick?" Glancing down at his partner, Pat replied: "And why shouldn't he? Ain't he nearer to it?"

IN THE WOODS.

'Tis sweet to worship God when Love commands
In temples unadorned by human hands—
The grand cathedrals of the solemn woods,
Where no unworthy devotee intrudes;
At mossy altars and in cloister bowers,
Where prayer is blended with the balm of flowers;
In leafy coridors and woodland ways,
Where all is resonant with hymns of praise;
In shady groves festooned by drooping vines,
Where bending bough with pendant branch entwines;
Where babbling brooks with liquid tongues proclaim
The glory and the greatness of His name.

—David Banks Sickels.

YOU WILL NEVER REGRET.

Helping others.
Living a clean life.
Paying your debts.
Making the best goods.
Keeping your promises.
Keeping courteous always.
Apologizing for wrongdoing.
Speaking a sympathetic word.
Putting a bridle on your tongue.
Treating competitors generously.
Doing what you know to be right.
Thinking about the cleanest things.
Refusing to do a questionable thing.
Giving a lift to a fellow that's down.
Keeping the cleanest bakery in town.
Being "on the square" with everybody.
Having patience with cranky customers.
Shutting your ears to a "smutty" story.
Yielding to the impulse to do a good deed.
Earning the name of making high quality goods.
Declining to do a foolish thing because competitors do it.—Bakers Helper.

HOMELY HINTS.

To remove hot tea and coffee stains, soak the stained fabric in cold water, wring, spread out and pour a few drops of glycerin on each spot. Let it stand several hours, then wash with cold water and soap.

If a varnish or paint stain is on a coarse fabric, dissolve by saturating it with turpentine. Use alcohol if on a fine fabric. Sponge with chloroform if a dark ring is left by the turpentine.

To drive flies from a room try the following: Close the room tightly, smolder some cayenne pepper on a hot coal, open door quickly and the flies may be driven out easily.

To Wash Pongee Silk.

Do not wring pongee silk. It is better to let it drip dry. Iron with a moderately hot iron when very dry, and do not sprinkle at all.

To Engrave Eggshells.

Make the drawing of any figure or design you please upon the egg in melted tallow or any thick oil. Then immerse the egg in strong vinegar. When the egg has remained for some time in the vinegar it will be found that the parts untouched by the tallow have been eaten way, leaving the design in relief.

For Keeping Sash Curtains Clean.

When you get window rods for either top or bottom buy a small can of white gloss paint and a small brush; give the rods a coat and when dry give them another coat; the more they are done the better it makes them. They don't bend so easily or get out of shape. No matter how nice or fine the curtains are they will come off as nicely as they went on; the paint will not allow them to rust.

To Wash Wool Crochet Articles.

Wash in warm suds; when nice and clean lay in sheet and hang sheet on line; they will come out looking as good as new.

A Simple Device.

Some time when you are in need of a little hot water and the fire is low, take two wooden chairs, stand them back to back about 2 feet apart, hang a tin pail full of water on a pole (the broom handle will do.) and rest either end of the pole on the top of the chairs with the pail in the middle. Then set a lighted lamp, the larger the better, on the floor under the pail, and the water will quickly heat. One can make tea, or in time boil eggs or potatoes that way.

* * *

When doing stencil work dip the stencil, after the design is made, into hot, melted paraffine and let it harden. This prevents the blurring of the colors, and the stencils wear much longer.

* * *

A coal bucket that had become worn enough to sift coal dust over the floor was repaired by fitting a new bottom of heavy cloth, and then the whole received a coat of new paint.

* * *

During damp weather salt shakers are apt to become clogged. By placing a few rice grains in each shaker and adding the salt last the delivery is better.

* * *

When cutting fudge when cold, or any candy, if it does not cut nicely, try heating the knife and it will cut much easier.

GRANT AND RELIGION.

Grant's respect for religion was quite consistent with his high moral attributes. It has been most truly said of him that he was never profane or vulgar. His friends and intimates can bear ample testimony to this commendable part of his private character. He had promised his mother never to utter an oath, and had faithfully kept his word. He could be emphatic enough in his conversation, his orders and his writing, to make oaths of any kind entirely unnecessary. No one who knew the man would venture a questionable story in his presence. On one occasion, after a dinner, a guest, in venturing an anecdote, asked in a furtive way if any ladies were within hearing. The General, then President of the United States, simply replied: "No; but there are some gentlemen present," and showed his readiness to leave the room.

A HELPFUL CHILD.

Little Frank, watching nurse empty a hot-water bag, asked why she blew air into it.

"It keeps the sides apart, so water will run into it easily."

Later in the day Frankie was discovered holding between his knees a lean, stray kitten, while, with cheeks distended, he blew down its throat through a tin pea-shooter.

"What are you doing?" nurse cried, rescuing the tortued cat.

"Keepin' her sides apart, so's she can d'ink milk," responded the young philospher."—Judge.

Calamities often breed success.

Every sheep has his price.

The Oldest Savings Bank in California

FOUNDED IN 1857

The Savings and Loan Society

101 Montgomery St., Cor. Sutter St., San Francisco

CAPITAL FULLY PAID $1,000,000.00

Exclusively a Savings Bank whose policy is for ***Conservatism*** and ***Safety,*** the result of ***50 years experience.***
Deposits may be made and withdrawn by mail.

San Francisco Savings Union

Founded June 18, 1862 Northwest Cor. California and Montgomery Sts., San Francisco

Conducts a Savings Bank Business Exclusively

Capital Paid Up, $1,000,000.00. Surplus, $1,183,682.00

Total Assets, $27,508,850.00.

E. B. POND, President.
W. C. B. de FREMERY AND C. O. G. MILLER, ... Vice-Presidents
LOVELL WHITE, Cashier. . . . . R. M. WELCH, Asst. Cashier.

DIRECTORS: John F. Merrill, Wm. A. Magee, W. C. B. de Fremery, H. C. Breeden, Jacob Barth, Fred H. Beaver, Wakefield Baker, C. O. G. Miller, E. B. Pond.

Every facility afforded for opening accounts and making deposits and withdrawals by mail. Correspondence invited.

Largest National Bank West of Denver and South of San Francisco

First National Bank

of Los Angeles, California

UNITED STATES DEPOSITORY FOR GOVERNMENT FUNDS

TOTAL RESOURCES, $16,000,000

ADDITIONAL ASSETS—One Million Five Hundred Thousand Dollars invested in the stock of the Los Angeles Trust Company and the Metropolitan Bank and Trust Co., and held by the officers of the First National Bank, as Trustees, in the interest of the shareholders of the Bank.

We are prepared to extend to the small depositor the same personal and careful attention that we do our largest accounts.

THE ONLY

Bolster Spring

that is high grade. Made like a carriage spring. Changes any farm wagon instantly into a spring wagon. Saves the wagon. Easier on the driver. Makes one wagon answer for two. Absolutely necessary where oranges, cantaloupes, fruit, etc., are hauled. Any capacity, 1000 to 12000 pounds. Prices the lowest. Illustrated Price List on request. Write today. Beware of imitations.

ARNOTT & CO. 112-118 South Los Angeles St. LOS ANGELES, CAL.

When writing advertisers, mention Cultivator.

Home Made Ice Cream and Candy

Appeals to Everyone in the Family

Has been going since the very day of publication. Full of all that is known about Home Made Ice Cream and Candy. Nearly Three Hundred Formulas.

Make 60 cent Chocolates for 15 cents
Taffies Nut Candies Butterscotch Everything

A 50c Book **You Get It Free With the Cultivator** For 1 Year's Subscription

Paid in advance. For old or new names who pay for the coming year. Enclose a $1.00 bill and ask for the "Candy Book." But remember, you will not receive the book unless the remittance pays for at least a whole year from this date. Address

Cultivator Pub. Co., Los Angeles, Cal.

Cultivator Order Blank

_____ 1908

CULTIVATOR PUBLISHING CO.,
115½ No. Broadway
Los Angeles, Cal.

Gentlemen—Enclosed find $_____ for which please send the **Cultivator** for one year to the following, or credit on my account

from _____ 190— to _____ 190—

NAME	P. O. ADDRESS	STATE

Are you an old or new subscriber? _____

SIGNED _____

ADDRESS _____

The Produce Markets

Los Angeles Markets

LOS ANGELES, July 29, 1908.

Butter.

Butter remains exactly as last week. Market is firm. Trading is quite active, but there seems no indication of immediate rise. Actual selling price is 2½c in advance of quotations.

Wholesale quotations now are:

Creamery ex per roll....50
Firsts....47½
Dairy....25
Cooking....25
"Butterine"....15@20

Cheese.

Cheese has declined and at present is very weak. It is said that cold storage has enough cheese to supply needs of this market for six months.

Southern California....14½@17
Northern fresh....13¼
Longhorn....17
Eastern singles....16
Cheddars....17
Imported Swiss....28@30
Swiss....16½@17
Oregon....15
Limburger....17½

Eggs and Poultry.

Eggs held as quoted last week until Monday when a one cent advance for local candled was made. Eastern fresh are also higher and firm.

Eggs local candled....29
Eggs case count....25½@26
Firsts fresh....28
Eastern fresh....25½
Storage....22@23

Wholesale prices..

Hens per lb....10@12
Young roosters per lb....17
Fryers....15@17
Broilers per lb....15@17
Roasters....16
Old Roosters....7
Turkeys....16@18
Geese....11@13
Ducks....10
Squabs....1.25@1.50

Live Stock.

The following quotations are f. o. b., Los Angeles, on all stock.

Hogs from 175 to 200 pounds..6¼ @6½
Prime steers....4¼
Heifers....3½@3¾
Calves per lb....4½
Sheep ewes per head....3.75@4.00
Lambs per head....3.00@3.25
Wethers....4.00@4.50

Potatoes.

Potatoes have shaded slightly and potato men are asking as to the future of the market. A car of Northern Highlands was received Thursday and was held at $1.25, but no sales were made.

Wholesale prices are:

Sweet potatoes per bx new crop 2.00
White Rose new....1.10@1.25
Local Burbanks....1.25
Northern Highlands....1.25

Onions.

Onions show no material change and offer little encouragement.

Wholesale quotations are:

Bermudas per 100....1.00
Silverskin new....1.00@1.25
Crystal wax per crate....1.00@1.25
Northern Red....1.05@1.25
Garlic....7@8

Vegetables.

The following are commission house prices; deduct freight and commission to secure farm prices.

Artichokes per box....70
Beets per doz....25@30
Bell peppers per lb large....5
Bell peppers box....30
Beans limas per lb....2
Beans string....2½@3
Cabbage sack....60@65
Cabbage red per lb....2
Celery per doz green hothouse..1.25
Corn per box....35
Chili peppers per sk....1.00
Cucumbers per box....25@35
Cauliflower per doz....1.25
Carrots per doz....25@30
Egg plant lb....4
Green onions doz bunches....20@30
Horseradish....12½
Lettuce per crate....50@75
Mint per box....40
Okra....9
Peas sugar per lb....3@4
Parsley....30
Parsnips....35@40
Rhubarb per box....50@1.00
Rhubarb northern....1.75
Radishes per doz....15@20
New summer squash per box....15
Summer squash per box....25
Salsify....15@20
Spinach per doz....15@17
Turnips dozen bunches....25@30
Tomatoes lug box....15@20

Citrus Fruits.

Navels fy off bloom....2.00
Navels ch....1.50@1.75
Valencias....3.25@3.35
Grapefruit seedless....3.00
Grapefruit seedlings....1.75@2.00
Lemons fancy....2.25
Lemons choice....1.75
Limes 15-lb box....75

Fresh Fruits.

Wholesale prices on the market are:

Red Astrachans new....75
Astrachans packed box....1.25
Crab apples....1.00
Alexandria 4-tier....1.50
Gravenstein 4½-tier....1.50
Apricots per lug box....75@1.00
Cantaloupe st....90@1.00
Cantaloupe locals large crate 1.75@2.25
Cherries Oregon fancy....1.75
Currants per box....85
Dewberries....4
Figs per box....60
Grapes Thompson seedless....75
Grapes Concord per crate.... 2.50
Muscats per crate....1.00
Nectarines....1.00
Pears per box....1.00
Plums Burbanks per box....85
Plums Sonoma....85
Plums Satsumas....1.00@1.10
Plums Kelsey....85
Plums Wickson....90
Plums Tragedy....85
Plum peach....85
Silver prunes....85
Peaches per lug box....1.25@1.50
Raspberries per box....4
Strawberries per box....3@4
Extra fancy....10
Blackberries per box....5
Loganberries per box....4
Gooseberries....8@10
Watermelons per lb....1@1¼

Dried Fruits.

Wholesale prices are:

Apricots....8@9
Evap. apples fy per lb....7½@8
Figs loose white....6
Figs blk....4
Peaches....9@10
Pears....11½@12½
Nectarines....14
Prunes....4@4½

Beans Dried.

Wholesale prices:

Limas per ctl....5.50
Pink No 1....3.80
Lady Washington....5.00
Small white....4.75@4.80
Black eyes....3.55
Garvanzas....4.80@5.00
Lentils....9@10
Bayou....3.80

Nuts.

Almonds per lb....15@16
Pecans polished....12@15
Peanuts Virginia....7½
Peanuts California....7
Walnuts No 1 SS....14

Honey.

Wholesale quotations:

Extracted Water White....7
Comb W W....16
Comb white....15

Hay.

Price paid to producers f. o. b. Los Angeles are as follows:

Barley No 1....13.00@14.00
Barley No 2....10.00@12.00
Alfalfa northern per ton....11.00@12.50
Alfalfa local....12.50@13.00
Plain oat No 1....15.00@17.00
Wheat No 1....13.00@15.00
Wheat No 2....12.00@14.00

Grain.

Wholesale selling price f. o. b., Los Angeles.

Wheat new per ctl....1.85
Wheat in 100-lb sacks....1.90
Kaffir corn....1.80
Barley....1.55
Corn Eastern sacked....2.00
White oats....1.90

Feed Stuff.

Selling price F. O. B. Los Angeles as follows:

Cracked corn....2.05
Shorts....1.80
Bran....1.65
Oil cake meal....2.50
Feed meal....2.10
Rolled barley....1.55

The California Fruit Canners' Association are paying the following piece work prices at its big cannery at Yuba City: Cutting peaches, 5 to 8 cents; canning prices from 1½ cents per dozen cans to 3½ cents, according to grade of fruit; day labor, 17½ cents per hour.

San Francisco Markets

SAN FRANCISCO, July 28, 1908.

Butter.

Saturday showed high water mark during the week on butter. At that time the quotations were at 24 cents for extras, but on Monday a drop of ½ cent was necessary. It now stands 1c above last week. Other grades were unchanged.

California extras per lb....23½
California firsts....22
California seconds....20½
Fresh packing stock....19½
Packing stock No. 2....18½

Cheese.

Cheese is in heavy supply with quotations slightly lower than last week.

California young American fy....13
Firsts....13
Caliornia flats fy....11
Firsts....10½
Young America fy....14½
Eastern fy....16
Oregon fy....12½

Eggs and Poultry.

The egg market is firm and shows a material advance over last week. The selling interests are elated over the present outlook.

Official quotations of the S. F. Wholesale Dairy & Produce Ex. are:

Fresh ranch eggs....27½
Eggs firsts per doz....25½
Eggs second per doz....22½
Eggs thirds....19
Eastern firsts....21
Eastern seconds....18½

Hens per doz....3.50@5.50
Hens extra....6.50@7.50
Young roosters....5.00@6.00
Old roosters....3.50@4.50
Fryers per doz....4.50@5.00
Broilers per doz....3.00@4.00
Geese per pair....1.50@2.00
Goslings per pair....2.00
Ducks young....5.00@6.00
Hen turkeys per lb....20@21
Gobblers live....19@20
Spring turkeys....24@26
Pigeons young....1.25@1.50

Live Stock.

San Francisco prices gross weight:

Steers No 1....3¾@4
Do second quality....3¼@3½
No 1 cows and heifers....3@3¼
Second quality....2¾@3
Hogs 100 to 225....6½
Hogs 225 to 300 lbs....6
Calves per lb....3½@4½
Lambs spring....4½@4¾
Wethers No 1....4
Ewes No 1....3½

Potatoes.

The potato market is featureless; a good inquiry at same quotations and at steady rates prevails.

Wholesale market quotations:

New potatoes per ctl....1.00@1.25
do per box....1.00@1.10
Early Rose new....75@85

Vegetables.

Wholesale quotations:

Aspaargus per lb....8@10
Asparagus No. 2....5@6
Bell peppers per bx....75@1.25
Celery per doz....35@50
Cucumbers per box....60@1.10
Chili peppers per box....50@1.00
Corn per sk....1.00@2.25
Egg plant per bx....1.00@1.50
Green peas per lb....2@3
Lima beans....4@5
Squash per box....50@1.00
Onions green per box....70@75
Okra per box....90@1.15
Rhubarb per box....50@65
Tomatoes per box....25@40
Tomatoes River large box....50@1.00
String beans....2@5
Wax beans....3@5
Garlic new....4@6

Onions.

Onions red per sk....50@65
Onions yellow per sk....70@75

Citrus Fruits.

Navels....2.00@3.50
Valencias fancy....2.25@3.50
Grapefruit seedless....3.50@4.00
Grapefruit seedlings....1.75@2.25
Lemons ch....2.00@3.00
Lemons fy....3.25@3.50
Limes....4.00@5.00

Fresh Fruits.

Apples green per box....25@50
Apples fy Gravenstines....75@1.00
Apples Astrachans....60@75
Apricots per box....20@50
Apricots per ton....15.00@20.00
Blackberries per chest....1.50@2.50
Cherries white per drawer....35@60
Cherries Royal Annes....3@6
Cherries Black....3½@6
Currants per chest....5.00@7.00
Figs per crate....50@60
Grapes per crate seedless....50@75
Grapes sweetwater....65@75
Grapes Muscats....60@85
Gooseberries per chest....1.00
Gooseberries per lb....3@7
Huckleberries per lb....10@12½
Loganberries....2.50@4.00
Melons ponies....1.00@1.25
Melons st....1.50@2.00
Nectarines....60@75
Pears Bartlett per box....75@1.00
Pears other varieties....40@50
Plums Clymans lug box....35@50
Plums Tragedy....40@60
Peaches lug box....60@75
Peaches per box....30@60
Peaches baskets....35@50
Aligator pears per doz....7.00@9.00
Raspberries per crate....1.50@1.75
Raspberries per chest....3.00@5.00
Strawberries per chest....3.50@5.00
Longworths per chest....4.00@6.50
Watermelons per doz....1.25@2.50

Dried Fruits.

1908 prunes being contracted for at 4 cents for Santa Claras at 3¾c for outsides.

Apricots show remarkable firmness and have advanced materially. In fact all dried fruits are showing much interest.

New crop contracts, 25-lb. lots—Apricots per lb.: Choice, 10@10½; extra choice 11@11½; Fancy 12@13.

PEACHES—Standards, 5@5¼; choice 8½@8¾; extra choice 9@9¼; fancy 10@10½.

Apples (evap.)....4½@6
Apricots per lb st....6@6¼
Apricots choice....6¼@6½
Apricots fy....7½@8
Figs white....2¼@3½
Nectarines....10@13
Plums pitted....12@15
Peaches st....5@5¼
Peaches ch....5¼@5½
Peaches fy....6@6½
Pears....5½@7
Prunes 4-size bag basis....2¾@3½

Raisins—1907 crop, f. o. b.: Clusters and Layers, 20-lb. bxs—Imperial Clusters, 6-crown, $2; Dehesa Clusters, 5-crown, $1.75; Fancy Clusters, 4-crown, $1.40; London Layers, 3-crown, $1.10; do, 2-crown, $1.05. Seeded, 25-lb. bxs—Fancy bulk, per lb., 5½@6c; Choice bulk, 5½@6c. Loose Muscatels, 50-lb. bxs—Standard, 4-crown, 4c; do, 3-crown, 3¾c; do, 2-crown, 3½c; Seedless, 3¾c. Seedless Sultanas—Unbleached, 4¼@4½c. Thompson Seedless—Unbleached, 4½@4¾c. Dried grapes, 3c.

Nuts.

Walnuts S S No 1 new crop....12½@13
Walnuts No 2....10@10½
Almonds nonp....11@12
Almonds IXL....10@10½
Ne Plus Ultra....10

Beans Dried.

Limas....4.90@5.00
Pink....3.25@3.40
Small white....4.50@4.60
Large white....4.50@4.60
Lady Washington....3.45@3.50
Black eyes....3.40@3.60
Red kidneys....2.75@3.00
Garvanzas....3.50@3.75
Bayo....3.10@3.25
Horse beans....2.25@2.40

Hops.

Hops per lb....3½@6½
Hops old fancy....2@4
Hops 1908 contracts....9@10

Honey.

Clear white comb....15@17
Amber....12@15
Extracted w c....7½@8½
Extract light amber....6½@7½
Beeswax No 1 per lb....28@30
Beeswax No 2 per lb....25@27

Hay.

SOMERS & CO. say:

There has been at least a 25 per cent increase in hay shipments duing the past week over the week preceding; the total showing 3770 tons in comparison with 2910. Because of this increase the steady trend of the market towards a higher range has been checked and more moderate prices are now in evidence. At about the latter part of last week quotations were holding at an extreme range; many sales of choice wheat hay being affected at $18.00 per ton. Prices are now back to where they were a week ago and if cars are provided in ample numbers there will surely be a still further decline, as large quantities of hay are awaiting rail transportation at many points.

Local business continues very dull with wholesalers and retailers alike complaining seriously. The larger local consumers such as the draymen and stablemen are reporting a very dull business and most of them are arraiging to send out quite a portion of their stock for fall and winter pasture. On the whole, the outlook is not at all encouraging for with almost a cessation in export business it begins to look as hough even the light hay crop throughout the State this season might eventually become a drug on the market. Only with decided business improvements along all lines will we have a satisfactory hay market throughout the winter unless, of course, a dry season should threaten.

Choice wheat hay....15.50@17.50
Good wheat hay....13.50@15.00

Other grades same	11.00@13.00
Wheat and oat	11.00@16.00
Tame oat	11.00@15.50
Wild oat	10.00@13.50
Stock hay	8.00 to 10.00
Alfalfa	9.00@13.00
Straw, per bale	45@75

Grain.

Wheat No. 1	1.62½@1.67½
Barley new	1.32½@1.37½
Corn small yellow	1.72½@1.77½
Oats white	1.45@1.55
Oats gray	1.40@1.55
Rye new crop	1.47½@1.50

Feed Stuff.

Bran per ton	29.50@31.00
Feed cornmeal per ton	39.00@40.00
Cracked corn per ton	40.00@41.00
Rolled barley per ton	29.00@30.00
Oil cake meal per ton	36.75@38.25
Cocoanut cake per ton	25.00@26.00
Middlings	32.00@35.00

Citrus Market

Citrus Shipments.

Citrus shipments since Nov. 1, 1907, aggregate 26,965 cars, of which 3917 were lemons. Last year same date 25,979, of which 2987 were lemons.

NEW YORK, July 24.—Weather clear and hot. Market is unchanged. Four cars of Valencias sold.

VALENCIAS—	Avg.
Purity Tustin Pack Co	3.90
Old Oak Tustin Pack Co	3.65
Thoroughbred	3.85
Summit Red Heights O Assn	3.45
Mountain Lion Speich & Co	3.10
Quail O K Ft Ex	3.70

PHILADELPHIA, July 24.—Two cars lemons sold. The market is unchanged. Weather hot. One car on track.

LEMONS—	
Corona Beauty Q C Ft Ex Cor	1.44
Grove Q C Ft Ex	1.11
Las Fuentas C Sperry Summerl	1.78
Montecito	1.61

BOSTON, July 24.—One car sold. Fifteen on track. The market is easier.

VALENCIAS—	
Cal. Sunshine O G Cash Assn	2.50

PITTSBURG, July 24.—One car sold. Three on track. The market is advancing on lemons. Weather warm.

LEMONS—	
Orchid Altland Ft Co	2.90
Buscada Altland Ft Co	2.80

ST. LOUIS, July 24.—Weather cloudy. Prices are lower on account of the quality of the stock offered. Two cars sold. Eight on track.

LEMONS—	
Blue Jay O K Ft Ex	1.70
Ramona Chas Mohnike	2.05
Stock Label	1.90

CLEVELAND, July 24.—Weather hot and muggy. Market firm on good stock. Two cars sold. One on track.

VALENCIAS—	
Golden Flower Red G O Assn	3.55
Golden Gate Red G O Assn	2.90
LEMONS—	
Pet S A Ft Ex San Di	3.20
Greyhound S A Ft Ex San Di	2.80
Duck S A Ft Ex San Di	2.10

CINCINNATI, July 24.—Weather hot. Market is steady. One car sold. Nothing on the track.

LEMONS—	
Arab S A Ft Ex San Di	3.20
Greyhound S A Ft Ex San Di	3.10
Duck S A Ft Ex San Di	2.50

NEW YORK, July 27.—Eight cars Valencias and one car grapefruit sold. Market is unchanged on Valencias. Very strong on grapefruit. Weather hot and cloudy.

VALENCIAS—	
Blue Globe Riv Ft Ex	3.90
Red Globe Riv Ft Ex	3.55
California Orange	3.00
Whittier S T Ft Ex	3.55
Pico S T Ft Ex	3.10
Cal. Sunshine O Grs Assn	4.05
Colonel Or Grs Assn	3.45
Aurora E Peycke Co	4.10
A-1 E Peycke Co	3.50
Titus Ranch	3.80
El Toreador San M G P Co	3.45
Vista Bonita J A Graham	3.65
Standard J A Graham	3.00
Tahquitz Hemet	3.60
Standard Hemet	3.05
Purity Tustin Pack Co	3.90
Old Oak Tustin Pack Co	3.55
Orchard Nat O Co	4.15
Standard Nat O Co	3.30
SWEETS—	
Colonel O G Cash Assn	2.30
Red Globe Riv Ft Ex	2.50
ST. MICHAELS—	
Red Globe Riv Ft Ex	3.40
HALF BOXES—	
Red Globe Riv Ft Ex	2.00
GRAPEFRUIT—	
A Brand E Highland C A	5.15
HALF BOXES—	
Blue Globe Riv Ft Ex	1.40

CINCINNATI, July 27.—Weather warm. Market is steady. One car sold. Nothing on track.

LEMONS—	
Arab S A Ft Ex San Di	3.20
Duck S A Ft Ex San Di	2.65

PHILADELPHIA, July 27.—Two cars Valencias and one car lemons sold. Market is improving. Weather warm. One car on track.

VALENCIAS—	
Rialto Girl Grs Ft Co	4.17
Golden Orchard Ind. Ft Co	3.64
LEMONS—	
Coyote O K Ft Ex	2.26

5700 boxes Sicily lemons, S. S. Ancona, selling this afternoon.

CLEVELAND, July 27.—Weather hot and muggy. Think the market will be higher. One car sold. Nothing on track.

LEMONS—	
Pet S A Ft Ex San Di	3.20
Greyhound S A Ft Ex San Di	3.20
Duck S A Ft Ex San Di	3.10

PITTSBURG, July 27.—Four cars sold. One on track. Market is strong owing to lighter arrivals. Weather warm.

LEMONS—	
Lion S T Ft Ex Santa Bar	2.55
Eagle S T Ft Ex Santa Bar	2.65
Las Fuentas Crocker-Sperry Sum	2.30
Montecito Crocker-Sperry Sum	2.45
VALENCIAS—	
Aurora E Peycke Co	4.30
Climax E Peycke Co	3.55
Giant Palm	4.10
Vista	3.75

ST. LOUIS, July 27.—Weather cool, cloudy. Market is strong on Valencias. Three cars sold. Five on track.

VALENCIAS—	
Cupid V C Ft Ex Santa Paula	3.90
Royal Knight R H Ft Ex Red	4.10
Newsboy R H Ft Ex Red	3.70
NAVELS—	
Airship V C Ft Ex Santa Paula	2.80
GRAPEFRUIT—	
Royal Knight R H Ft Ex Red	2.00
LEMONS—	
King River T C Ft Ex Sanger	1.50
Mupu V C Ft Ex Santa Paula	2.80
Swan R H Ft Ex Red	2.70

BOSTON, July 27.—Six cars sold. Twelve on track. Weather favorable. Market is unchanged.

VALENCIAS—	
Aurora E Peycke Co	3.95
Alhambra	3.85
Magnolia Worthley & Strong	3.80
Rose Red O Gr Assn	3.45
Blue Star Worthley & Strong	3.30
Alta Cresta A H Ft Ex Prenda	3.75
Robusta A H Ft Ex Prenda	3.25
Rey S T Ft Ex Fernan	3.90
Tunnel S T Ft Ex Fernan	3.25
CRAFTON LATES—	
Rey S T Ft Ex Fernan	3.25
Tunnel S T Ft Ex Fernan	3.10
GRAPEFRUIT—	
Alta Cresta A H Ft Ex Prenda	3.25
Robusta A H Ft Ex Prenda	3.10
LEMONS—	
Squirrel A H Ft Ex Prenda	3.45
Palm Tree A H Ft Ex Prenda	3.05
Commercial A H Ft Ex Prenda	2.45

NEW YORK, July 28.—Six cars Valencias sold. Market is unchanged. Weather hot.

VALENCIAS—	Avg.
Independent Grs Ft Co	4.05
King Midas C E Whitcomb	3.90
Old Mission C C Chapman	4.80
Golden Eagle C C Chapman	3.40
Herald W Amer Ft Co	3.80
Summit Red Heights	3.30
Iris Red Lemon Grs Assn	3.20
Mountain Lion Speich & Co	3.40
Our Popular Speich & Co	2.75
Titus Ranch	3.85
El Toreador San Mar Pack Co	3.05
Royal Knight R H Ft Ex	3.70

BOSTON, July 28.—Five cars sold. Twelve on track. Weather cool. Market is steady.

VALENCIAS—	
Aurora E Peycke Co	3.95
Vista Bonita J A Graham	3.65
Magnolia Worthley & Strong	3.45
SWEETS—	
Slover Mt. S Grs Ft Co	2.75
LEMONS—	
Cry Baby Flagler Ft Co	2.65

WHERE OUR CLOVES COME FROM.

Frank G. Carpenter, in a recent letter written in Zanzibar and published as a syndicate letter in some of the leading daily papers of the country, tells us all about the "clove island of the world" as follows:

In coming here from Tanga we steamed along the Zanzibar coast for about forty miles, and there are twenty or more miles yet below us. Zanzibar is about fifty miles long and twenty miles wide, and it would make altogether about 400 one-thousand acre farms. As you look at it from the sea the land is low and its shores are fringed with cocoanut trees loaded with nuts. The island has a dense vegetation. It is in the heart of the tropics and is noted for the fertility of its soil. It is the chief clove island of the world, and the cakes and pickles of the universe are flavored by it. Throughout Europe and the United States there are millions of secret drinkers who hide their whisky breath from the knowledge of their deluded wives by the aroma of Zanzibar cloves. The island produced last year over 26,000,000 pounds of these spices. This is enough to smother the scent of all the liquors raised by man and leave some to spare.

During my stay I have ridden out to some of the plantations. Cloves come from trees which are set out in orchards and cultivated. At the age of six years the trees begin to bear blossoms, and it is these blossoms which form the cloves of commerce. They are bright red in color and are full of perfume. They are picked when they are in bloom and then smoked over slow wood fires. During the smoking they turn from red to brown, and when cured are almost black. After they are well dried they are packed up in bags, and in that shape are sent to Europe and the United States. The English have another clove island, known as Pemba, which lies a little north of Zanzibar, and is governed from here. These two islands produce more than 90 per cent of all the cloves raised in the world.

Amity, Yamhill county, Oregon, has a cream factory which handles 20,000 pounds of milk daily.

Veterinary

Dr. R. T. Whittlesey, veterinarian, of 714 East Seventh street, Los Angeles, will answer questions in this department. In writing of sickness or injury to any animal be explicit in giving symptoms and particulars. Always enclose full name and address, but if assumed name or initials are preferred they will be used.

If an immediate mail reply is wished enclose $1.00 for such service, but for replies in paper only, no charge is made if the answer will be of general interest.

Veterinary School.

Will you please tell me if there is a veterinary college in California, and if so, where it is?—N. R. G., Upland.

Address San Francisco Veterinary College.

THE AUGUST CENTURY.

There are ten short stories to entertain the summer idleness of the readers of the August Century, the Midsummer Holiday Number.

A delightful literary feature of the issue is "A Group of Aldrich Letters"—letters to such interesting personalities as Taylor, Lowell, Fields, Stoddard, Stedman, Howells, Clemens, Woodberry—edited, and with comment, by Ferris Greenslet. Then there is a new "Travels with a Donkey" sketch of wanderings in Normandy; "When We were Tramps," by Francis Wilson's daughter, with plenty of pen and ink drawings by her husband, Charles Huard, evidently one of the "tramps."

Robert Hichen's "The Spell of Egypt," and two delightful pages in color by Jules Guerin, deal with the Ramesseum and Deir-el-Bahari. "The Reminiscences of Lady Randolph Churchill" take us to Japan. The color frontispiece of the number is a reproduction of Elizabeth Howell Ingham's drawing, "The New Novel in the Forties."

A JUST DECISION.

A recent decision of the United States Circuit Court of New York in the case of the Vermont Farm Machinery vs. the Sears-Roebuck Company, brought to prevent infringement on separator patents, gives victory to the Vermont Farm Machinery Company, and is received as a just decision. The farmers who have bought these separators which are infringements will, doubtless, have recourse on the company of whom they purchased. The decree requires of Sears-Roebuck Company to furnish the plaintiff with a full list of all purchasers of the infringing machines.

There are too many good separators made to make it profitable for the dairymen to waste any time and money on these cheap machines, which are liable to be infringements.

Jack rabbits are menacing the crop at Hesperia.

Smith's Fruit Gatherer

A fruit gatherer that enables two men to do the work of six and not bruise or soil the fruit. Cut shows only one-half of machine. Good for fruits, nuts and olives. Can be furnished on short notice. Circular and prices by return mail.

WM. SMITH, 1324 Catalina St., Los Angeles, Cal.

Crimson Winter Rhubarb and Berry Plants

Our Specialty

1000 choice Navel Oranges, together with a few other Citrus Trees. April and May are best months to plant Rhubarb for heavy Crops next winter. It has never been equalled as a money maker. $1.50 per dozen, $6 per 100, $40 per 1000. Pedigreed plants.

J. B Wagner

The Berry and Rhubarb Specialist **Pasadena, California**

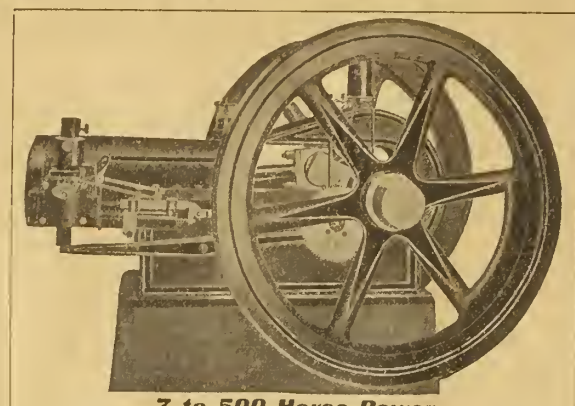
For Mehring Foot-Power Milking Machines see O. J. Weber Co., 555-557 S. Los Angeles St., Los Angeles, Cal.

The Popular Western

Built In the West Best For the West

FACTORY AT YOUR DOOR

LONGEST LIFE LEAST FUEL FEWEST PARTS ALWAYS GOES



7 to 500 Horse Power

Irrigation Plants Designed Constructed Installed

U. S. GOVERNMENT TEST

35 H. P. Western Engine Been Run 2 Years

RAN 87 DAYS DAY AND NIGHT

With One 20-Minute Stop to Lace a Belt

Send for the Copy of Test

Western Gas Engine Co.

Works and Office:

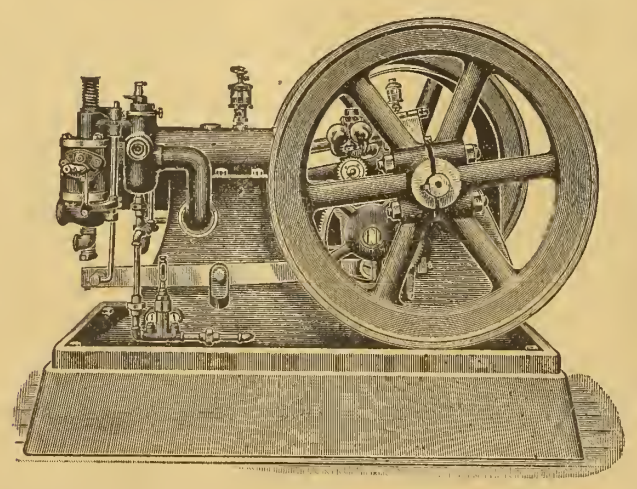
908 to 932 No. Main St. Los Angeles, Cal.

Send for Catalogue.

Harrison Machine Works

Have Been Appointed Los Angeles Agents for the Celebrated

Alamo Gas and Oil Hoisting and Stationary Engines



Best in price, appearance and quality. Self-starting and small operating cost. A complete line of repair parts and accessories always on hand. Complete pumping plants installed and we are prepared to construct all kinds of mining machinery on contract. Write for catalog and prices.

719-721 N. Main Street
Los Angeles, California

THE Latest Deep Well Turbine Pump

Guaranteed to deliver from 100 gallons per minute upwards, depending on the diameter and capacity of well, from a depth of 50 to 300 feet below the surface. Can be either belt driven or direct connected to electric motor as occasion requires.

Write for Catalogue 46B.

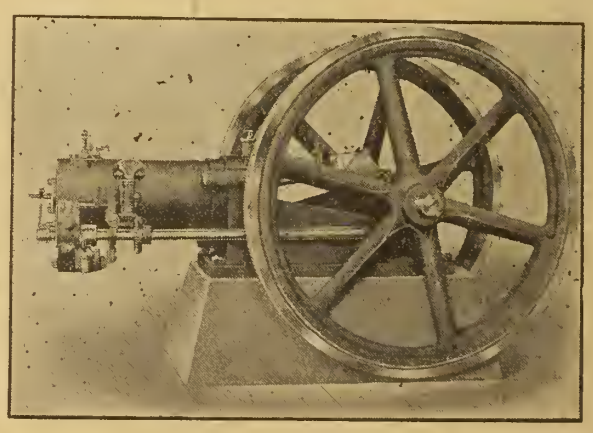
A deep well pump that has no valves or plungers to wear or get out of order, no gears, consequently no noise or breaking of teeth.

Compact, durable, always primed and ready to operate, constant flow, hence increased capacity of well.

This type of pump is fast taking the place of Vertical Steam, Deep well Plunger and Propeller Pumps.

Byron Jackson Iron Works

Main Office and Works:
Carlton Station
West Berkeley, Cal.



THE DOAK GAS ENGINES

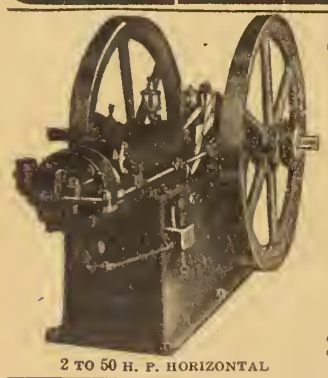
Stationary, Portable, Hoisting and Marine

All sizes from 3 to 50 H. P. carried in stock at all times. If you want the best, the most reliable, the most economical and the simplest engine in the market, **write for our latest catalogue before you buy.** Take broad gauge local train and get off at Oak Street Station.

Doak Gas Engine Co.

Business Office: Rooms 86-87-88 Bacon Building, Oakland

Sales Office and Factory: 4th and Madison Streets, Oakland



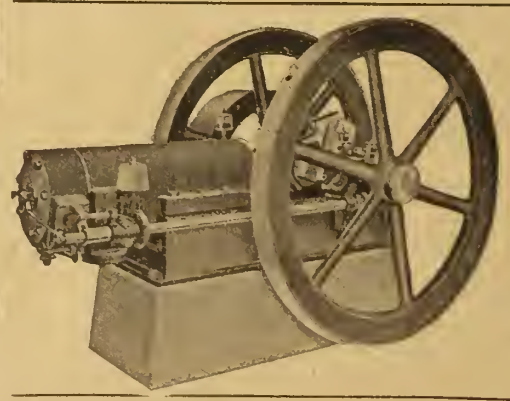
2 TO 50 H. P. HORIZONTAL

STOVER GAS ENGINES

The simplest and the best. We have had long experience installing pumping plants. We know our business. See us before you buy. 2 to 50 H. P.

LIVINGSTON & LEE

352 So. Los Angeles St., Los Angeles, Cal.



HERCULES DISTILLATE ENGINE

Heavy, Strong and Simple in Construction

The Right Engine at the Right Price

Horizontal and Vertical; All Sizes. Buy direct from the manufacturer and save agent's commission. Send for our new Catalogue C.

The Hercules Gas Engine Works
Alameda, Cal.

BOSTROM'S IMPROVED FARM LEVEL

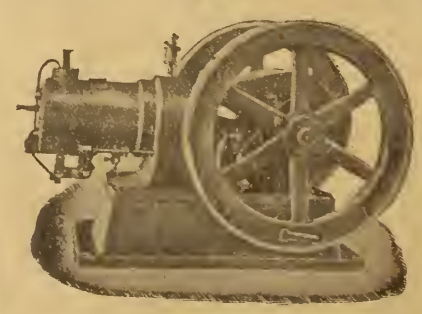
Used for irrigation and drainage work. Cheapest and best level yet invented for farm use. Has the latest patented improvements in simplicity and usefulness. Can be operated by any one. Price including telescope tripod and target rod $12.50.

PALACE HARDWARE COMPANY

581 Market Street, San Francisco

Coast Agents. Send for Circular

Olds Gasoline Distillate Engines



For all purposes, Stationary, Portable and Spraying. All sizes from 2 to 100 H. P. Simple, durable, warranted, are giving fine satisfaction to purchasers on the Coast. Prices and circulars mailed on application to

The Compressed Air Machinery Company

Dealers in all kinds of machinery

34 to 40 Jessie St., San Francisco, Cal.

SEND FOR BULLETIN NO. 15

Still Cheap Roberts Distillate Motors

2 to 120 H. P. Does Any Work Any Other Engine Will Do.

July 20th—Till further notice prices are *$80; $100; $150; $250; $350; $400; $500* f. o. b. Los Angeles for the following sizes: *2 HP 3 HP 5 HP 10 HP 15 HP 20 HP 30 HP*

Direct connection: no belts; no valves; no trouble; cheap to operate; a boy starts them easily.

Every expert pronounces them the greatest success on the market.

Cowham-Smith Co., Coast Agents, 224 H. W. Hellman Bldg, Los Angeles, Cal.

When writing advertisers, mention Cultivator.

California Cultivator

Published Weekly — One Dollar a Year

Los Angeles — August 6, 1908 — San Francisco

Baby Forest Trees Ready for Planting

Nursery of the Department of Agriculture at Henninger's Flats in the Mountains Back of Pasadena. This Nursery Was Recently Abandoned and a New One Established Near San Bernardino.

All Soils Alike to Wood Pipe

The heaviest adobe, the most corrosive alkali, the lightest sand; all alike where Wood Pipe is used.

It Resists Them All

Wood Saturated. Air Excluded—Can't Rot. Metal in Bulk, Galvanized, Asphalted—Can't Rust. High factor of Safety in Binding—Can't Leak.

Prices, specifications, hydraulic data and general information gladly furnished upon request.

Continuous Stave Pipe. Machine Banded Stave Pipe

NATIONAL WOOD PIPE COMPANY 404 Equitable Savings Bank Building LOS ANGELES, CAL.

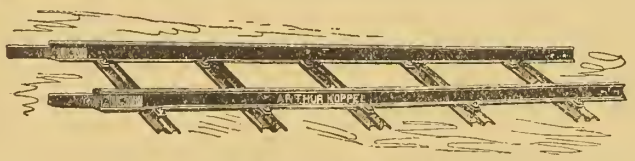
318 Market Street, SAN FRANCISCO — Northern Office, OLYMPIA, WASH. — Dooly Block, SALT LAKE

A Railway on the Ranch

Saves Much of the Hard Labor

The equipping of the ranch with a ***Portable Railway*** is a very ***Profitable Investment*** and ***not*** very expensive.

Our booklet S. F. 60 gives several suggestions for applying it to the Dairy and Ranch.

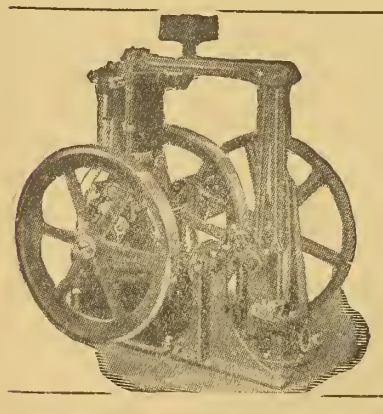


Works at Koppel, Penn.

ARTHUR KOPPEL CO.

212 So. Los Angeles St. Los Angeles, Cal. — Chronicle Building San Francisco, Cal

Eastern Offices: Pittsburg, New York, Chicago, Boston



A Handy Little Engine

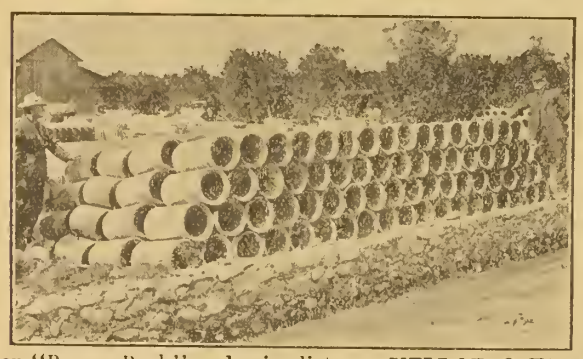
Just the thing to run the feed cutter, the pump, the churn, the grinder, or anything on the ranch. It's well named

The Little Wonder

Write or call on

Wm. Gregory

602 No. Main St. Los Angeles, Cal.



From photograph showing amount of

Ten-Inch Pipe

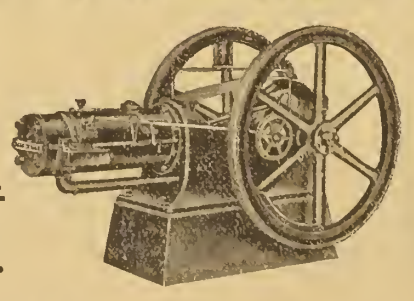
made by four men from 8 bbls. of cement in 9 hours — 280 two-foot joints, or 560 feet. This pipe was made with the

"K T" Moulds

An equal amount can not be made with any other tools in the same period of time. Write for "Brown Book" and price list. **KELLAR & THOMASON, Covina, Cal.**

Commercial Gas Engines

Are what all engines should be:
Simply Perfect and Perfectly Simple



Modern in every detail. An inspection will convince you. Write for Bulletin No. 12

Commercial Engine Co.

953-955 N. Main St. Los Angeles, Cal.

ARNOTT HARNESS $10.00 to $80.00

Everything guaranteed. Money back if not satisfactory. Factory in Los Angeles. California leather for all uses. Send for No. 10, eighty page FREE Catalogue.

ARNOTT & COMPANY 112–118 So. Los Angeles St. Los Angeles, Calif.

$5.00 for a Name

We are getting ready for a new brand of coffee—our own special brand—we want a name. Ladies send a two-cent stamp for full information how to earn $5.00.

Columbia Commercial Company

MAIL ORDER HOUSE

312-14 East Second Street Los Angeles, Cal.

Balfour, Guthrie & Co.

IMPORTERS OF

THOMAS PHOSPHATE POWDER

AND

NITRATE OF SODA

SAN FRANCISCO FRESNO LOS ANGELES

WRITE FOR PAMPHLET A D PRICES

Alamo Gas and Oil Hoisting and Stationary Engines

Best in price, appearance and quality. Self-starting and small operating cost. A complete line of repair parts and accessories always on hand. Complete pumping plants installed and we are prepared to construct all kinds of mining machinery on contract. Write for catalog and prices.

Harrison Machine Works

719-721 N. Main Street Los Angeles, California

Pioneer RUBBER SANDED ROOFING

WRITE FOR SAMPLES AND BOOKLET

LET US PUT YOU IN TOUCH WITH OUR LOCAL AGENT IN YOUR COMMUNITY

Rubber Sanded Roofing is successfully used on flat as well as pitched roofs—residences, hotels, business blocks, out-houses; anywhere that a rain-proof, sun-proof roof is required.

Comes in handy rolls; easy to lay. No special tools needed. Everything in the way of nails and liquid cement for laps furnished in center of each roll, without extra charge.

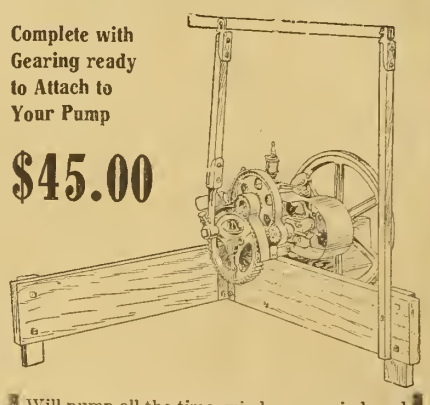
Pioneer Roll Paper Co. Department 11 Los Angeles, California

Makers of Rubber Sanded and Rubber Flexine Roofing and Refiners of Asphaltum

Aermotor Gasoline Engine

Complete with Gearing ready to Attach to Your Pump

$45.00



Will pump all the time, wind or no wind, and deliver as much water as an 8 ft. Aermotor in a good wind.

From 225 to 1600 gallons per hour, depending on height water is to be raised.

Air cooled, uses Gasoline or Distillate.

A reliable, durable engine at a very low price. Can You Afford to be without one.

Send for Special Circular.

Tanks Towers Pumps Distillate Engines

Smith-Booth-Usher Co

Machinery and Supplies

Successors to S. J. Smith Machinery Co. and L. Booth & Sons

212-214 S. Los Angeles St., Los Angeles

Home, Ex. 1090—Sunset, Main 1090

Your Eastern Trip

SOUTHERN PACIFIC

May be arranged so that you may travel by way of

New Orleans and the Sunset Route

San Francisco and the Ogden Route

Portland and the Shasta Route

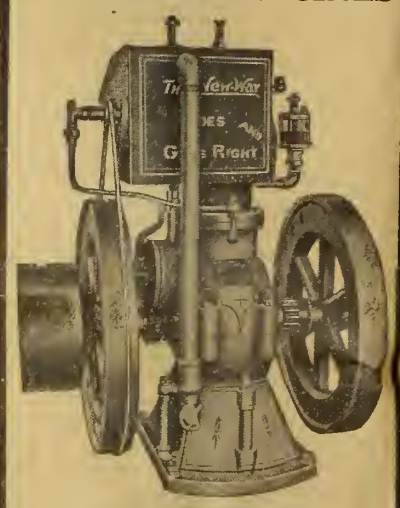
Enjoying the balmy air of the South or the cool and bracing air of the North.

Personally conducted excursions every day from Los Angeles via all routes without change to principal eastern points.

City Ticket Office:
600 S. Spring St., cor. Sixth

Southern Pacific

THE NEW WAY AIR COOLED ENGINES



The first and only SUCCESSFUL AIR COOLED Gasoline engine manufactured

RENSHAW-BULKLEY & CO.

Distributers for California Nevada and Arizona

San Francisco 19-21 Fremont St. — Los Angeles 335-337 E. Third

Irrigating Hose

12 oz. Canvas Coated or Plain. Good for several seasons.

1¾ Inch
2½ "
4 "
6 "
9 "

3 Inch Galvantzed or Brass Couplings.

Prices on Application

Tents, Stack Covers, Picking Bags

The Wm. H. Hoegee Co.

INC.

138-140-142 So. Main St., Los Angeles

BOTH PHONE EXCHANGES 87

STROKE SELF FEED HAY PRESS

2 men can run it. 3 tons in one hour. Easy draft. Smooth bales. Will save its cost. Shipped on trial. SATISFACTION GUARANTEED.

THE AUTO-FEDAN HAY PRESS CO. 414 E. 10TH ST. TOPEKA, KANS.

BRANCH OFFICE, 1821 W. 12TH ST., KANSAS CITY, MO.

Ask for Catalogue No. 28

1521 West 12th St., Kansas City, Mo.

Agent, John Schilling, Jr., Davies Warehouse 2nd and Central Ave., Los Angeles, Cal.

California Cultivator

Vol. XXXI—No. 6 Los Angeles, California, Thursday, August 6, 1908 Subscription $1 a Year

The Growing of the California Walnut

J. B. Neff of Anaheim Gives a Bit of Walnut History and Cultural Information. Part of a Paper Read at the State Fruit Growers' Convention at Riverside Last May.

WHEN walnuts are spoken of in California it is always understood that softshell walnuts are meant, and softshell walnuts are becoming known in the markets of the United States as "California Walnuts." This being the mark of excellence and used to distinguish them from imported walnuts.

These were formerly known as English walnuts, probably because of having been marketed by English merchants when all walnuts were imported, but likely originated in Persia or Asia Minor, though it has been found native over a wide area, including the mountains of Greece, of Armenia, of Afghanistan and the northwest Himalayas. It is also found in Japan and has been reported as growing on the highlands of the Congo, in Central Africa.

Walnuts from Persia were brought to Rome by merchants and from there the trees were distributed over Europe and to America.

There are no records to show when the first walnut trees were planted in California, but the best authorities say that it was about the year 1769 and that the planting was done by the Mission fathers. Very few trees were planted after this first planting for nearly one hundred years. About the year 1843 a few trees were planted at San Diego by J. J. Warner, and in 1848 F. E. Kellogg, Sr., planted a small orchard at Calistoga, in the upper part of Napa valley. J. R. Congdon planted an orchard at Capistrano in 1869. H. K. Snow and P. T. Adams planted the first walnut grove in the vicinity of Tustin and Santa Ana in 1879. The planting was an orchard of eight acres, which was characterized as a rash adventure by the neighbors, but the soundness of their judgment is shown by the fact that the orchard is one of the best producers in the valley after more than one-third of a century has passed. These early plantings were all of hardshells.

A few years later some additional acreage was planted by Snow and Adams until 15 acres were in one plot. The trees were planted too closely and ten years ago they began to take out alternate trees. The orchard has been abundantly fertilized lately with stable manure and the production last year was 25,800 pounds.

The softshell walnut originated in Santa Barbara county, on the farm of Joseph Sexton, and came into notice in 1880. It is supposed to have been the result of cross pollination between hardshell and papershell walnuts, but is more likely to have been a seedling of the hardshell, showing one of the many changes that may be expected of seedlings. Softshell walnuts soon became popular and have been planted exclusively for the past twenty years under the name of Santa Barbara softshells, but this term does not mean any particular variety and includes all seedling softshell walnuts generally found in the market.

There are but few walnut groves of commercial importance north of Santa Barbara county, though there are some small orchards in the Sacramento valley and several small areas in Santa Clara county and near Santa Rosa. The walnut trees of the northern part of the State are mostly of the French varieties, and largely Franquette, as it has proven the most productive, though not equally successful in the southern counties.

Large plantings of grafted and budded walnuts have been made in southern counties within the last ten years, and almost the entire planting of the northern counties are grafted trees. The variety mostly propagated in the south is known as the Placentia Perfection, and originated in the Placentia district of Orange county about 18 years ago. This is a vigorous, upright growing tree which produces large, smooth nuts that hull freely and are well filled with white meat, but while it gives better returns, both in price and production than the average seedling softshell, it will sometimes lose half its crop by blight.

The stocks used for grafting and budding have been largely seedling softshell in the south, while that used in the north has been mostly native black walnut, and very frequently these are not grafted until ten to fifteen years old.

Walnuts should be planted only on good, deep soil, not underlaid by hardpan, nor where the water will stand on the surface. A deep sandy loam is to be prefered, but walnuts will do well on the heavy soils that are free from alkali. Good drainage is always necessary, as well as freedom from late frosts and a comparatively cool climate. The greater part of the orchard planting has been 40 feet apart. This is too close on good land and better results can be had by planting 50 feet apart, while 60 feet is not too far in some cases. The planting is generally done with the object of getting a larger number of trees to the acre instead of getting the maximum production of walnuts from the tree, and increasing its length of life. An orchard may be made to pay a good income early in its life by planting 50 feet apart in squares, with a tree in the center of each square which can be taken out after 12 to 15 years. In this way the profit from the interset trees will often be enough to pay for planting and land by the time they have to be taken out. It is necessary to have water for irrigation in most places as the walnut tree needs more water than it usually gets. Walnut trees do not require the heavy pruning that is needed by most deciduous fruit trees. The lower limbs should start at four to five feet from the ground and in such a way as to have the heavy side of the tree to the southwest. A good rule for the early pruning is to cut off only those branches in the way of the team when cultivating, or that will draw the tree too much to the northeast or away from the prevailing winds. When the trees are eight to ten years old there will be small branches in the center that shut out the sunshine which should be taken out, together with all branches that are crossed. There will be no walnuts in the center of the tree unless there is some sunshine through the tree. A good deal of labor and time can be saved if the trees are gone over in June and the long and useless shoots taken off. It may also be necessary to go over them again in July, but the work at that time will be light.

The young trees should be supported by stakes for the first two or three years. A convenient stake is made by using redwod 2x2x9 feet long. This makes a stake long enough to use for support for branches that may be drooping and these branches may be trained in the proper direction by using short lengths of light baling rope to give the branch the proper angle.

A walnut orchard that has been well cared for will begin to bear paying crops after the fifth year from planting and should increase in production for many years. Walnut trees will live to a great age in suitable localities and with proper care. Trees in the south of France and in Spain that are believed to be more than 300 years old bear regular and heavy crops.

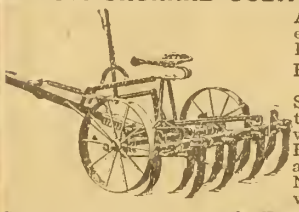
IN GOLDEN GATE PARK, SAN FRANCISCO.

A blight of both nuts and green twigs began to attract attention about nine years ago; the Department of Agriculture at once instituted investigations which were supplemented, and are now being carried on by the University of California, but the idea of finding a remedy for the blight has been to a great extent abandoned and attention turned toward solving the problem by finding trees that are resistant to the blight to such a degree that they will produce paying crops under the same conditions which cause other trees adjoining them to lose the greater part of their crop.

A series of investigations has been made with a view of getting a tree that will be resistant to a great degree, and at the same time produce large crops of desirable walnuts, from which to propagate by grafting or budding. The investigations give much hope, as several such trees have been found, and with added interest that is taken some very excellent trees are likely to be found.

EVERYTHING FOR THE FARMER

ARNOTT ORCHARD CULTIVATOR

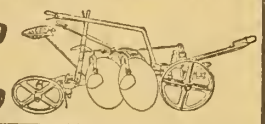


Acknowledged the BEST Five feet wide. Spring teeth if wanted. Horizontal lift. No neck weight.

Steel and Malleable Iron. Dust proof wheels..... $45.00

SANDERS-ARNOTT DISC PLOW

SINGLE $60.00



DOUBLE $80.00

COLUMBUS WAGONS

Three inch Skein. Four inch Tire. Brake and Pole. $80.00

PACIFIC ORCHARD TRUCK

3¼x10 Skeins. 28x30 in. wheels..$32.50

LEATHER TRIMMED

Guaranteed Twelve Months

$65.00

MONITOR WINDMILL

8 ft.....$30.00

10 ft..... $45.00

The New 8 and 10 Foot MONITOR

MONITOR ENGINE

Simple Economical

2 H. P....$130

4 H. P. $250

6 H. P. $350

Catalogue No. 9 Sent Free on Application Address Department G.

ARNOTT & COMPANY Inc.

112-118 South Los Angeles Street

QUALITY ARNOTT GUARANTEED

Los Angeles California.

THE "BOSS" Tree Protecter

Made of Yucca Palm

Is cheap, durable and quickly put on the tree. It prevents Rabbits from destroying your trees. A sure protection against frost, sun-burn, grasshoppers or dry winds. Can be easily removed; will last for years.

Send for samples.

Prices

12 inch long,	$ 9.00	per 1000
14 inch long,	10.00	per 1000
16 inch long,	11.50	per 1000
18 inch long,	12.50	per 1000
24 inch long,	15.00	per 1000
30 inch long,	17.00	per 1000

Agents Wanted Everywhere

YUCCA MANUFACTURING COMPANY

1380 Willow Street Los Angeles, Cal.

When writing advertisers, mention Cultivator.

Gum Disease of Citrus Trees

By Prof. Ralph E. Smith of Southern California Pathological Laboratory, at State Fruit Growers' Convention, Riverside.

The following is from the address by Mr. Smith delivered at the State Fruit Growers' Convention at Riverside. It is a part of the address which appeared last week and which, by error was not credited to Prof. Smith.

UNDER the general term "gum disease" are included several troubles of a more or less distinct nature. Of these may be mentioned particularly the gum disease of the lemon, the scaly bark of the orange and the true Gummosis, or Mal di Goma of Europe and Florida. The last mentioned disease is quite distinct from the most common forms of gum disease which occur in California. It is characteristically a disease of the root rather than of the trunk and may be described as a root rot, more than a simple gumming. We have seen this trouble only in a very few instances in California. It affects the tree mostly from the surface of the ground downward and shows itself as a softening and decay of the bark, finally affecting the whole root. So far as seen here it appears to be due to an excessive amount of moisture about the trunk, particularly when accompanied by banking of the earth closely around the tree above the normal height.

The Lemons.

The gum disease of the lemon manifests itself as a breaking out of gum on the trunk, usually between the point of budding and the main forks of the tree. This disease has been much discussed of late in the horticultural press and elsewhere, and the conditions which produce it are quite generally understood. It is without question entirely physiological and not brought about or concerned in any manner with any fungi, bacteria or other parasites. It occurs almost always in heavy ground in places where moisture is too abundant, and particularly where the soil has become compact about the trunk above the point of budding. Instances are practically unknown of lemon trees being affected, save under conditions of this sort.

The lemon gum disease may be avoided in no other manner than by avoiding these conditions which bring it about, or when once started may be remedied in no other manner than by improving conditions. This may be done very largely by cultural means, consisting of loosening the soil thoroughly about the trees, uncovering roots which are too deeply buried, avoiding saturation of the soil close about the tree, and, if feasible, replacing the heavy soil with sand or gravel in a circle about the tree. If planting in soil which is manifestly liable to the disease two things are strongly advisable. First, the use of the bitter orange or so-called Florida sour stock for a root; the second, the practice of high budding, working the tree about fifteen inches from the ground. In the case of trees already affected it is often advisable to remove the bark which has become separated from the wood and killed by the exudation of gum in order to give an opportunity for new bark to form and the wound to heal over. This treatment is in no sense a remedy for the disease but simply a method of wound treatment as might be applied in the case of any injury. All bark which is badly affected should be stripped cleanly from the tree, trimming neatly about the edges of the sound bark, and the exposed wood should then be covered with some material for which a wax, composed of four parts resin, one part beeswax and one part raw linseed oil, boiled together and applied as a liquid with a brush, is as good as anything. It is also advised to slit the bark of affected trees up and down the trunk in several places. Orange trees are sometimes affected in very wet ground.

The Orange.

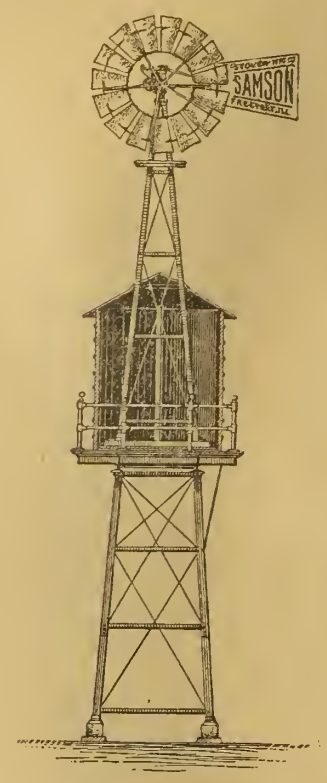
The scaly bark of the orange is of a nature much less easily explained. The manner of its occurence, affecting the trees here and there about the orchard, makes it difficult to understand how it can result from conditions which seem practically alike all over the orchard. The disease is limited to the sweet orange, not affecting the lemon, grapefruit or other species, and is much more common on seedlings and navels than on the Valencias. It manifests itself as a scabby, gummy breaking out at any point on the trunk or branches, and usually keeps spreading about the trunk or along the branch from year to year. We can only say in regard to the nature of this disease that the condition of the affected tissues when studied with the microscope is similar to that in the lemon gum disease. There is the same breaking out of gum through the bark, with the difference that in this case it is less abundant and active and takes the form of a mild irritation which keeps the affected area continually spreading at a limited rate. In our opinion the disease is connected with an irregularity in the flow of sap up into the tree, starting primarily in an irregular water supply to the roots, the trouble resulting from interference with the flow of sap on account of the structure of the wood, as has been previously mentioned. We feel quite well satisfied that the disease starts as a result of an abnormal relation between the flow of sap and the structure of the wood which should conduct it, however obscure may be the cause which first brings this about. We have seen cases of successful treatment of scaly bark areas on orange trees, when not too large, by cutting out all the affected part and covering the wound with the wax described above. In doing this it is necessary to cut away all bark which shows discoloration between it and the wood beyond the portion where the surface shows the scaly condition. This is found particularly just above the visibly affected portions. The practice of covering portions of trees affected with scaly bark with a thick paste composed of lime and sulphur is sometimes resorted to. We have not been able to observe any very decided or permanent benefit from this treatment.

DIE BACK.

Florida die back, or exanthema, is another disease which may be included in this class and occurs to some extent in Southern California. This is a disease of very pronounced symptoms, both on the fruit and twigs. It affects particularly the orange. The affected oranges show dark brown discolored patches on the side and from these places the fruit often splits. The oranges have a characteristic pale yellowish-green color and are

SAMSON WIND MILLS

Have double gears, removable bearings and center lift, which double the life of the mill. They will last longer, pump more water and give better satisfaction than any other WIND MILL.



This is an up-to-date Sub-structure, Tank and Wind Mill outfit complete; substantial, economical and attractive. We build all kinds. Write us or our general agents for full information and prices, description &c., before purchasing.

The STOVER MFG. CO.

FREEPORT - ILLINOIS

30 California Avenue

CRANE CO., LOS ANGELES and SAN FRANCISCO

General Agents for California

Gold Medal Citrus Trees

Are fully described in our treatise of Citrus Culture, which is a trifle the best thing of its kind ever published. Contains about 50,000 words and 100 illustrations telling about oranges and lemons from the seed bed to the bearing orchard. Price 25 cents. Remember we are the largest producers of Citrus Trees in the world and stand ready to serve you with the finest nursery stock that can be grown. Correspondence invited.

San Dimas Citrus Nurseries

San Dimas, Cal

R. M. Teague, Prop.

California State Fair

Sacramento

August 29th to September 5th, 1908

Big Purses
Big Races
Big Premiums

A Big Fair with Startling Attractions.

All admit the last Fair was the best. This Fair will be better. Bring the family and enjoy yourselves. Nowhere can you see so much or have such a good time for your money. See the show and be saved; miss it and be miserable. All live people show and all good people go. $20,000 in Premiums, $15,000 in Purses, $5,000 in Amusements, $10,000 for Advertising and Operating. Special Railroad Rates. Address J. A. FILCHER, Sec'y

KELLOGG'S ANT PASTE

ANT PASTE TRADE MARK

The original ant paste. Absolutely guaranteed to rid your house of ants. If your druggist can't supply it write to factory, enclosing 40c for package prepaid.

KELLOGG'S ANT PASTE CO.

1010 East Ninth Street Los Angeles, Cal.

quite sweet when not more than half grown. The branches die back from the tips, send out clusters of small shoots from the twigs, and the bark of the latter breaks out in corky protuberances or pustules. More or less gumming is associated with the latter. This disease is described in Florida as being due to an excess of organic nitrogen in the soil. That this is not entirely the case but rather that its cause is more complicated than this is shown by the appearance of the trouble in this State, where it is limited almost entirely to a certain type of soil. This is the coarse, granitic, very porous soil which is found particularly along the base of the mountains in various places between Highlands and Pasadena. On such soils the Florida die back is of quite frequent occurrence. There have been a very few cases of the disease on heavier soils where the Florida experience seems to hold true, all the instances on such soils of which we are aware having been associated with very heavy applications of fertilizers rich in organic nitrogen. In the case of the type of soil mentioned, however, the disease occurs very severely in many instances where only moderate amounts of fertilizers have been applied. The most pronounced quality of this soil is the free passage which it affords to water. It becomes very wet during irrigation, but unless water is applied very thoroughly and carefully and quite frequently the upper soil becomes absolutely dry between irrigations. This soil also takes up water very poorly in a lateral direction so that the space between the trees and much of the whole body of soil becomes extremely dry in many orchards. The disease appears to be brought about in some manner through an irregular food supply, resulting from the irregular water supply which trees get in this soil unless irrigation is particularly well carried out. With trees which are not well fertilized the effect is simply one of ordinary die back. True exanthema seems to result where the soil is of the type described and a fair amount of fertilizing material has been applied. It is apparently a sort of indigestion in the tree, more food being taken up during irrigation than the tree can take care of after it gets into the condition of dryness which follows. On heavier soils the same thing occurs only where very excessive amounts of nitrogen have been applied.

Cases of ordinary die back, failure to grow, poor development, mottled leaf, poor production, barrenness, etc., are of very frequent occurrence, but cannot be ascribed to any one cause or considered as representing any special form of disease. These conditions result in a great majority of cases from failure of good cultural methods or unfavorable conditions in the location of the orchard.

With the orange the fruit itself is affected by two very characteristic troubles, both apparently due to irregularities or abnormal conditions in the development of the fruit, from causes which cannot be fully explained. We refer to the puffing and splitting of the fruit. We can give no information of definite value as to the exact nature or means of control of these troubles.

In regard to the treatment or means of avoiding the various diseases which have thus far been mentioned, we can give no absolute rules to fit all cases, but in this connection the following remarks by Mr. C. C. Chapman, at the Citrus Convention held in Riverside January, 1907, are very suggestive:

"There are certain general conditions which I believe are applicable to all of Southern California. First, I think it is an essential requirement that you should keep your grove absolutely in an even condition, never have it call for anything; never have it need irrigation; never have it need fertilization; never have it need anything, so far as indications are concerned. That is, you don't want a grove to show you that it needs anything. You don't want it to arrive at that condition where it will show this."

We can give no better advice than to emphasize what Mr Chapman has said as to the importance of maintaining a uniform, even condition and growth of the citrus tree, avoiding all extremes and sudden changes which would tend to produce irregular development. Whatever may be the exact nature and cause of these obscure troubles, it is certain that they all have their origin in irregularities of growth or functions as influenced by natural conditions or the treatment which the tree receives. The peculiar sensitiveness of citrus trees to the effects of such conditions makes it particularly important that their vital processes be kept in a uniform condition, free from violent shocks. So far as climatic influences are concerned this cannot be entirely accomplished, but in his manner of soil treatment as related to irrigation, cultivation and fertilization the grower should study each peculiar type of soil most carefully, endeavoring to maintain the most uniform possible condition as to water and food supply.

These troubles being of a physiological or autogenous nature, rather than the effects of parasitic organisms, any application to the tree of the nature of a fungicide or insecticide is ordinarily out of the question. In the case of the Florida die back beneficial results have been claimed from spraying with the Bordeaux mixture, in which case it is possible that the application of this substance to the foliage has had some physiological effect.

Cold storage of fruits has its problems as do other phases of the fruit industry. To one of these problems, that of the susceptibility of stored fruit to various rots, Bulletin No. 297 of the New York Agricultural Experiment Station, Geneva, contributes valuable data. The experiments show that certain rots are perfectly controlled at temperatures ordinarily used in cold storage, but that blue mold is still active at or just above the freezing point. A method of destroying the germs of the fruit-rot fungi is also given. Both storage warehouse men and fruit growers should know the facts shown by this bulletin. It may be secured without cost, by writing to the station for it.

More Fruit and Better Fruit
result from the liberal use of
POTASH

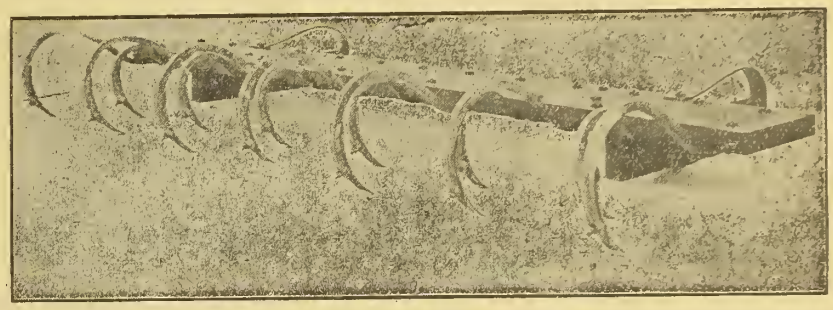
Apply at least 1000 pounds, to the acre, of a complete fertilizer containing from 10 to 12 per cent. of Potash. The result will be better growth of tree, vine or bush, higher yields of better colored fruit with superior eating and shipping quality.

Our free booklet, "Plant Food," is full of information about plant fertilizing that every fruit grower should have. Send for it.

GERMAN KALI WORKS, 93 Nassau Street, New York
Chicago—Monadnock Bldg. Atlanta, Ga. 1224 Candler Bldg.

Meyer, Wilson & Co., San Francisco, Cal., are Sole Agents for the Pacific Coast

WILLIAMS' GOOSE-NECK CULTIVATOR



Especially adapted for citrus orchards. Sizes 8 to 14 feet. Lightest draft. Free trial to responsible parties. No agents. You pay only one profit. Write today

WILLIAMS & SON, Manufacturers
Orange, California

TREE TANGLEFOOT

A Sticky Preparation Applied Directly to the Bark of the Trees

Will not injure trees. A band 5 inches wide and 1-16-inch thick cannot be crossed by any climbing insect pest. Remains sticky five to ten times as long as any other known substance. You can test it at slight expense, as no apparatus is required. Used by the carload in New England against the Gypsy and Brown-Tail Moths. In California it preserves prune orchards from the Canker Worm Wherever the Gypsy or Brown-tail Moths, Tussock Moths fall or Spring Canker Worm or Web Worm appear TREE TANGLEFOOT is of great value, and should be used when the caterpillars begin to crawl while they are very young.

Price 25c per lb. Liberal discount on quantities. The only safe and effective banding preparation. Send for testimonials.

THE O. & W. THUM COMPANY
Manufacturers of Tanglefoot Fly Paper Grand Rapids, Michigan

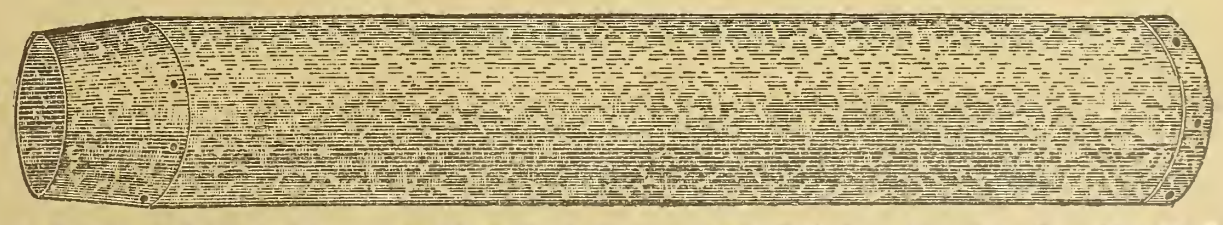
TENTS

Fumigating and Lemon Curing Tents our Specialties

Irrigating Hose, all sizes. Prices and Samples quoted upon application. Write your wants Wagon Covers, Hay Covers, and Canvas Covers of Every Description.

Mellus Bros. & Co
Phones—Home, F 4871; S. S., Main 3500
250 East Fifth St., Los Angeles, Cal.

When writing advertisers, mention Cultivator.



AMERICAN SURFACE IRRIGATION PIPE

SAVES WATER, GRADING AND TIME

The **only** way to **irrigate Alfalfa. Cheaper** than **Flumes.** This is only **one** of our **specialties.** We make **Riveted Water Pipe** in lengths of **ten feet** from **single sheets.** Let us **prove** to you that we make **Pipe** and **Tanks right.** WRITE FOR CATALOGUE.

AMERICAN STEEL PIPE & TANK COMPANY
FORMERLY TALLERDAY MANUFACTURING COMPANY
636-7 Pacific Electric Building Los Angeles, Cal

Water-proof; sun-proof; spark-proof; lightning-proof.

Genasco Ready Roofing

Made of Trinidad Lake Asphalt, the most enduring weather-resister known. Nothing else can make roofing last anywhere near so long. That's why the demand for Genasco is increasing so rapidly.

Mineral or smooth surface. Ask your dealer for Genasco. Refuse all substitutes. Look for the hemisphere trade-mark. Write for "reason" book 35 : also samples.

THE BARBER ASPHALT PAVING COMPANY

Largest producers of asphalt, and largest manufacturers of ready roofing in the world.

PHILADELPHIA

New York

San Francisco Chicago

Peckham Says--

See the Corcoran District

If you are interested in a future self-supporting home, or if you want the best land investment in California today.

I want to show, to prove to every man that on our lands in Corcoran you can make $100 an acre per year.

I want to show, to prove that these lands will be worth double or more in two or three years.

A call at my offices will convince you that my proposition is bona fide, certain and profitable, or call, phone or write for Profitable Realty, my monthly magazine, which tells the story.

Geo. C. Peckham & Co.

Main 3221 F5392

202-6 Union Trust Bldg.

Cor. 4th and Spring Sts. Los Angeles, Cal.

EMERSON DISC PLOWS

Plow your land now—no need to wait until the rain softens it. The Emerson Disc Plow will plow it, and you will get larger crops next year.

Some Disc Plows are better than others—the Emerson is the best. Let us tell you why it is the best. Write us for information.

Newell Mathews Co.

Los Angeles and Market Streets.

LOS ANGELES, CAL.

Deciduous Fruit Culture

MORE ABOUT CREATING HUMUS.

BY WAY of emphasizing some points in my article in your issue of July 2, I should like to make some further remarks.

As a preliminary, however, I may say that many people who have sound ideas and start enthusiastically to working them out, are "scared out" and discouraged by the first setback or difficulty of any kind that they encounter, and abandon the undertaking, so the case of the grower at San Gabriel does not prove anything. Then, too, he might have left all of his land unplowed or might have done something else causing him to encounter many difficulties which the system of plowing alternate "middles' on alternate years does not encounter.

Again, the fact that the majority of growers are not following this plan does not prove anything either. It has finally just begun to penetrate the densely dull public consciousness that the majority of the owners of timber land are pursuing a ruinous policy, both as to the immediate welfare of the land and the public welfare in general, and it is entirely possible that it may soon be shown beyond argument that the present policy of our agricultural majority is equally deplorable. The two are almost identical.

The present system has grown up out of a stupid and ignorant past. Our fathers, when they wore out one piece of land, simply moved onto another. Now we can't do that, so we must exert our thinking faculties a little instead, or "bust."

In this particular locality the first fruit growers were gardeners and used gardeners' methods. The later arrivals simply copied them.

The rainfall at Newcastle averages near 30 inches and is the immediate cause of our having to face this problem sooner than some other localities. The heavier the rainfall the greater the erosion, and that is where our humus goes.

Any careful study of the matter will show conclusively that the amount of humus consumed in crops is as nothing when compared with the amount we wear out cultivating or which a liberal rainfall washes away from a "well cultivated" soil, to say nothing of the possibilities of careless irrigation in this regard.

The agriculturist, where there is no rainfall, has only the wear of cultivation and the erosion due to irrigation to contend with, hence he stands it longer.

I can readily show the doubter tracts of land in parts of California enjoying a rainfall of 50 to 60 inches, that have been rendered entirely useless within a term of ten years of orthodox cultivation. The soil was not "poor" and was not impoverished by the crops taken from it, but simply by the fact of having all of its better part washed away, so it is plain that our rainfall is not an advantage.

I do not think that temperature enters into the problem. The ground certainly gets as hard and dry here as it does in any irrigated district and humus is certainly more valuable at 120 in the shade than at 100.

We are not in the fig growing business to any great extent, but grow peaches, plums, pears, cherries and grapes. They all show equally satisfactory results. Where formerly they were irrigated weekly with indifferent results they are now watered once in two or three weeks with good results. The total amount of water used is the same, it simply takes longer to get around on account of the increased absorbing capacity of the ground.

Where formerly both irrigating and rain water escaped from the orchard in large quantities and heavily laden with silt, now but little escapes and it is clear.

A neighbor recently showed me, with pride, his splendid potato patch, on made land. It consisted of a number of embankments across a canyon which had impounded silt, often to a depth of 16 feet. When I asked where the silt came from he pointed to the orchards on the adjacent hillsides. They had contributed thousands of tons of their cream to that potato patch, about which he felt quite virtuous and thrifty.

He is laboring under a three-fold waste: First, a waste of labor in doing needless cultivating; (his land is as weedless as ours once was.) Second: A waste in trying to haul enough fertilizing material to offset the soil exhaustion from which he suffers ;and, third: A waste in building the embankments to impound the silt.

How much more sane to so handle his land that there would be no erosion, no silt, no embankments and little if any fertilization. Instead, he should have a constantly increasing supply of the invaluable humus, made in nature's way, and this with less labor and expense than is necessitated by the most destructive method so popular with the dear majority.

The agriculturist who uses up his present supply of humus, which is really his entire capital, without making adequate provision for putting an equally large amount back into his soil, is in exactlly the same class as the fellow who killed the goose that layed the golden egg, the fellow who chops down his tree to get the fruit thereon, the prodigal youth who "blows in" his patrimony, and various other wise people that we have all heard of.

This custom of the blessed majority accounts for the decline in productivity of California grain fields; it accounts for much of her small and defective fruit, and it accounts for the abandoned farms of the Eastern States.

Many of us have doubtless noticed the fence corner that is neither tramped, pastured nor plowed; how its grass grows rank and ever more rank until finally it reaches mammoth size and the ground becomes so "mellow" and "rich" that its surface is well worthy of being hauled away to some "better(?) cultivated" part of the orchard or farm, for fertilizing purposes. Even though the roots of a neighboring tree reach this corner and draw on it liberally it goes right on improving.

We have likewise, no doubt, noticed the tree or block of trees that, in ten years, have not borne anything like a crop of fruit, but have been industriously cultivated all the time just the same. The ground around these trees has deteriorated just about as rapidlly as that around the adjoining block that has borne all the time.

The plan of plowing alternate "middles" on alternate years is simply putting in action nature's system of holding onto the humus she has now and providing for more. To be sure, under this method she is only making humus half of the time, but that is sufficient. We do not have to work all of the time to live; nor do we have to sleep all of the time in order to rest sufficiently.

As for argument: Facts talk louder than doubts, and I can show plenty of them to him who wants to know.

This plan has the full sanction of those in the highest positions, agriculturally, in the country, but they say that the storm of denunciation that assails them whenever they advocate anything so radical, to the elect, is rather more than they care to face.

Great is bigotry. The roots of prejudice are deep and strong.—Gerald Geraldson, Newcastle, Placer Co.

EUCALYPTUS SEED

Eucalyptus rostrata, the Red Gum
E. corynocalyx, the Sugar Gum
E. tereticornis, the Forest Red Gum
E. globulus, the Blue Gum
E. citriodora, Lemon-Scented Gum
E. cornuta, the Yate Tree
E. polyanthema, the Red Box
E. leucoxylon, Victorian Iron Bark
and Many Other Valuable Sorts

I shall be pleased to correspond with prospective buyers and give particulars as to prices on the seeds I am offering. Trial packets of any variety 15c each, 2 for 25c, or twelve for $1.25. Also young trees of many varieties for sale. Send for circular and cultural directions.

THEODORE PAYNE

NURSERYMAN AND SEEDSMAN

Home Phone A2480

345 S. MAIN ST., LOS ANGELES

Smith's Fruit Gatherer

A fruit gatherer that enables two men to do the work of six and not bruise or soil the fruit. Cut shows only one-half of machine. Good for fruits, nuts and olives. Can be furnished on short notice. Circular and prices by return mail.

WM. SMITH, 1324 Catalina St., Los Angeles, Cal.

Now Is the Time to Plant

Cover Crops
Canadian Peas
Vetch
Fenugreek
Burr Clover

Onions
White
Burmuda
New Queen

Cabbage
Winningstadt

Our Seed is the Best

Johnson & Musser Seed Co.

113 N. Main St., Los Angeles, Cal.

For the Season of 1908-09

We Shall Have to Offer

Pedigreed Fruit Trees

SEVERAL NEW FRUITS AND NUTS OF IMMENSE VALUE TO CALIFORNIA

Eucalyptus Trees

BY THE 1000 OR 100,000
NO BETTER STOCK GROWN

Please send us your name and address, and you will get all particulrrs. We are now taking contracts for ***Eucalyptus Trees*** in large quantities.

Leonard Coates Nursery Co. Inc.
Morganhill, Santa Clara Co., Cal.

STRAWBERRY PLANTS

Strong one-year-old plants for August planting; Brandywines, $2.50 per M. Klondike, Lady Thompson, A-1, Excelsior and Midnight, $3.00. A full line of this season's plants later. New catalogue ready in September, giving full description of our improved strawberry plants and other small fruit.

G. H. HOPKINS & SON ***Burbank, Cal.***

Fruits and Produce Under the Dingley Tariff

In answer to the question often asked as to products of farm and orchard which are protected under the Dingley tariff, we quote the following products:

FRUITS.

Apples, green,	25c per bu.	Apples, dried, or prepared	2c lb.
Berries, green,	1c qt.	Berries, dried or prepared	2c "
Citron, prep.	4c lb.	Citron peel, dried or prepared,	4c "
Cranberries, gr.	25 % adv.	Cranberries, dried or prepared	2c "
Currants, Zante, etc.			2c "
Cherries, green	25c bu.	Cherries, dried or prepared	2c "
Cherry.. juice,	60c gal.		
Dates,			½c "
Figs,			2c "
Fruits, (edible) dried,			
Grapes, dried,	2½c lb.	Grapes, bbls. or pkgs,	20c Cu. ft.
Grapefruit, green,			1c lb.
Jellies, (all)			25% adv.
Lemons, green,	1c lb.		
Limes, green,	1c lb.		
Oranges, green,	1c lb.		
Olives, bot., etc.,	25c gal.	Olives, casks,	15c gal.
Olive oil,	40c gal.	Olive oil, bottles,	50c gal.
Peaches, green,	25c bu.	Peaches, dried, etc.	2c lb.
Peach brandy,	$2.25 gal.		
Plums, green,	25c bu.	Plums, dried,	2c "
Pears, green,	25c bu.	Pears, dried,	2c "
Prunes, dried,	2c lb.		
Prune juice,	60c gal.	Prune wine,	60c gal.
Prunella, dried,	2c lb.		
Pomelos, gr.	1c lb.		
Pineapples, pres	25% adv.	Pineapples, bbls. & pkgs	7c cu. ft.
Quinces, gr.	25c bu.	Quinces, prep	2c lb.
Raisins,			2½ "
Shaddock, gr.	1c lb.		

Sweetmeats, comfits, fruits, preserved, etc. 1c lb. 35% adv.
Free list.....fruits or beries, green, ripe or dried, and fruits in brine not especially provided for in this act.

FARM AND FIELD PRODUCTS.

Albumen, egg or blood,			3c lb.
Almonds, shelled	6c lb.	Not shelled	4c "
Beans, prep. or pres	2½c "	Beans,	45c bu.
Blood, dried or soluble,			1½c lb.
Cabbage,			3c each.
Cider			5c gal.
Castor beans, per bu. of 50 lbs			25c
Castor oil,			35c gal.
Cotton seed oil, per gal. of 7½ lbs			4c
Eggs,	5c doz.	Eggs, yolks of	25% adv.
Fish paste, pickles, sauce,			40% adv.
Flaxseed oil,			20c gal.
Filberts, shelled,	5c lb.;	unshelled	3c lb.
Garlic,			1c lb.
Hay			$4 ton.
Honey			20c gal.
Hops,	12c lb.	Hop ext. & Lupulin	50c adv.
Linseed oil			20c gal.
Mushrooms, prepared			2½c lb.
Nuts, all kinds, shelled or unshelled,		not pro. for	1c lb.
Onions			40c bu.
Potatoes			25c bu.
Poppyseed oil			20c gal.
Peanuts, shelled	1c lb.	not shelled	½c lb.
Peas, green or split,	40c bu.	dried	30c bu.
Peas, prepared or pres	2½c lb.	small packages	1c lb.
Seeds (oil)	25c bu.	seeds (not oil)	30% adv.
Straw			$1.50 ton.
Teazles			30% adv.
Vegetables, prep. or pres.	40% adv.	Vegetables, natural	25% adv.
Walnuts, all kinds shelled	5c lb.	unshelled	3c lb.

Free, Brazil nuts, Cream nuts, Palm nuts, Cocoanuts, in shell or broken meat or copra.

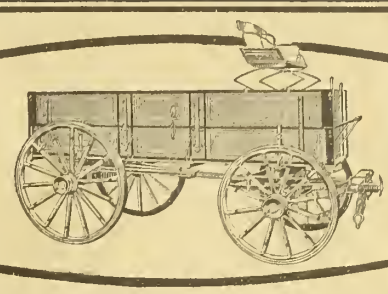
SOIL ANALYSIS.

The chemist can take any sample of soil, analyze it and tell precisely all the elements and the amount of each that it contains. From this fact many farmers think that if they could only have their soil analyzed, they would know precisely what elements of plant food are deficient and know just what fertilizer to apply. Few agricultural chemists claim to be able to accomplish much in this way. Their methods enable them to get every atom of plant food out of the soil but much of this is unavailable to plants, is so locked up that they can't get at it. How much of it is in this condition even the chemist can not tell. But plants can tell and the way to learn is to ask them. With all the help the scientists can give us, the individual farmer must still solve his own problems. If unsatisfactory yields convince you that one of your fields is deficient in one or more elements of fertility conduct a little experiment of your own. While there are more than a dozen elements that plants feed on, there are only three tnat are likely to be depleted. These are nitrogen, phosphoric acid, potash. Measure off an acre of the uniform soil 16 rods long by 10 rods wide. Cut this into five strips 16 rods long and two rods wide. On first strip apply nitrogen, on second phosphoric acid, on third potash, on fourth nitrogen and phosphoric acid, on fifth nitrogen and potash. At harvest time note carefully difference in crop on different strips and compare with crop on each side of plots which was untreated. For sure conclusions, crops should be weighed. Many soils are acid and refuse to properly grow alfalfa and clover. Lime will correct this acidity. If you have trouble in getting stands of either of these crops, test soil in same way by use of lime.

The experiment stations of Ohio, Indiana and Illinois agree that many of our long tilled soils are deficient in phosphorus, and it is generally agreed that the growing of the legumes is the cheapest way to secure nitrogen.—The Epitomist.

Salem, Oregon, cannery has notified all cherry growers that no more cherries can be received this season. The claim is put up that the demoralized condition of the canned fruit market is the cause of the order.

THREE HIGH CLASS FARM WAGONS



A FARM wagon has much hard work to do. It must haul heavy loads, travel over rough roads and be out in all kinds of weather. When you buy a farm wagon you want to get many years' service from it.

You will not be disappointed if you buy any one of the three wagons described below.

The 63-Year-Old Weber

The King of all farm wagons. Only the very best and most thoroughly seasoned wood is used; ironed to make a wagon that lasts a lifetime. Light running, convenient and a wagon of fine appearance.

The Popular Columbus

Built in a factory where most exacting conditions are enforced. Air seasoned wood stock, ironing which gives great strength and durability, workmanship by thorough mechanics and every part thoroughly tested.

New Bettendorf Steel Gear Wagon

Front and rear gears made of steel. Parts riveted together, not bolted. A wagon that is proof against breakdowns. Nothing can work loose or rattle, and there can be no warping, drying apart, shrinking or rotting.

You should remember above everything else that a cheap, poorly constructed wagon is dear at any price.

Before you buy any wagon call on the International local agents and learn all the superior points of the Weber, Columbus and New Bettendorf wagons. They will show you the wagons and hand you printed matter giving all particulars. Or if you prefer write nearest branch house for full information.

WESTERN GENERAL AGENCIES: Denver, Colo., Portland, Ore., Salt Lake City, Utah, Helena, Mont., Spokane, Wash., San Francisco, Cal.

COAST SELLING AGENTS: Arnott & Co., Los Angeles, Cal.

INTERNATIONAL HARVESTER COMPANY OF AMERICA, CHICAGO, U. S. A.
(Incorporated)

Placer Nurseries

We have now growing for next season's delivery a large stock of all leading varieties of trees and vines. We propagate only the best commercial sorts. Our trees and vines are the best that good care can produce and in their selection, propagation and growing we spare no labor or expense; and they are true to name. That is what you want.

Contract now the trees and vines you will want for next season's planting.

Write us.

Silva & Bergtholdt Company
Newcastle, California

An Income for Life

May be had by planting a grove of **Eucalyptus** trees. We are headquarters for all varieties of **Eucalyptus Seed.** Also carry a good assortment of trees in flats. Write for our 1908 seed catalogue. It describes the kinds and tells what the wood is best suited for. Don't delay. Do it now.

GERMAIN SEED COMPANY
326-328-330 S. Main St. Los Angeles, Cal.

Eucalyptus

We have made a specialty of eucalyptus for the past ten years. We are no mushroom concern. We are prepared to accept contracts for raising eucalyptus for next season's planting. Take advantage of our **Low Prices on Contracts. Do It Now.** Twenty of the leading varieties to be seen at our nursery.

Saint & Warner
Sycamore Grove Nurseries
4584 PASADENA AVE., LOS ANGELES

Eucalyptus Seed

We are headquarters on all varieties of this seed. Be sure and get our prices on high quality stock. 80 varieties, your selection, 15c per pkt. Or we will mail postpaid, 1 pkt. each, E. Rostrata, Globulus, Tereticornis, Rudis, Corynocalyx, Leucoxylon for 50c with Cultural Directions.

MORRIS & SNOW
555 South Main Los Angeles

General Agriculture

ORIGIN OF CORN.

When Columbus reached Cat Island on that fateful day of 1492, he found the poor savages cultivating a plant that was new to the Spaniards. Later, when they saw the islanders gathering from the stocks a material which they used for food, the Spaniards took a curious interest in their actions. This plant, which the natives called "Mahiz," was wholly unknown in Europe or any other part of the old world. Afterwards the Spaniards themselves cultivated this plant for food, calling it "maize," by which name it has since been known in the botanical world. In this small way began what is now the most important and most valuable crop in the civilized world. Looked at from the standpoint of the botanist, a strange fact is disclosed in considering the habits as well as the habitat of this celebrated cereal. It was indigenous to the two Americas, but at the time of the conquest, had made little progress toward the wonderful development it was subsequently to attain. The Indian tribes in various sections, from the Canadas to Patagonia, were found to be acquainted with its merits and depended upon it as one of their chief vegetable foods. They cultivated it in little patches, planting it in a hole in the ground made with a stick and from it made certain dishes afterward famous as "succotash," "hominy" and "hoecake."

What is especially noticeable is the fact that no other grain or vegetable has such difficulty in reproducing itself unaided as maize. Left to itself it is difficult to see how it could keep alive. The grain being encased in a thick and close-fitting shuck, and growing closely to the cob, cannot reproduce unless in falling it becomes shattered and covered. Birds and other animals might help some in this process, but not enough to greatly extend the area of its productivity. The aid of man is needed, not only to plant, but to cultivate the corn, and it is questionable whether, if left ungathered, the whole of the fields in our mighty belt, would spontaneously bring forth next season a single ear. Fortunately, the savages in a limited way assisted this wonderful plant sufficiently to keep it alive in many places until the white man came with his hoe and plow to do the work on an extensive scale. It is just possible that but for the Indians, this valuable grain might have been lost entirely to man. Its only chance of survival originally would be in the tropics, where the first grains that fell and became covered would escape freezing and thus sprout in the returning season for its propagation.

It is a far cry from the little patches on Guannahani Island to the cornfields now smiling over the United States preparatory to a production of 3,000,000,000 bushels this fall. These fields occupy an area greater in extent than the German Empire. Though every State and Territory in the Union produces corn, the principal crop comes from Indiana, Illinois, Iowa, Missouri, Kansas and Nebraska, which constitute the far-famous "corn belt." It is estimated that if all the corn produced in one year in these six States were shelled and loaded in wagons, the train would extend nearly 155,000 miles, belting the earth six times with 4000 miles of wagons to spare. Iowa alone has produced a crop equal in value to the annual output of gold, silver and lead in this whole country, or more than the net earnings of all the national banks. Our farmers may understand what is meant by improved corn culture, when it is understood that an increase of one ear in every ten in the five principal corn States would mean an addition of $44,000,000 a year to their wealth. Though the origin of corn is very ancient, its use on a large scale is very modern. Darwin, the great naturalist, while traveling in Peru, found an ear reposing in a metal vessel eighty-five feet below the present surface of the soil. Others have been found with mummies in the tombs of the Incas. The natives of Mexico, long before the conquest, worshiped a goddess corresponding to the Greek Ceres, and the method was for sun virgins to sacrifice corn cakes in her honor. The North American Indians believed that corn was a direct gift from the Great Spirit. This inspiring belief was embodied in a poetical legend, to the effect that a young warrior fasting in the wilderness, prayed for a gift for his people, when a spirit in the form of a beautiful young man garbed in glistening green with flowing plumes, descended in response and brought the grain of grains as his offering.—American Farmer.

INCREASING SOIL FERTILITY

Before attempting to increase the productiveness of the soil, it is advisable to ascertain the cause of its low crop value, if possible, and then take the proper measures to overcome these causes.

Low productiveness may be due to a number of causes, such as we have already pointed out under the discussion of soil deficiencies. It may be due to the climate or location of the soil. The soil may be too shallow, too porous, too wet, too dry; it may be acid in character or contain alkali; or it may be deficient in plant food. The general methods of increasing soil fertility are as follows:

Acid soils must be treated with lime to correct the acidity, unless crops which are not injured by acidity are to be grown.

Organic matter, if present in small quantity, should be increased by the use of manure or by plowing under green crops. In the latter event, it may be necessary to use a fertilizer containing phosphoric acid and potash to secure a good growth. The crop selected should be some leguminous crop, which will not only add organic matter to the soil, but will also take nitrogen from the air and thus increase the store of this valuable plant food in the soil.

The organic matter improves the physical character of the soil, and increases the activity of the agencies which change inactive plant food to active.

By proper use of green crops and manure, many poor and unproductive soils have been increased greatly in fertility.

Active plant food should be increased, first, from the stores in the soil by the use of green crops and manures, and second, by the use of commercial fertilizers. Except for truck crops, and other crops of high value per acre, the farmer should endeavor to secure all the nitrogen that he needs from the air, and he should purchase only phosphoric acid and potash in the form of commercial fertilizers.

The best fertilizers to be used depend upon the character of the soil, and the crop to be grown.

We believe in others but not ourselves; better begin at home.

Live Stock and Dairy

IN THE SUMMER TIME.

NOW is the time to carefully protect the pasture field against being over stocked and destroyed for next year's hay crop. The alfalfa lands are often greatly injured by August and September pasturing. The great rush of spring and early summer growth has passed and the alfalfa plant drops into a quiescent, drowsy state, like all the rest of the vegetable world. It is the time of perfecting fruits and a pause comes in the green growth of everything. The sap is ripening and getting ready for the winter dormant condition. The very bees are slow moving as they gather the honey from the sweet blue heads of the alfalfa blossoms. The cattle will tramp and tramp and stamp at the flies all over the field. The horses graze it down anxious for the tender bits at the heart; the very tops of the crown are eaten, while the rest is neglected. The very centers are all the growing portion and the alfalfa plant is weakened by this close cropping.

Prevention of Injury.

The practical farmer should have foresight enough to guard against these conditions as they come every season. Corn and sorghum or whatever soiling crop he has learned to grow, should be ready to feed the first of August. California presents the anomaly, from a stockman's point of view, of short feed in August and up to the rainy season. That is our winter time and we can readily overcome this trouble by a little seasonable care. Outside of the important matter of not over-pasturing the alfalfa, the long August days give time to clean the pests from the land. If there is any dodder in the alfalfa now is a good time to bring it under control. It gains on the alfalfa now that the season of rank growth has passed. Covering the dodder with trashy hay or strawy manure and after forty-eight hours setting it on fire will destroy the plant and any fallen seeds.

Wicked Plants.

Dodder is a peculiar growth with its long golden stems like sirens' hair. It probably possessed beautiful leaves at one time but they have passed as it did not use them for good. It probably possessed great beauty before it went wrong. It is hard to realize that there is wickedness, and robbery among vegetable life. The dodder is a thief and a hobo, living on what it can steal from its community. It starts in life from seed a perfect plant, suddenly roots itself into the stem of the green alfalfa and becomes a hanger on and a living lie. What shall we do with it? Fall indignantly on it and burn it up with straw sprinkled with crude oil. Wipe out its wicked existence like any other pest.

Johnson Grass.

Another pest, a good thing run wild, for I am told that in far away Texas it is a valuable hay producer. During the summer time or in the late spring, a sharp plow should be run over the infested land not more than two inches deep, dropping the Johnson grass on its side while in fresh growth or before it has hardened into seed. The scorching heat of the sun strikes the cut roots and they shrivel up. It is a common mistake to plow Johnson grass land deep. This merely turns the cut roots under deep in the moist earth and increases the plants by making a new one at every cut joint. The shallow turned soil is quickly heated up and the cut joints dry out and do not root. Ten days after turning the shallow furrows, harrow or rake out the joints and burn them; then shallow plow again, to catch any sprouts that may have started. A piece of two acres treated in this way was overlooked and the cut pieces were not raked up or removed, yet the results were not bad, as a man with a hoe in two hours cut off every shoot showing.

Not Theory.

Now even next year the low buried roots will not all be dead, and six or eight inch plowing would bring a renewed growth, greatly lessened, to be sure, but still there. A second year's shallow plowing will end the growth until the land is resown again by carelessly letting the grass go to seed along the public roads. This is not theory but hard practice, and when you try it please remember to make the plowing shallow, a mere surface scratching of the soil. Five years ago infested vineyards were sold off very cheap as no one wanted them. The shallow plowing was found to be successful in cleaning them. Several men made small fortunes by buying on small cash payment the Johnson grass vineyards, and after two years of shallow culture selling them, clean from the pest, at high figures, cleaning up on a land deal good money. Buying at $75 and selling at $300 or more an acre after taking off a crop is good business. The cost of this cleaning is not greater than the regular cultivation of the vineyard or orchard.

Morning Glory.

It is not a glory when it is in a vineyard or orchard, but gives rise to much annoyance and loss. It, too, yields to constant shallow plowing with raking up and burning. It, however, requires constant work every other week to subdue it. I have two experiments under way. One is smothering it with a crop of sorghum. The sorghum is away up in the air, coming into bloom with a little pallid morning glory showing up here and there. It was a dense stand of morning glory before the sorghum was sown. One dear old gentleman came to see me to inquire what the new soiling or green manure crop was I was growing on this land. The glory was so thick and the leaves so luxuriant that he thought it was some "new fangled germ inoculated peas." That was before the sorghum started to grow. On a couple of isolated spots on the land used for hay there is morning glory growing on which I am trying sulphite of iron. It makes the leaves curl and blacken. I think if persistently used it cannot help but bring things to grief for Mr. Morning Glory. This is, however, in the way of experiment and not advanced as a settled practice. Arsenical solution will certainly fix the growth, but is rather dangerous to use around a stock farm. The morning glory can be smothered out after a term of years by growing dense crops on the land, I have no doubt. Indeed, I know it is true. The crops pay for themselves, and if the land is helped with a little fertilizer it can be cropped continuously until clean and then planted to alfalfa again.

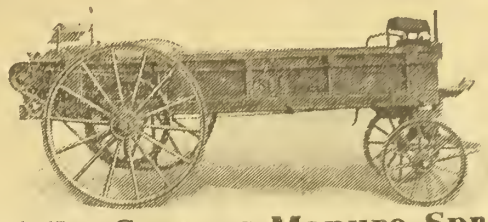
Bermuda Grass.

Much of the spread of this grass can be prevented if the seeds are burned off now. Add strawy manure or a sprinkle of crude oil and set on fire. This will limit the power of the little dickey birds to spread the seeds over clean land. The seeds should be taken care of now, and as this is not the season to handle a thickly set sod of Bermuda, we will let it go without further suggestions. The little spots that have appeared in the cultivated land should be hoed out and the grass all carefully put into sacks, for if it lies around to be driven by the wind it will start new spots. We have it gathered into sacks, hauled in and hung up in trees about the ground. After ten days it is carried to a Bermuda grass patch and burned.—M. E. Sherman.

Keep things clean. The best milk in the world, the richest cream and the best utensils cannot produce high-priced butter if a few million harmful bacteria are allowed to multiply in the filth near the house, in the sour particles in the seams of the cans, or in the corners of the utensils. Go into partnership with hot water, sunshine and pure air. Coleman's Rural.

A Man From Ohio Talks

There is 29 years of experience in this machine



It runs a horse lighter than any other

About the Success Manure Spreader

"It has been the most satisfactory piece of machinery I ever purchased. It spreads all kinds of manure better and covers more ground than can be done by hand. The narrow front trucks do away with all jerking of the tongue against the horses on rough ground. I can start a load that a team cannot shake on a wagon. I can get in and out of places that I couldn't with a wagon. It has changed the hard and much dreaded job of manure spreading into a snap. I would not do without it.—A. C. Presno, Mendon, O."

The Success is Now Completely Roller Bearing

Seven sets, one to each wheel, two on beater one on beater drive. That settles the draft problem. It is still the staunchest, best working spreader made. Send for catalog before you buy.

Kemp & Burpee Mfg. Company, Syracuse, N. Y.

Sugar-Beet-Pulp (Kow-Breakfast-Food) For Cows

Q. What is a Cow?
ANS. She is a square critter, with a peg at each corner to stand on.

The Cow Talks:

I have also been called a "milk-machine." To a nail-machine they feed wire and get nails. So they expect to feed me wire-y, dusty, musty hay and get milk. Nothing in it. Don't expect to get wire nails from a nail-machine without feeding it wire, nor milk from this milk-machine when fed on wire-y hay mostly trodden under my feet.

I'll tell you what to feed me—give me Kow-Breakfast-Food when I come in from the pasture.

Kow-Mathematics

Then I'll give you 32c worth of milk for a cent's worth of pulp. Besides, I figure I'll get fat at the rate of about a pound a day.

(Mrs.) A. Lean Cow.

P. S. You can get fresh Sugar-Beet-Pulp at 50 cents per ton from the Chute at the

Los Alamitos Sugar Factory, Los Alamitos

FLYFOE

That is just what it is. Sprayed on stock it kills or keeps off all those awful pests, flies, mosquitoes, gnats, etc. Do you realize what that means? Use it and note how much easier it is to keep your stock in condition and how comfortable they are. Sprayed on your cows the increased milk yield will many times pay for its cost. You should use something of the kind and

FLYFOE

will be found the most effective "fly bouncer" on the market.

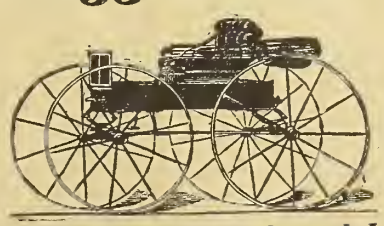
If your dealer does not keep it, we will ship a 1-gallon can at $1.25 or a 5-gallon can for $5.00, and will prepay the freight. If not fully satisfied with it money refunded. Made by the

West Coast Mill

Los Angeles, California

We Carry the Best Line of

Buggies and Delivery Wagons



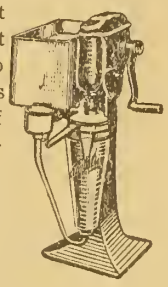
in the City. Call and get our prices and examine our goods before you purchase.

No trouble to show goods.

Los Angeles Vehicle and Implement Co. 110 and 112 North Los Angeles Street Los Angeles, California

EXCLUSIVE
Tubular
ADVANTAGES No. 6
NO EXPOSED GEARS

Exclusive Advantage No. 6 is another point in favor of the Tubular. No Exposed Gears—every moving part is enclosed except the handle. No danger to fingers—no chance of clothing to catch—no accidents to mischievous children. Absolute safety and freedom from dust and dirt is another evidence of what our 28 years building experience means to you.



The Tubular is a particular favorite with the women, simply because it has so many features that **save** work, and make it easier to run and to clean.

Write a postal and let us send you, prepaid, our Catalog No. 260; it will interest you in many ways.

The SHARPLES SEPARATOR CO.,
West Chester, Penna.
Toronto, Can., San Francisco, Calif., Chicago, Ill.

Berkshires--Shorthorns
My Berkshires took every blue ribbon and Gold and Silver Medal in the female classes. Choice pigs at low prices. G. A. Murphy, Perkins, Cal.

Thoroughbred Poland China Swine
Black Minorca and Barred Rock Poultry
High Grade Stock of Best Strains.
Young Stock For Sale
M Bassett *Hanford, Cal.*

The Whiting Jersey Stock Farm Company
Is making the very best strains of blood fresh from the island of Jersey a specialty.
Whiting Jersey Stock Farm Co. Heber, Imperial Co., Ca

Geo. C. Roeding, Fresno, Cal, breeder of
Thoroughbred Holstein Bulls and Heifers
Thoroughbred Berkshire Boars and Sows

John Lynch Breeder of Registered **Shorthorns**
MILK STRAIN
Box 321 Petaluma, Cal.

PURE BRED BERKSHIRES
Young Stock For Sale
Wm. H. Bird Box 6, Compton Cal.

FARMERS' BOOKS
Order Through the Cultivator

FEEDS AND FEEDING.—By Prof. W. A. Henry. Is a thorough, accurate and reliable handbook for students and stockman, giving most practical and useful knowledge on plant growth and animal nutrition, feeding stuffs, feeding animals and every detail pertaining to this important subject, indispensable to every owner of live stock. 658 pages. 6x9 inches.
Cloth $2.00

AMERICAN GRAPE GROWING AND WINE MAKING.—By George Hussmann of California. With contributions from well known grape growers, **giving wide** range of experience. The author of this book is a recognized authority on the subject. Illustrated. 269 pages. 5x7 inches.
Cloth $1.50

STANDARD OF PERFECTION.—By the American Poultry Association and used as the standard for judging all shows. The thing for dealers in fancy stock.
Cloth $1.50

PERFECTED POULTRY OF AMERICA.—This is the most recent publication, and is one of the finest poultry books ever issued. It contains full page illustrations of all breeds and varieties of poultry, turkeys and water-fowl. On many of its pages are represented the feathers from each section of the fowl. Gives the information necessary for the selecting of the best specimen in your flock.
Cloth $2.50

A. B. C. AND X. Y. Z. OF BEE CULTURE.—By A. J. and E. R. Root, the leading authority on Bee Culture Its reputation is known to all Beekeepers. 536 pages.
Cloth $1.50

CAMPBELL'S SOIL CULTURE MANUAL.—By H. W. Campbell. The originator of the "Campbell System of Dry Farming." A complete guide to scientific agriculture as adapted to the semi-arid regions. Of great value to all Western ranches. 320 pages.
..... $2.50

Cultivator Publishing Company

STARTLING STORY OF LOSSES.

Wilbur J. Fraser, a dairy inspector in Illinois, tells the following graphic story of losses among Illinois dairy herds. The figures presented are somewhat startling but they are taken from the records and must be correct.

The conclusions are surely sound. The same general conditions will apply in all dairy communities and the facts here presented will bear close study by all dairymen, no matter where interested. As it may set dairymen to thinking, we reproduce a portion of it, together with his "deadly parallels" in illustration. "Very few dairymen," said he, "even set down the payments received for milk and the items of money paid out for the whole herd, to say nothing of the individual cow's record or estimating the cost of the feed. But this station has been investigating the matter for several years, and the actual facts are so surprising that it taxes all manner of presentation to show their bearing on the dairyman's profit.

"Included in the dairy investigations of this station are the individual records for a full year of 554 cows in 36 Illnois herds. To make a large and fair comparison take the lowest fourth and the highest fourth of all these cows. This is 278 head, or half of the entire number.

"The lowest 139 cows (one-fourth of all) yielded an average of 133½ pounds of butter fat during the year, and the highest 139 cows produced an average of 301 pounds butter fat.

"The Elgin price of butter the past five years averaged 23 cents per pound, and this is the usual price the dairyman gets for the butter fat in his milk, it costing the overrun to make the butter.

"At 23 cents per pound for butter fat the poor cows make an average return of $30.77. At the low estimate of $30 per year for feed, this would leave 77 cents profit per cow for the whole year's work and investment.

"But the best 139 cows made an average income of $69.32. Allowing these better cows $38 per year for feed ($8 better than the poor producers) the clear profit is $31.31 per cow. These calculations allow the skim milk, calf and manure to pay for the labor and interest on the investment.

"The profit from the whole 139 poor cows is only $107, but the clear money from the best 139 cows amounts to more than $4000.

"Every one of these good cows average as much clear profit as 41 cows of the poorest kind. Herds of these two kinds would have to be kept in the following comparative numbers to produce exactlly the same profit for the owner.

Good cows.	Poor cows.
1 cow equals....	40 2-3 cows
15 cows equal	612 cows
25 cows equal	1,021 cows

The student of dairying will find in these tables some things he does not realize. He will find one thing surely, viz., that it does not pay to keep a poor cow in the herd. Dairying, properly conducted, is one of the most profitable lines of farming, but the actual relation of the cow and the herd to the clear money that the owner gets out of the business is, as a rule, neither known nor suspected by the men depending upon the occupation for a living.

Sonoma County Pomona Grange recently met in Santa Rosa. One feature of the fine exhibit of fruits and berries held was Burbank's new Banana plums.

HOG CHOLERA.

In your issue of July 23 is a categorical article on hog cholera, in which you refer to the disease as "highly contagious." The writer has had much experience with the disease in the Southern States, and as known there it is not in any proper sense a contagion. It does sometimes assume a very malignant form and becomes epidemic, spreading rapidly from herd to herd and from community to community, and that, too, in many instances, without the possibility of one herd taking it from another, other than through the atmosphere. In many cases, infection or the spread of the disease by any method you suggest, is utterly impossible.

Now, can the disease be cured? You say, no. I say, yes. This is the remedy: When the first symptoms appear, separate the diseased hog or hogs from the herd and from water; also from food except in liquid form. Mix 3 or 4 table spoonfuls of concentrated lye (any brand will do) and give to the diseased hogs. They will drink the mixture, if they are allowed to have no other drink. Meanwhile, saturate the hog with black oil to kill the lice.

No trouble to cure the disease if this simple remedy is used. Care should be taken, however, not to use the lye too freely. Just enough should be used to give the drink or liquid food the color of good apple vinegar. —G. R. Harrison, Corcoran.

WATERING THE HORSE.

Much cruelty to animals is caused by many kind hearted peoples' thoughtlessness about watering the work team. On this part the Farm Progress preaches:

It is almost the universal custom among farmers I know to water their horses in the morning before going to the field to work; then again at noon and lastly on quitting work at sunset or thereabouts. I do not think this is treating the horse right.

Three times a day, in hot summer weather, probably pulling on a dead strain all the time, is not often enough for the work horse to be watered. The average man finds it necessary under such conditions to drink much oftener.

Of course it will be said by a great many that in most cases no water can be conveniently reached for the horse and it is not so easy to bring a large quantity to the field for the horse, as it is a small quantity for the man; but this is not an adequate excuse.

If the drinking place is not far away it will be easily possible to unhitch the horse from plow or cultivator and ride or lead him at 10 o'clock and again at 4 to the watering place and let him drink. But if it is objected that it will cause the loss of too much time, the difficulty can be obviated by taking water to the field.

Every farmer ought to have a barrel made fast on a sled, so one horse could pull it, and this should be filled or partly filled and taken to the field. Then when the man got thirsty enough to drink he could let the horse have some water, too.

I am advocating this, not only because it is humane, but because it is better for the horse not to go too long without water, and then when very hot fairly flood himself with water. Horses are sometimes given severe colic by this treatment and may be otherwise injured.

But the humane plea is sufficient. It is worth while to stop and lose a little time, just to know that you are contributing to the comfort of a good servant.

Another point in this connection is that horses kindly treated in every way will be able to do more work in a year and will retain their ability to do good work for a longer time. I have always noticed that the men who had the best horses, horses that could do more and better work than those of others, were thte men who habitually treated them with most consideration.

I have found it to be a good practice to set a bucket of water handy for the horse when he is stabled for the night so he may drink if he wishes. I have generally found that they drank at night.

FLY REPELLANTS.

Those who use fly repellants should not expect them to be the means of increasing the flow of milk. It is claimed on some of the advertising circulars, setting forth the merits of the repellants, that the cow's flow of milk will be increased from 20 to 50 per cent.

We have collected data from the different stations and find that while the majority of the repellants are effective in keeping the flies away from the cows, they have no influence on the amount of milk given or on the amount of butter fat the milk contains.

While it is true that the cow shows a marked decrease in the flow of milk during "fly time," the cause lies in the fact that the hot weather has cut the pasture short and the animal suffers from a lack of feed rather than from the presence of flies. If the cow is given an additional supply of feed, such as green corn, oats, hay, green cut alfalfa or a number of other supplemental feeds during the hot months, there is no noticeable decrease in the amount of milk. It is a good plan to use the repellants for the comfort of the cow, but it is a better idea to see to it that she has all the feed she can eat at all times during the dry weather.

NEVER DRENCH CATTLE.

Perhaps the best way of demonstrating the danger of drenching cattle is to advise the reader to throw back his head as far as possible and attempt to swallow. This you will find to be a difficult task and you will find it more difficult and almost impossible to swallow with the mouth open. It is for this reason that drenching cattle is a dangerous practice. If a cow's head be raised as high as possible and her mouth kept open by the drenching bottle or horn, a portion of the liquid is very apt to pass down the windpipe into the lungs, sometimes causing instant death by smothering, at other times causing death to follow in a few days from congestion or inflammation of the lungs.

Give all cattle their medicine hypodermically or in feed; if they refuse feed give it dry on the tongue.

The proper method of giving a cow medicine is to stand on the right side of the cow, placing the right arm around the nose, and at the same time opening the mouth, and with a spoon in the right hand place the medicine, which should be in a powdered form, back on the tongue; she can then swallow with safety.—By Dr. David Roberts, Wisconsin State Veterinarian.

Green fruit shipments are nearly doubled this year over those of last.

CARE OF HORSES WITH HEAVES.

The following information given by a careful horse owner may be found useful by those who own horses affected with heaves:

A horse with heaves can seldom be sold or traded advantageously, and having a good mare come into my hands once that I found had a touch of heaves I did not try to get rid of her, but treated her so that for ordinary uses she was one of the most valuable animals on the farm. She was watered always before feeding, fed only clean, bright grain and hay, the latter always lightly sprinkled but not made wet, and when she showed signs of coughing a little oil of tar, perhaps a tablespoon, in her feed twice a day, eased that off at once, so that she was never allowed to cough. She was a good roadster—the women folks wouldn't drive any other horse—a willing worker, intelligent and gentle, and besides six or eight years of good service on the farm and road, she raised three fine colts before the disease finally carried her off. But she was kept in good condition only by good care, and consideration when working her—she was never overworked nor overdriven, allowed to take pretty much her own pace on the road. But it pays to treat every horse right.

COLLAR BOILS.

When horses are put into hard work in the spring, collar boils and other festering sores are liable to form on the shoulders. Such troubles are more frequent with young horses than with old ones which have been worked through the winter.

The first thing necessary is absolute rest. The trouble cannot be successfully treated when the horse has to work, even a part of the time. Wash the sore with warm water once each day. These washings should not be too long, just enough to remove the pus which may have formed since the former washing, but not hard enough to remove the healthy scab which may be forming. In case there is pus forming under the scab or a layer of the skin, the formation should be lanced to allow the pus to escape. This sore should be kept open and allowed to heal from the bottom.

After the affected part has been washed as above suggested, put one ounce of sulphate of zinc and three drams of tannic acid in a quart of water and apply this to the sore.

PASTURE FOR YOUNG PIGS.

There is in the life of a pig a time for growing and a time for fattening. The time for growing is when he is young; at that time he should be given foods that will put bone and muscle into him. To supply such foods at small cost is a problem that confronts every hog grower. Milk, bran, shorts and oil cake are all good growing foods, but they are more expensive and no more efficient when fed alone than when fed in conjunction with pasture crops. The pasture crop can be produced at small cost, and when it is used less of the higher priced feeds is required. It is figured that an acre of good pasture is equivalent to a ton of shorts, and it is certainly infinitely cheaper. An old, somewhat tough pasture does fairly well for sows, but it does not answer the purpose at all for pigs. They must have a young and very tender crop on which to feed. Alfalfa is the feed for young pigs in California and it can be grown so as to save a part of the crop and still furnish forage for the little pigs.

FEED WEANED PIGS OFTEN.

"One of the causes of failure to secure good results in feeding little pigs that have just been weaned," says a writer in Stock Field and Farm, "is because they are not fed often enough."

It must be remembered that when the pigs were little and nursing, they are every one or two hours; even when they were being weaned they ate every 4 or 5 hours. To begin feeding them after they are weaned only twice a day, as many farmers do, is too big a change for them. They eat too much at one time, and their stomachs are empty for too long a period. Smaller quantities fed more often is much better for the pigs. They should be fed three times a day, and better four, for a few weeks. This does not mean that in amount of feed they are to be given an extra meal, but rather that their ration is to be divided into three parts to be given at three different times.

BRANDING STOCK IN ARIZONA.

REMEDY FOR CALF SCOURS.

Professor Shaw, of the Michigan Agricultural College, says concerning the treatment of scours in calves:

"One of the best things we have used and are using almost altogether with which to suppress outbreaks of calf scours, is a mixture of tincture of rhubarb, camphor and opiate, equal parts in hot water, about a teaspoonful. One of the most interesting recoveries I have ever seen was about three weeks ago in the case of a calf that scoured and was so near death the feet were stretched out cold and stiff, and there was every symptom of death. The calf was treated in that way twice, then was fed with raw eggs and milk occasionally, and he recovered. He was the sickest calf I ever saw; so sick his hair all came off after a week or ten days, but he is one of the best feeders we have in the bunch today."

TO REMOVE WARTS.

To remove warts from cow's udder or teats try the following application, applying it twice daily: Chloral hydrate 6 grams, acetic acid 6 grams, salcitic acid 4 grams, spirits of ether 3 grams, collodin 16 grams.

Hubbard, Oregon, farmers have a cooperative creamery with a capacity of a ton of butter a week.

PUFFS ON HORSES' LEGS.

Many of the puffs which form on the hock joints of the horse may be quickly removed if the treatment is applied soon after the trouble appears. During the day a thoroughpin truss should be placed on the leg and each evening the following mixture should be applied to the affected part: Tincture of iodine, two parts and vaseline, one part. In case the joint becomes sore, stop using the mixture till the soreness has healed. If taken in time, the trouble can be corrected without causing lameness.

Salting butter is essential principally for the flavor or relish which it gives. The amount of salt depends upon the taste of the consumer and varies considerably. If the butter has much water incorporated in it more salt should be added, for considerable will be removed with the brine. Butter with small granules requires more salt than when larger, for the surface of every granule is covered with a thin film of water. Since the total surface of small granules is greater than that of large ones the amount of water retained on them is greater, so more salt will be washed out. The salt should be dry and quite uniform so as to readily and completely dissolve. If some of the salt dissolves slowly the strong brine at this particular point may produce streaked or mottled butter.—Denver Field and Farm.

Clean milking is not only advisable but necessary to profitable success in dairying. Any amount of milk left in the udder not only tends to dry off the animal but is practically lost. Every ounce of milk that can possibly be obtained should be drawn at each milking, either by the old method of stripping or the newer one of manipulation which is now commonly in vogue. Manipulation of the udder of young heifers greatly assists in the development of their milk veins and finally in an increased production of milk. It seems reasonable to believe then that the manipulation of the udder during lactation will increase the secretion of milk and add much to the total yield.

Farmers everywhere are just beginning to recognize the great value of barley for feeding cattle and hogs. Crushed barley with clover hay has shown remarkable gains in fattening cattle, and no hog raiser can afford to do without barley.

Wood Soled Boots and Shoes. Boots, $3.25; Shoes, $2.00. O. J. Weber Co., 555 South Los Angeles St., Los Angeles, Cal.

Cream Separators, all sizes, all prices. O. J. Weber Co., 555-557 S. Los Angeles street, Los Angeles.

Creamery Supplies

Cream Separators — Milk Cans
Combined Churns — Milk Bottles
Babcock Testers — Brushes
Butter Moulds — Wrappers
Engines and Boilers — Milk Coolers
Pasteurizers
Milking Machines

Creamery and Dairy Supplies and Machinery of all Styles and Sizes

Send List of Goods Wanted and we will Quote Prices

O. J. WEBER COMPANY
555-57 S. Los Angeles St.
LOS ANGELES, . . CALIFORNIA

MORE MILK—MORE MEAT

IF YOU USE LILLY'S BEST FLY KILLER

I can positively testify to the merits of Lilly's Best Fly Killer. This is the first year that I have not had to fight grub in my cattle. I used it at first last summer having little faith, but the results quickly converted me. My cattle gave more milk, and kept in better flesh on less feed as a result, and I kept them in the stable all night.
A. F. CHAPMAN, Monohan, Wash.

For Sale by Dealers

CUTTER'S
Anthrax
and
Blackleg
VACCINES

Are given the preference by 80% of California stockmen because they give better results than others do.
Write for prices, testimonials and our NEW booklet on Anthrax and Blackleg
The Cutter Laboratory
Berkeley, California

HOLSTEINS

We Have For Sale a Number of Registered Young Bulls and Heifers $100
All our stock comes from the celebrated herd formerly owned by the Pierce Land and Stock Co., the premium herd of Holstein Friesians in California. Oakwoods Stock Farm Co., Lathrop, Cal.

VENADERA HERD
OF REGISTERED JERSEYS

I have for sale a number of richly bred young bulls, some of them from cows that have high official yearly records.
GUY H. MILLER,
Route 3, Modesto, Cal.

Live Oaks Farm

Frank A. Meacham, Proprietor.
Importer and breeder of RED POLLED CATTLE, SHROPSHIRE SHEEP, RAMBOUILLET SHEEP, HORNLESS AMERICAN MERINO SHEEP. Both sexes for sale. Take electric car at Petaluma or Santa Rosa for LIVE OAKS STATION. Address all mail to
Petaluma, Sonoma Co., Cal.

When writing advertisers, mention Cultivator.

California Cultivator

ESTABLISHED 1889

Subscription Price One Dollar per year, payable in advance. Dates of expiration of subscription accounts appear each week on the address label. John Jones 7-08 means July 1, 1908. Notify us by mail if you desire to discontinue.

Thursday, August 6, 1908

Address All Communications to
CULTIVATOR PUBLISHING CO.
115½ No. Broadway, Los Angeles.
733 Merchants Ex. Bldg., San Francisco.

Copy for Change of advertisement must be in office on Saturday preceeding date of issue. New advertising copy should reach the office not later than Tuesday to insure insertion.

CULTIVATOR PUBLISHING COMPANY
H. A. PERKINS, EDITOR AND GEN. MGR.

C. B. MESSENGER - - - - Associate Editor
FRANK H. THOMAS - - Advertising Manager
H. G. HUTCHINS - - Subscription Manager

EDITORIAL CONTRIBUTORS:

J. W. MILLS - - Deciduous and Citrus
JOHN ISAAC - - - Horticulture
J. B. NEFF - Walnut Culture and Irrigation.
Mrs. M. E. SHERMAN - Live Stock and Dairy
Q. A. LOBINGIER - - Vegetable Garden
S. S. TWOMBLY - - - - - - - Poultry
W. E. FOSTER - - - - - Pigeons
L. M. FALL - - - Law Queries
RALPH E. SMITH - - Plant Pathology
S. A. PEASE - Plant Diseases and Injurious Insects

Entered at the Post Office at Los Angeles, California, as Second-class matter.

Contents

BABY FOREST TREES, Cover.
GROWING THE CALIFORNIA WALNUT, 123.
CITRUS.—Gum Disease of Citrus Trees, 124, 125.
DECIDUOUS.—More About Creating Humus; Tariff on Fruits and Produce; Soil Analysis, 126, 127.
GENERAL AGRICULTURE.—Origin of Corn; Increase of Soil Fertility, 128.
LIVE STOCK AND DAIRY.—In the Summer Time; Startling Story of Losses; Hog Cholera; Watering the Horse; Fly Repellants; Never Drench Cattle; Care of Horses With Heaves; Colar Boils; Pasture for Young Pigs; Feed Weaned Pigs Often; Remedy for Calf Scours; Warts; Puff on Horses' Legs, 129, 130, 131.
EDITORIAL.—Directing Unfortunate Farmers; New Walnut Bleach; A New Fruit; A Labor Saver; Coming Orange Crop, 132.
AGRICULTURAL NOTES OF THE PACIFIC COAST.—Northern, Central, Southern, the Coast, 133.
POULTRY.—Remarkable Poultry Profits; Indigestion; Tuberculosis; Practical Poultry Pointers; Brown and White Eggs; Cotton Seed Meal for Poultry; Muslin Curtain, 134, 135, 136.
SMALL FRUITS AND VEGETABLES.—This Month; Rhubarb Competition; Farming by the Square Inch; Weeds, 137.
QUERIES AND REPLIES.—Diseased Peaches; Watermelons Dying; Cucumber Pickles; Possibly Aphis; Gypsum; Lawn Making; Oranges as Fertilizer; Almond Hulls; Runners on Strawberries; Drying Figs; Thrips, 138, 139.
VETERINARY.—Kidney Worm; Cribbing; Sunstroke, 139.
CALIFORNIA FARM NAMES, 139.
HOUSEHOLD.—The Man Behind the Plow; How Perry Became a Hero; Recipes, 140, 141.
PRODUCE MARKETS.—Los Angeles Market; San Francisco Market; Citrus Markets, 142, 143.

DIRECTING UNFORTUNATE FARMERS.

An Ohio farmer who had for over twenty years struggled along with the mortgage on his place constantly growing larger, wrote to the Departmeut of Agriculture stating his case, condition of soil and crop for which his farm was adapted, and asked the question as to whether his case was a hopeless one or whether it might be possible to make an honest living and ever to escape from the load of debt continually over him. The Department took up the matter, investigated the case and laid out for the farmer a plan of procedure which, it is said, the farmer followed to the letter for one year. It resulted in a net profit for that first year's operation of slightly over $2000 from the 80-acre farm.

The newspaper report of this experiment, which we assume is correct, says that this little 80-acre farm will in time be made to yield a $5000 annual profit. Now, how true this may be, or how much absolute truth there may be in the entire story, we are not qualified to judge; but there is sufficient in it to suggest a great field of usefulness for the Department. There are a vast number of failures in farming operations, many of which are not because of laziness, shiftlessness, or lack of effort on the part of the willing farmer, but more because of lack of grasp of conditions and business management. This is not especially to the discredit of the farming class, because the same is true of business life, where it is claimed only 3 per cent. of business men are a complete success. Now, if the Department can establish a bureau which will have to do with this question of advice or first aid to the farmer, it is possible a new era will open for many a farmer who has failed in the past to secure proper returns from his labor.

NEW WALNUT BLEACH.

The walnut growers of Southern California believe they have the most successful method of bleaching walnuts which will be an infringement on no patent and be much more successful than any process now in existeuce. It consists in a word of a four per cent solution of common salt treated in some way by an electrical current which frees the chlorine in the solution and makes a bleach which has proved fully as successful as was ever the old chloride of lime bleach. We have seen samples of nuts treated by the process and they have a most satisfactory appearance, and it is said there is no injury whatever to the quality of the nut.

If this new process proves as satisfactory as now appears it will probably take the edge off the lawsuit which has been dragging through the courts for the last two or three years, in which the patents on the old chloride of lime process are the principal factors.

A NEW FRUIT.

A fruit which has not been heretofore grown in California is now being produced by John S. Dore of Fresno. It is a fruit which we have all eaten, but usually in a very unsatisfactory condition owing to the amount of dirt and small stones which it contained. We refer to the Zante currant. The vines or bushes on which this fruit is grown have been in Mr. Dore's possession for some time, but this is the first year in which they have ever given a crop of any amount. It is reported that Mr. Dore regards the fruit as of sufficient promise that he will attempt the reproduction of as many vines as possible from those which he now has. The fruit is about the size of the Thompson Seedless Grape, of fine flavor and excellent shipping qualities. Each bush or vine will produce from 10 to 40 pounds of fruit.

A NEW LABOR SAVER.

Considerable interest is being manifested in the hop bearing sections of the Sacramento valley and the North Coast counties in the new labor saver in the form of a hop picking machine. This machine is the invention of a Mr. Horst of Wheatland. And if the reports of the local newspapers are to be credited the machine is indeed a wonderful mechanism. One paper speaks of it as being almost human in its method of picking the hops from the vine. It says: "The hops are picked very clean and in a manner far superior to hand work."

COMING ORANGE CROP.

No one has any very definite prediction to make concerning the coming orange crop, but sure it is that the drop during the past few weeks has been very heavy. The exceedingly warm weather has caught some orchards with insufficient moisture which has caused the heavy drop. Besides that there is always liable to be a heavy June and July drop which cannot be prevented by any known method. The inventor who can inform our orange growers how to prevent this dropping of fruit will win everlastiug renown as well as many good dollars.

It is said that Theodore Roosevelt is the only president who has urged the farmers of this country to organize and protect themselves. Be that as it may, it is surely advice which may well be taken by our farmers, for if there were ever a period of our history in which the necessity seemed to be before us to secure protection against the greed of organized capital, it is at the present time. Only recently we had in an issue of this paper a communication which ends with the question: "What can be done to save ourselves and secure in the markets a just return for our labor?" It is a wise man who can give the answer to such a query, and it is well worth discussion in our clubs, granges and in the newspapers.

"Any fool can destroy trees. They cannot run away and if they could they would still be destroyed—chased and hunted down as long as fun or a dollar could be gotten out of their bark, hides, branching horns, or magnificent bole backbones. Few who fell trees plant them. Nor would planting avail much toward getting back anything like the noble primeval forests. During a man's life only saplings can be grown in the place of the old trees, tens of centuries old, that have been destroyed. It took more than 3000 years to make some of the trees in our western woods—trees that are still standing in perfect strength and beauty, waving and singing in the mighty forests. God has cared for these trees, saved them from drouth, disease, avalanches and a thousand straining, leveling tempests and floods, but he cannot save them from fools.—John Muir.

One of the recent claims of scientists is that if sugar is supplied plentifully an appetite for alcohol will not be created. Farm life affords many luxuries improved by the liberal use of sugar; and if its use will curb the craving for alcohol, the fact should be kept at the front. Anyway, sugar is cheaper and more wholesome than meat, and if, as is claimed, the taste depraved by alcohol spurns it, the chance of preventing other tastes from becoming so perverted is worth the trial.—American Farm World.

The average condition of winter wheat at time of harvest was 80.6, as compared with 86.0 on June 1, 78.3 at harvest, 1907, 85.6 in 1906, and 80.2, the average at time of harvest for the past ten years. The average condition on July 1 of spring aud winter wheat combined was 83.9 as compared with 89.4 last month, 81.6 on July 1, 1907, 87.8 on July 1, 1906, and 82.9 the ten-year average.

Mr. Frank M. Meyer who has recently returned from a tour in the interior of China in search of plants which may be of value in this country, has returned with a large number of plants heretofore unknown in this country which will be planted and tested at the introduction gardens at Chico.

The amount of wheat remaining on farms on July 1 is estimated at 5.3 per cent of last year's crop, equivalent to 33,797,000 bushels, as compared with 54,853,000 on July, 1907, and 42,012,000, the average for the past ten years of the amount on farms on July 1.

Shop Talk

CANDY BOOK.—Many readers this warm weather are thinking of ice cream and how to keep cool. This book which we are sending as a premium for subscriptions, contains recipes for both ice cream and candy which are certainly fine. Over 300 formulas. Look up the ad in this or next week's paper. Remember it is only necessary to remit enough on subscription to pay an entire year in advance and request the book at the time the money is sent .

FARMERS'. BOOKS.—Under this heading we have recently advertised several books of value to ranchers, but in one case an error was made in the price. "Feeds and Feeding" by W. A. Henry was priced at $1.00, which should have been $2.00, and is certainly very reasonable at the latter price. The list appears again this week and any of these or any others not mentioned we will be glad to obtain for our readers.

C. W. Uplanke, Dinuba, says: "I know of no other investment which would pay such frequent and valuable dividends as the Cultivator pays."

D. G. Aplin of Imperial, president of Imperial Water Co. No. 1 says: "The Cultivator is a fine paper and a great help to all farmers and those interested in agricultural pursuits."

"Am much pleased with the Cultivator. We consider it the California farmers' best friend, and its weekly visit is welcomed by the entire family."—J. B. Simms, Dos Palos.

"Your paper is invaluable to any progressive man interested iu agriculture."—Stuart Walcott, Carpenteria.

Agricultural Notes of the Pacific Coast

Northern California

Tehama county will exhibit at the State fair.

As a rule the entire valley has a very poor crop of wheat.

Sacramento valley melon crop is short of the usual output.

Harvest of sugar beets began in the upper Sacramento valley last week.

Sonoma county wine grapes are looking well and a big crop is promised.

Pear shipping has been begun by the Pioneer Fruit Company at Red Bluff.

The sugar factory at Hamilton City will handle about 800 tons of sugar beets daily.

Potatoes are being bought in the upper Sacramento valley at 75 cents per hundred.

Cutting of alfalfa in the Klamath Basin is short in yield but the better price compensates.

Acampo has two-year-old Tokay vines which are bearing a small crop of grapes this year.

Development Association of Colusa, Colusa county, is taking steps for an improved system of roadways.

The first sample of beets tested from near Davis ran from 12 to 19 per cent sugar and 77 to 83 purity.

Healdsburg cannery started last Monday on Crawford peaches. Several hundred hands will be employed.

Preparations are under way at the State Farm for the short courses in agriculture, which will begin October 12th.

Fig growers of the Sacramento valley claim that they are now producing some of the finest figs produced in the world.

Pomona grange of Sonoma county is adopting resolutions denouncing secret legislation caucuses of political parties.

The "good luck county," which is a synonym for Colusa county, has secured a recent colony of several well-to-do families from Ohio.

The California Fruit Canners' Association cannery at Santa Rosa is handling large quantities of plums, peaches and blackberries.

The Protective Organization of Wine Growers has decided to send lecturers through the country preaching the gospel of the grape and temperate use of wine.

Red Bluff, Tehama county, reports the experiment in picking hops by machine as a complete success, over 250 acres having been picked by it this season.

The apricot harvest all over the Sacramento valley has been very large, but as a rule has been very unprofitable, owing to low prices. Some fruit has not been harvested.

Under the direction of Prof. Fortier irrigation investigations are being conducted near Gridley, Butte county. Many ditches are being investigated and measurements made as to the water flowing.

Large numbers of pickers are flocking into the hop fields near Wheatlands and it is feared that the supply of laborers will exceed the needs. The season will not be in full swing until about the tenth of August.

Central California

Turlock is making a hot campaign against Johnson grass.

Lodi will make a large exhibit at the coming State fair.

Santa Cruz output of hops will be much less than formerly.

Turlock is now shipping out about a car a day of cantaloupes.

Tulare county is petitioning for a bond election for good roads.

California is the largest honey shipper of any State in the Union.

California Canneries Company, at Tulare, is in full swing on canning peaches.

The evaporation of Tulare Lake has almost accomplished its entire drying up.

Thrips are visiting the orange orchards of Tulare county and doing some damage.

Porterville is planning the immediate construction of a new orange-packing-house.

Some sections of the San Joaquin Valley report the apparent disappearance of pear blight.

Slight increase in the quotation of dried apricots to 6¾ cents is very satisfactory to growers.

Thunder showers visited the mountains along the eastern side of San Joaquin valley last week.

The annual run of apricots by the Santa Clara Valley canneries was the greatest in their history.

A carload of Thompson Seedless was shipped from Sanger July 25. This was its first full car shipment.

The end of July witnessed one of the greatest forest fires that has ever occurrred in the Monterey forest.

No agreement has yet been made between the Coast Dried Fruit Dealers and the New York Association.

Already some contracts have been made by which the table grapes from several vineyards at Lodi have been sold.

Tulare County Fair Association will present a silver championship cup to the first-prize cow exhibited at its fall fair.

A woman at Los Gatos has gone East to purchase a bunch of Arabian horses with which to stock her breeding farm.

A forest fire in the mountains back of Porterville destroyed the flume of the Mount Whitney Power Company last week.

Fresno county watermelons have been greatly reduced in output by prevalence of blight which has done vast injury.

An extensive water suit of much interest to water owners along the Tula River is about to be taken up in Tulare county.

The Horticultural Commissioner of Santa Cruz reports that the fruit prospects of the Pajaro Valley were never better than this season.

National forests of California aggregate about 22,878,753 acres of which the Sierra Forest is the largest with over 5,000,000 acres.

A large tract of land near Pixley, Tulare county, has been sold to an eastern syndicate to be planted entirely to eucalyptus trees.

Southern California

Ventura county proposes to take up a campaign for good roads.

Ventura county's output of dried apricots will be about 1500 tons.

The last car of Imperial valley cantaloupes was shipped Thursday, July 23.

The Fullerton Vegetable Union has about 300 acres of sweet potatoes planted.

Warm weather the last couple of weeks has caused the dropping of many oranges.

W. B. Parrott is president and L. B. Stewart secretary of the Fullerton Vegetable Union.

The apricot crop about San Bernardino this year aggregated about 1000 tons of fruit.

The Chino sugar factory is now in full swing with its 1908 campaign, having started July 25.

Imperial valley hogs are bringing money into the valley at the rate of about $1100 per carload.

Coachella valley hopes to market 10 cars of grapes before northern grapes are in the market.

Fruit growers of Ventura county are inaugurating an active campaign against red and purple scale.

Imperial grape growers will make their muscats into raisins this year more largely than ever before.

An effort will be made next year to limit the acreage of melons of the Imperial valley to 3500 acres.

Orange county is to hold a products carnival and three-day celebration to show the wonderful output of their county.

The directors of the various water companies in the Imperial valley recently met to discuss the question of water rates.

Secretary Pease of the San Bernardino Horticultural Commission is urging a stronger fight against the scale of that county.

Santa Paula, Ventura county, fruit men have had trouble with their Jap workers and many Russians have been introduced to take up their work.

An effort is being made by Orange county irrigators to do extensive reforesting of the Cleveland National Forest during the coming season.

Prof. H. J. Quayle of the State University is now established at Whittier where he will make a study of entomological questions of Southern California.

Los Angeles county voted on Thursday on the question of bonding the county for $3,500,000 for good roads which was carried by a very large majority.

Serious mountain fires near San Bernardino have shown that the "fire trails" or breaks have not been as effective in controlling the spread of the fire as was hoped.

A Los Angeles experimenter claims he has an instrument which will measure moisture contained in the soil and indicate the necessity or otherwise of irrigation.

E. J. Levengood of Orange county has filed a complaint for $400 for cattle destroyed in dipping for Texas tick which was under the supervision of the county veterinarian.

The Coast

Winter wheat near Garfield, Wash., will run about 45 bushels per acre.

Cottage Grove, Ore., has recently erected an immense fruit evaporator.

Late rains have made a success of the dry-land crops near Baker City, Ore.

July closed with a fearful electrical storm over the eastern part of Washington.

Baker City, Oregon, is becoming one of the greatest wool centers of the northwest.

Grasshoppers are infesting the alfalfa fields and doing vast damage at Pendleton, Ore.

One Yakima Valley farmer is shipping honey at the rate of about ten carloads for the season.

Oregon ranchers say they have been buncoed out of thousands of dollars in the recent wool sales.

Sandpoint, Idaho, claims to have timothy hay seven feet high with heads measuring ten inches.

Spokane, Wash., has a pest in the form of a worm infesting cabbages, very similar to codling moth.

Pullman, Wash., is suffering from a plague of English sparrows, which has become almost unbearable.

Grain fields about Walla Walla were destroyed by fire which was set by lightning during the recent storms.

Apricot growers near Wenatchee, Wash., received from $17 to $20 per green ton for their fruit this season.

North Yakima fruit growers have organized the Yakima Valley Fruit Shippers' Association, J. M. Perry, president.

There are 4000 varieties of wheat, oats and barley in the experimental plats of the State College at Pullman, Wash.

The management of the apple show to be held in Spokane in December is adding new names to the already large list.

Idaho was recently visited by a hail storm which was so severe that tin roofs were punctured by the large hail stones.

The Experiment Station at the State College at Pullman, Wash., is making a campaign for selection of better seed potatoes.

Cherry growers at Salem, Ore., have found their immense crop of cherries too large to move green, so that many will be dried.

Apple orchards about Oregon City, Ore., are badly infected with the disease of scab. San José scale is also very prevalent.

The grain growers of Eastern Oregon find themselves agreeably surprised at the crop which is much larger than anticipated.

Immense importations of California apricots into Portland caused serious slump in the market and local fruit went begging at any price.

The cherry orchards adjacent to the Dalles have given a thorough test of the arid farming plan of soil culture and report wonderful results.

Pendleton, Oregon, reports an exceedingly fine quality of wheat and large quantities. One report says that every bushel so far thrashed has graded number one.

PER 2 BUSHEL SACK **$1.90** PER 2 BUSHEL SACK

Buy the World's Famous Egg Food No. 4

MIDLAND

IF YOU WANT EGGS
YOU WILL FEED NO OTHER.

Used by the largest and best breeders in the country. Thousands of poultrymen are using it, and it is the acknowledged standard of the world. Haphazard feeding is no longer profitable. Try Midland Food and be convinced.

Petaluma Incubators and Brooders

The acknowledged standards of perfection. All poultrymen who have used these machines have supreme confidence in their ability to hatch and breed. Hence their ever increasing popularity. Winners of the Gold Medal at the St. Louis World's Fair for the greatest hatch, with 40 different makes of incubators in competition. How's that?

St. Louis, Mo., Dec. 8th, 1904.—Petaluma Incubator Co., Petaluma, Cal: My dear Sir—The awards have been held up owing to a controversy between the Exposition officials and the national commission, but today I am able to state the award of a gold medal on your Petaluma Incubators has been confirmed. You are at liberty to make use of this in any way you see fit and in due time the diploma will be issued and the medal obtainable. Congratulating you upon this evidence of the merits of your incubators, in which there was very great competition, I beg to remain, yours very truly, J. A. Filcher, Commissioner.

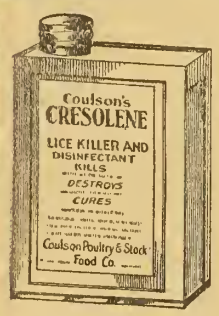
And Now Comes New Reward for Merit

Read the following telegram received from the Lewis & Clark Exposition at Portland:
"Petaluma Incubators and Brooders just awarded Gold Medal at Lewis & Clark Exposition."

WRITE FOR CATALOGUE 47—A BEAUTY

Petaluma Incubator Co.

Main Office and Factory, Petaluma, Cal., Box F.
Los Angeles, 636 South Main Street.
San Francisco Office and Salesroom, 83 Market St.



Coulson's Cresolene

**LICE KILLER
DISINFECTANT
AND DIP**

Dilute With Water Before Using

CRESOLENE is a powerful disinfectant, insecticide, and germicide obtained from coal tar. It is non-poisonous, and non-corrosive and will do no harm to the most delicate skin.

It mixes readily with water, forming a milky emulsion, and can be diluted from 50 to 100 times its own bulk, in accordance with the different uses to which it is put.

Thus when you purchase 1 gallon of CRESOLENE you can make up to 100 gallons of the best disinfectant for use with stock, poultry, dogs or as a general disinfectant and insecticide.

This reduces the cost to 1 1-4 cents per gallon which is cheaper than anything else on the market.

PRICES: Quart can, 50c; one-half gallon, 85c; gallon, $1.25.
Freight paid on orders of one gallon or more.
Manufactured by

Coulson Poultry and Stock Food Company
Petaluma, California
Germain Seed Co., Los Angeles, Distributing Agents for So. Cal.

Little Chicks should be fed on **Excelsior Chick Food**

prepared from clean, sound grains, seeds, beef scraps and charcoal in proportions to make a well balanced ration and produce strong, healthy chicks and keep them continually growing. For sale by all dealers and grocers. Take no other.

Excelsior Cereal Milling Company

242 Central Ave., Los Angeles

MY BOSS MAKES MONEY

Because he raises poultry in the Inglewood Poultry Colony. Eggs bring a higher price there than they do anywhere else. If you are going into the poultry business, go in right and get a farm in the Inglewood Poultry Colony. Address for particulars

Inglewood Water Company
349 Wilcox Building Los Angeles, Cal.

When writing advertisers, mention Cultivator.

Profit in the Poultry Yard

We solicit short articles of a practical nature from the fancier and utility breeder, giving their experience with poultry. All inquiries pertaining to feed, management, disease and its prevention will be answered through these columns.

REMARKABLE POULTRY PROFITS.

THE query often comes to the Poultry Department: Can a man make a living off poultry in California? These inquiries more frequently come from people outside the State who wish to come to California, but must have some means of making a living. The following article recounts the experience of one man who has made a success and while there are many points of value to the would-be poultryman, I would advise no one to go into the poultry business with the expectation of being as successful as Mr. Ruport's venture has proven.

We should continually bear in mind that success is largely influenced by the choice of location. The factors—market, climate and cost of food being important points to bear in mind when selecting a location.

This is strongly brought out in Mr. Ruport's experience. He is able to feed a hen a year for 96 cents. In many localities in California it would cost $1.25 to $1.40 to feed the same hen. Again, his average price per dozen for eggs is 30 cents. At many points the average price would be considerably less unless as large a percentage of the yield is obtained during the late fall and winter months. His yield per hen, 140 eggs, is far in excess of the average yield of large flocks in this State. There are many plants in this State where the average yield per hen is well under 100 eggs; and his gross receipts per hen of $3.60 is far in excess of the average returns.

On figuring your possible returns bear all these things in mind. One feature to be especially commended in Mr. Ruport's practice is the use made of kale. Under his management it is made to yield large quantities of green food at a minimum cost.

The following by Mr. H. B. Mattews, our traveling representative, gives results on the ranch of Mr. John Ruport at Eureka:

Mr. Ruport was a locomotive engineer for 28 years up until 4 years ago when he left the railroad to take up his present work.

He has a nice home upon a two-acre tract. His house and back yard take up about one-fourth of an acre and balance of two acres is devoted to garden for raising green feed for chickens, chicken runs, brooder houses and incubator house; also houses for the laying hens. His brooder house is 12x30 feet and other houses are nearly the same size. All houses consolidated would make a house 12x300 feet. He has 12 incubators, incubator house and 16 brooders in the brooder houses. He keeps from 800 to 1000 eggs in his incubators all the time and raises to maturity from 65 to 70 per cent of the chickens that are hatched.

In the months of February, March and April he runs 1000 eggs per month and the months from May 1st to Oct. 1st he will run 800 eggs per month. He had 1500 birds up until January last when he sold off enough to reduce his stock to 450 hens. He keeps no hen older than two years. From the 450 hens he is getting enough eggs to have 800 to 1000 for hatching and supply the stores with seven dozen each month besides. From the hatching of 800 eggs a month he raises at least 200 chickens for 4-months-old fryers and enough chickens besides to raise his number of hens from 450 to 1500 by January 1st, 1909. At the present time, he has 1800 birds of various ages, part for fryers, part raising for increase of stock and then the 450 hens.

Mr. Ruport grows kale in the rear of each chicken yard, making the rows 14 inches wide and planting the kale 14 inches apart. His runs are 50x100 feet and he keeps 100 birds to the run. He plants enough kale so that there are two plants for each chicken. He claims that two plants of kale will give a chicken all the green food it needs through the year and that it saves 40 per cent upon the food bill of the chicken. The kale grows the year through in Eureka. He plants a new crop each year and fences chickens off from it while it is growing first week or two; after that chickens can not kill it out. A chicken has to be six weeks old before he lets it eat kale.

In Eureka lumber is cheaper than in most places. Mr. Ruport paid $7.00 per thousand feet; it cost him 50 cents worth of nails for each thousand feet of lumber and $1.00 for hauling each 1000 feet; counting labor, it cost him $800 to build his houses; $1500 would cover the total cost of chicken wire and posts of fences, houses, brooders and 12 Jubilee incubators and whatever else was in his chicken plant.

His food bill per chicken one-year-for grain, cornmeal and grit was 96 cents for the year of 1908. On a test of 150 hens last year he received a few hundred over 21,000 eggs, which sold on the average of 30 cents per dozen, which brought him in an income of $3.60 per hen. Each hen was 12 months old when it started in. He sells 200 fryers per month at 50 cents average per piece which cost him about 25 cents each to raise. So far this year he has sold 7000 eggs for setting at 50 and 75 cents per setting, and 500 incubator chicks at at 10 cents a piece.

He cleans all houses each day and goes over them once a week with coal oil. In this way he has no vermin and chickens are always healthy. He does nothing but devote his whole time to his chickens; he is with them from 6 a.m. to 7 p.m.; between those hours he has time to spend with his gardens and do some other work he might wish to do about the house.

His chickens are White Leghorns and he finds that they will do as well through the summer months as they do in the winter months, which he claims is due to the cool, even temperature of Eureka.

Ground outside of that taken up by chicken runs and houses, he has devoted to vegetable gardens from which he raises enough vegetables to supply his table wants and much besides for his chickens.

In Eureka, irrigation is not known; the fogs and rains keep the ground always moist.

From Mr. Ruport's results others might gain an idea what they could do in raising chicks in Eureka. Mr. Ruport believes this country to be the natural home of chickens on account of its evenness of climate.

POULTRY BREVITIES.

Good brooding cannot save poorly incubated chicks.

* * *

A strong chick is easy to raise. A weak one is a difficut matter.

* * *

Chickens should not be fed for 24 to 36 hours after they are hatched.

* * *

Charcoal is valuable as a preventive or corrective of digestive troubles.

* * *

Two extremes to avoid in poultry management are overfeeding and underfeeding.

* * *

Do not allow chickens and old fowls to roost together, as it tends to stunt the growth of the young birds.

* * *

The chick should from the day it leaves the shell until full growth is reached be made to gain in weight.

* * *

It costs more to feed a Wyandotte than to feed a Leghorn. The Wyandotte sells for more when disposed of.

* * *

Avoid above everything giving small chickens sticky or sloppy food, and do not give more than they will eat up clean at a time.

* * *

Young turkeys are very stupid at first and a good plan is to place two or three hen's eggs with turkey eggs a week after the latter have been started. The chickens will teach the young turkeys to pick up their food.

* * *

Indigestion.

Mrs. F. L. W., Baldwin Park, says she hatched out thirty little ducks and they all lived for two weeks, apparently well. She noticed nothing wrong until they would suddenly throw back their necks and die within a few minutes. She fed them corn meal and bran, the same feed she gave her ducks last year and they did well. Can you tell what was the matter with them. She says it may have been limber-neck, although she does not believe it was.

I am unable to say what was the matter with these ducks, but am inclined to believe that it is due to indigestion, and it would be well to try a change of food.—S. S. T.

* * *

Tuberculosis.

Can you tell me what is the matter with our hens. We have a flock of 25 Leghorns; they have a tight house in which there are no drafts and the run of a yard 20 by 60 feet. We have lost several in the last three months. On examining the dead birds they appeared very poor, although we have fed liberally, and on opening them the livers were covered with white spots. Sometimes a hen will be lame and one has a bunch on the foot, which, on being opened, contained a white cheesy matter. Any light you can throw on the subject will be appreciated.—H. K. I.

I suspect your birds are infected with tuberculosis. This is a contagious disease of poultry affecting young and old stock. The causes are due to infection from other tubercular fowls or from other animals suffering from this disease. It may be conveyed to hens by drinking milk of cows that are suffering from the disease. Consumptive people may be the cause of the infection at times by the hens eating the matter coughed up by patients suffering from this trouble. All conditions of filth, darkness and bad hygiene, are predisposing causes.

The only effective treatment is preventive; when a bird is suspected, it should be killed and the carcass burned. Sunshine and good air are among the best means of prevention. Direct sunlight is a great germ destroyer. Kill all suspected cases; thoroughly disinfect the house. Provide good ventilation in the house, by cutting openings and tack muslin over the openings. I think it advisable for you to get rid of all the birds on the place and let the house and yard remain vacant for six months or more. If new birds are brought on the place confine them in a new location. This disease is some times known as "going light" and is similar to tuberculosis in man. It is tuberculosis in the fowl. This disease is very common among the dairy cows of the State and may be transmitted to the hens by milk from such cows.—S. S. T.

PRACTICAL POULTRY POINTERS.

I know of a large poultry farm in the East where every bit of grain is boiled that is fed. I like to feed boiled grain, and the fowls enjoy it, too, says a writer in Commercial Poultry. I believe it takes less grain where it is boiled than when it is fed in the raw state. But where chickens eat much boiled grain they need plenty of grit. Wheat and cracked corn require a little cooking, but if boiling water is poured over the oats by the time they are cold enough to eat it will be sufficiently soft for feeding. Young chickens grow fine on boiled wheat.

Until chicks are a month old or so they should be fed a little, but often. Do not overfeed. Young chicks require but a little at a time.

It should never be forgotten that poultry need some kind of green food at all seasons of the year. In winter they can be given cabbage, onions, turnips, etc. Economy in preparing and in the distribution of the food is a matter that deserves the most earnest consideration of poultrymen.

When the combs and wattles of the fowls are of a bright red color it indicates a healthy condition.

Infertile eggs taken from the incubator need not be thrown away. They can be boiled and fed to the little chicks.

Poultry seldom have too much sun, but rather are too often kept in such dark places that they become unhealthy and unprofitable.

Every little detail tells in the result desired, and success in poultry raising depends almost entirely on attention to the smaller details.

A good, large coop into which young chicks can easily go at feeding time is a necessity of the poultry yard. Covered with a woven wire over a stout frame, food can be thrown into it easily. With an opening at the ground large enough for the young ones to go in and partake of their food in peace, such a coop is a real protection. Where old and young are fed together, the young ones are run over and deprived of their rights.

The annual visitation of mites that commonly begins with warm weather in the spring may be prevented by keeping the poultry house clean and spraying the house with a good lice killer. A spray pump saves its cost several times over every year. Nine-tenths of the so-called poultry diseases are caused by lice and mites. They sap the very vitality out of the chicks. It is lice, and not disease, that is eating away their strength and vitality. Of course if the lice are permitted to infest the chickens, it will not be long till disease will get a foothold, but this is usually caused by the lice so weakening the condition of the birds that it becomes an easy matter for them to fall victim to the first disease which breaks out in the flock. In caring for the sick

Malthoid Roofing

R. P. Grant, a baker of Visalia, Cal., U. S. A., writes: "During the time I have used Malthoid Roofing, my bakery has been damaged by fire on four occasions, which was communicated from the outside. In none did the fire reach the interior through the roofing, although subjected to terrific heat. Through Malthoid's efficiency as a fire protector, I have saved many thousands of dollars."

The Paraffine Paint Co. San Francisco California

E. G. Judah, General Representative, Security Bldg, Los Angeles

FEED YOUR PULLETS

As well as your Laying Hens, on

Coulson's Egg Food

It will bring them to maturity in health and vigor and ensure you lots of eggs in the Fall when prices are high. It can be fed moistened as a mash, or dry in hoppers. Manufactured only by

Coulson Poultry and Stock Food Company

Petaluma, Cal.

GERMAIN SEED CO., Los Angeles, Distributing Agents for Southern California

Send for our Free Book, "Poultry Feeding for Profit"

When writing advertisers, mention Cultivator.

Poultry Supplies

Best of All Kinds at Lowest Prices

West Coast Seed Co.

707 So. Spring St., Los Angeles, Cal.

Trap-Nested White Wyandottes

That won 22 ribbons out of 25 and 5 Silver Cups and a carving set and a cut glass vase. All the National White Wyandotte Club Ribbons. Second on 10 pullet pen, contest open to all breeds. Mammoth Bronze Turkeys, winners of 5 blue ribbons, all at Los Angeles County Poultry Association Show, December 7, 1907. White Wyandottes were judged by H. Berrar of San Jose, Cal., and W. W. Browning of Ogden, Utah. Hens and Pullets, $15, $20 and up.

MISSION VIEW POULTRY RANCH, MRS. C. D. HUBBARD, SAN FERNANDO, CAL.

White Wyandottes Exclusively

Good, White, Typical Birds. Stock and Eggs For Sale.

W. A. SEYMOUR

470 No. Beaudry Ave. Los Angeles Cal.

Now is the time to hatch **BANTAMS**

Golden Sebright, Buff Cochin, and Light Brahma Eggs, $2 per 15. Prize winners.

M. E. Dillingham Box 67, San Gabriel, Cal.

fowls, it is a safe rule to first look for lice upon the fowls. It is a good idea to treat for lice while you are treating for other diseases.

Cockerels are usually very docile and gentle in their growing period if kept in lots by themselves and where no pullets are permitted to run, still there is a certain stately development noticeable when the females are permitted to associate with growing cockerels. It is better for all concerned that these females be mature hens than immature pullets.

Chickens hatched in an incubator can be reared either with hens or with a brooder. Some people are able to make good hatches with their incubators, but they are unable to rear the chickens in a brooder. In this case I would advise the use of broody hens for mothers. Some people do not care to invest in a brooder.

If the brooder can be placed in a small portable house, it is a good plan, as it is thus protected from stormy, cold winds in the early spring, also from the heat later on. The house protects the chicks from rain and serves as a roosting coop after they become too large to stay in the brooder.

The best time to sell is when the market is ready and the fowls just right. Never wait for a chick to mature; the largest profit is from the early hatched ones. The earlier they are hatched the better, as the early chicks are luxuries. The sooner they are marketed more food will be saved. In many sections a large proportion of the poultry is marketed during the periods of Thanksgiving and Christmas, but the supply is almost invariably far in excess of the demand, and unless the poultry is fat and choice, the best prices are not obtainable. The regular market price at this time of the year is usually low and the result is much stock is held over at a loss. I have sold broilers at $1.05 each early in the season. Had I kept them until fall I would only have received thirty or forty cents each, and besides all of the care and feed until then would have been lost.

The good poultryman, like the man who is good at anything else, is never satisfied with present attainments. He is not satisfied to have the flock of this year no better in quality and no more profitable than the flock of last year. There is no farm flock, nor any other flock, in which there is not room for improvement. The quality of the poultry in this country is improving very rapidly. The improvement seen in the poultry shows during the last five years is nothing less than astonishing. Is this true of your flock, or are you content to go along year after year in the old rut?

BROWN AND WHITE EGGS.

It is a curious fallacy that the brown colored egg is necessarily superior to the ordinary white egg, a belief which has led to the practice of artificially doctoring the latter in imitation of the former. It is doubtful whether the color of the shell bears any relationship to the nourishing quality of the egg. As those who rear poultry know, it is merely an indication of the strain of the laying bird. Still, a preference is very commonly shown for the brown or coffee-colored egg; the color is attractive and, led by the eye, the choice is very generally made in favor of what is regarded as the richer and superior article. The practice of deception is thus encouraged. The shell of the white egg is stained in the simplest possible way, perhaps by immersion in a decoction of coffee berries or by means of an aniline dye. This resource may satisfy the eye, but, after all, there is probably not the slightest difference from the nutritive point of view between the naturally brown colored egg and the white one.

There is most probably, however, an important dietetic difference between two eggs, the yolk of one of which is very pale yellow in color and that of the other a rich, almost reddish color. It is a notorious fact that the country-produced eggs may usually be placed under the latter description, while the egg produced by the hen who is under an unhealthy and limited environment shows an anaemic color, generally a very pale yellow. The eggs of wild birds, as, for example, the plover, show a yolk of rich reddish color.

The substance which contributes color to the yolk of the egg is iron, just as it is iron which gives color to the blood, and there seems to be little doubt that the iron compound in the yolk of the egg is of similar nature to that of the blood. It is easily assimilated, and eggs are regarded as a suitable food for the anaemic person, as they present a concentrated and generally easily digested form of nutriment rich in iron. The iron compound of the egg has, in fact, been termed a "hamatogen," because it is probable that from it the blood of the chick is derived. The amount of iron in the yolk of an egg would appear to increase with the intensity of the color, and there can be little doubt that the maximum is reached in the richly colored yolk of the egg produced by a fowl existing in healthy surroundings, for then its processes of nutriment would be working under favorable conditions. As an article of diet, therefore, the egg should be judged, not by the color of its shell, but of the yolk, which should be of rich reddish rather than of a pale yellow color.—The Industrial Hen.

COTTON SEED MEAL FOR POULTRY.

The superiority of cotton seed meal as a food for cattle, either as a fat and flesh producer or for milk and butter, has so long passed the experimental stage as to admit of no discussion. Its use as a most valuable hog feed giving growth, flesh, development and fecundity is also established beyond controversy. That it is equally as valuable as a supplemental grain ration for horses and mules under all sorts of conditions, and especially so for brood mares and young colts is also acknoledged by all who have given it fair trial.

So, too, its use as a most superior food for all kinds of fowls is being demonstrated in the yards of many poultrymen who have learned, by experience and test, to give it first place as an egg producer, and for fat, flesh and condition.

For, as will be at once seen, the same high albuminoid content which produces flesh and milk in cattle, development and fecundity in hogs, bone, muscle and endurance in horses, will give eggs, vigor and condition in fowls.

As in the other cases, it should always be fed to poultry as a supplemental ration only, and mixed always with some less highly concentrated food—corn chops, corn meal, wheat bran, shorts or small grain. Mixed in this way, about one-third to one-half cotton seed meal, it may be fed either dry or wet into a thin dough, and the result will be quickly shown in added vigor, rapid growth, glossier plumage and in increased egg production.

In fact, as with hogs, it seems to act almost entirely as a preventative of nearly all diseases, and instances are absolutely unknown where any epidemic prevailed in flocks having it as a habitual ration. On the contrary, numerous cases can be cited where they have remained entirely immune and healthy while neighboring flocks not having it have been destroyed by cholera and kindred diseases.

THE MUSLIN CURTAIN.

The muslin curtain as a substitute for glass windows began its career in the poultry house, gave so much satisfaction and received such indorsement that some of the dairy folk thought it might do the trick equally well for their dairy barns. And so it does, according to the enthusiasts. They say the temperature is not very much lower where muslin is used and the air is robbed of some moisture in passing through the muslin, so that there is less dampness than in a more tightly closed barn. Professor King, originator of a very popular system of barn ventilation, has criticized the so-called "muslin system" pretty severely. The farmer does not need to rely upon heresay or theory—"hot" air or "cold"—in this matter. He can soon settle the question for himself.

Water supplies at Yreka, Siskiyou county, are shorter than they have been before for years.

Orpingtons--Black and Buff

We now offer some exceptionally well bred stock of our fine exhibition strains. Satisfied customers count for much with us. Let us send you prices today, correspondence a pleasure. Catalogue free.

ORPINGTON RESERVATION
ROSS & TATE,
ALTADENA, CAL.
BUFF. WHITE. BLACK
ORPINGTONS

One Block North and Two Blocks East Altadena Post Office

HOMERS
Prolific Breeders
Winner of 1st pen at Breeders' Show
Satisfaction Guaranteed
C. E. Bunker
San Jacinto, Cal.

Baldwin's White Leghorns

First prizes San Jose '06, and State Fair '07. Three 1sts and special, San Jose, '07. $50 cup best display Petaluma '07. Send for free '08 Catalogue and price list. Good breeding stock for sale cheap to make room; also young c'k'ls.
Frank E. Baldwin
46 Washington Ave. - San Jose, Cal.

RANCH MIRASOL
Annual Clearing Sale of Breeding Stock
Opens July 1st
This is the Famous Mitchell Strain of S. C. White Leghorns
Laying Hens, $1.00 to $3.00 each; Cockerels, $3.00 to $20.00 each
With every order for hens amounting to $15.00 or over we will give one $3.00 Cockerel as long as the stock of the latter lasts. This offer is good till August 1st only. We are taking orders now.
Carl C. Curtis, Owner, Lincoln Avenue and Ventura St., Pasadena, Cal.
NORTH FAIR OAKS—ALTADENA CARS

Small Fruits and Vegetables

THIS MONTH.

August is the poorest month of the year for planting vegetables of any kind. It is too early for the winter varieties and getting late for summer kinds. Sweet corn can be planted in this month and come in the fall months as delicious as ever. The first sowing of tomatoes for winter crops is made. Second crop of potatoes is planted this month. Cabbage, cauliflower, celery and onions are sown for main crop. Yorkshire Hero green peas are sown by market gardeners this month.

RHUBARB COMPETITION.

WE NOTE on page 92 of the 1908 Premium List of the California State Fair that J. B. Wagner, of Pasadena, grower of the famous Winter Rhubarb, offers the following special prizes: Best exhibit winter rhubarb, $50 worth rhubarb plants; second best, $25 worth plants; third best, $10 worth plants.

To all who compete and do not win one of the above prizes, $2.50 worth of plants. Competition open to all.

It may be noted above that every man, whether a premium winner or not, who makes an exhibit of winter rhubarb will receive a special reward of at least $2.50 worth of plants of Mr. Wagner's growing. It is already somewhat late to give information concerning the growing of a premium winner rhubarb for the coming fair, but the following hints in a letter from Mr. Wagner may yet be of some value. Mr. Wagner says that if these directions are followed, very satisfactory and surprising results can be obtained. "Cut off carefully all buds except a couple of the strongest. Simply cut off close to the ground, thus forcing all growth to the two crowns or buds. To stimulate to its utmost get a large flower pot or old five-gallon oil can, perforated at the bottom and on the sides near bottom. Plunge in ground a foot and a half from plant and nearly to its full depth. Fill this can or pot often with liquid manure and water of which too much can hardly be used. A good substitute for liquid manure is nitrate of soda, dissolved in water, using about a teaspoonful to two or three quarts. Be sure and apply one of these stimulants every two or three days. Results of this work will, indeed, be most surprising and of itself pay any one for the effort."

Mr. Wagner adds that exhibitors need be at no expense in making these exhibits as they may be entered with the county exhibit. While no limit will be placed on the size of these exhibits, it is preferred that a small box of say 10 or 12 pounds be exhibited by many small growers rather than one exceedingly large exhibit. Principal factors will be quality, size and neatness and these will dominate in making the awards.

Mr. Wagner writes that he will make an exhibit at the fair but will not in any way compete for the awards. His exhibit will be principally of rhubarb which has not been forced and will consist of many varieties now being tested at his grounds in Pasadena, including some medicinal barbs, together with the new Giant variety he is now propagating.

Incidentally we learn that in connection with Mr. Loftus of Los Angeles, Mr. Wagner anticipates planting from one to two hundred acres of winter rhubarb next season.

FARMING BY THE SQUARE INCH.

This is the story of a remarkable solution of the secret of success in farming on a small scale, chiefly for the benefit of those who cannot afford to buy large tracts of land and would not be able to work them if they could. To pique the curiosity of the reader, let it be first explained, in all seriousness, that if a farm cultivated in this way is leased it should be understood that when the tenant moves he is at liberty to take the soil with him.

The soil used in this method of farming must be of unusual richness. The story begins with the efforts of two women to gain a livelihood from mother nature. They leased five acres of land in Berkshire, England. Later they found that five acres was too much land and that they could find full work for themselves and for students who flocked to them to learn how it was done, with profit to all, on a piece of ground less than half the size of that first taken.

The teachers of the women were a French gardener and his family, who, with an acre of land in France, sold $2500 worth of produce in a year. The scene at the farm is thus described by one who visited it:

In a bare plowed field stands a square palisade of zinc plates inclosing about three-quarters of an acre. Behind it the French gardener and the women who lease the land have wrought what looks like a sheer miracle to any one unacquainted with the system.

The ground is all covered with inverted bell glasses of the kind known in Europe as clochers. Under each bell at the time this writer visited the farm were five lettuces. Lettuces were growing around the bells and other vegetables sown broadcast were coming up everywhere. In each of a number of frames four feet square were thirty lettuces, a mass of carrots and cauliflower.

The entire secret of the growth of these products before the regular season is in the cropping and the soil. Every inch of the soil bears at least three crops a year, each of them anticipating the season and, therefore, producing fancy prices.

This remarkable method of making every inch of ground count is described in detail by the writer and the article is illustrated with very interesting photographs.—Exchange.

WEEDS.

You know some people say weeds are a blessing to mankind in that if it were not for weeds we would not stir the ground enough, and the plants would not get as much cultivation as they deserve. It may be so, but I hate weeds anyway. I hate them like the housekeeper hates dirt. You know some women say they have fought dirt all their lives and they will be buried in dirt when they die. It is the same with me, I have fought weeds all my life, but I sincerely hope I won't be buried in weeds.

To prevent maggots from attacking the cabbages, use wood ashes mixed with three times their volume of water poured about the roots of the plants when set out.

If bugs appear on the melons or squash, sprinkle tobacco dust about the plants.

Paid Semi-Annually

7%
Assured Profit

We offer you Cane Sugar Lands in Mexico. Perfect title. Give 50-year contract to cultivate for you, guaranteeing 7%, paid semi-annually, until crop profit exceeds this amount. Offer these lands for cash or on easy terms.

A Life Income from Land

Sugar Plantations produce the greatest continuous yield of any known crop. Tropical Mexico stands today unmatched in soil, climate, water. We own over 9000 acres in the heart of the best section—near Tampico. You become a land-owning profit-sharer in this project. We do all the work for you.

Sugar Plantations the Most Profitable Crop in All the World

One Acre Should Produce $203.52 Annually
Five Acres Should Produce $1017.60 Annually
Ten Acres Should Produce $2035.20 Annually

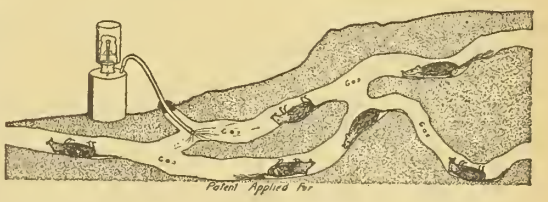
GOOD LIVE AGENTS WANTED

Free Trip to Property Communities or syndicates buying 50 acres or more, may send representative to property at our expense

Tampico Sugar Company
Los Angeles California
References: Citizen National Bank
501 Union Trust Building

KILL
Pocket Gophers, Moles and Squirrels

More than 500 feet of holes flooded with gas in five minutes, at a cost of three cents, no pumping required, kills them by the dozen in a single operation. Not an experiment, but a sure destroyer of the pests; just turn on the gas and the work is done. Guaranteed not to injure vegetation. No danger. Any one can operate it.



Fully guaranteed. Your money back if it fails to do the work. Sent prepaid on receipt of price, with supply of carbide for ten acres, ready for instant use $5.00; without carbide $3.50.
Patent applied for. Agents wanted.
Write today for catalogue and description.

W. H. Lamb, Director in Bank of Santa Cruz County and Hardware Merchant in Santa Cruz, Cal., says:

I am sole agent in Santa Cruz County for the Rodent Destroyer. Am selling them rapidly and have never heard of one that did not give satisfaction. THEY DO THE WORK. The owners of the patent are reliable people.

W. H. LAMB.

Peerless Rodent Destroyer Co., P. O. Box 307 Santa Cruz, California

Rid your premises of Gophers and Ground Squirrels by using Gopher Dope

Gophers and Ground Squirrels will not live where Gopher Dope is used. Absolutely harmless to other animals or fowls. DIRECTIONS—Put one ounce in the holes and run ways and in a short time Gophers will disappear from your premises. Absolutely guaranteed or money refunded. 2-Gallon Can, $1.00; 6 2-Gallon Cans, $5.00, f. o. b. Los Angeles. For Sale only by

B. & G. Disinfecting Co., Phone Home A 9089 417 Laughlin Building, Los Angeles, Cal.

Crimson Winter Rhubarb and Berry Plants
Our Specialty

1000 choice Navel Oranges, together with a few other Citrus Trees. April and May are best months to plant Rhubarb for heavy Crops next winter. It has never been equalled as a money maker. $1.50 per dozen, $6 per 100, $40 per 1000. Pedigreed plants.

J. B. Wagner
The Berry and Rhubarb Specialist Pasadena, California

When writing advertisers, mention Cultivator.

Mushroom Spawn

Spawn manufactured by a practical grower. Call at my place and see mushrooms growing. Finest varieties grown.

Arndt's Mushroom Farm
3751 So. Normandie St. Los Angeles, Cal.

JAMES R. TOWNSEND
Solicitor of American and Foreign Patents Copyrights, Trademarks and Labels Registered. Rooms 428-433 Bradbury Blk. Los Angeles, Cal. Phones: Home, A4619; Sunset, Main 347

Burbank Crimson Winter Rhubarb

Plants and Seed for sale in any quantity. Warranted the genuine article. Orders filled promptly

A. L. Fratt, Ventura, Cal.

Kings county has just issued a neat booklet illustrating horticultural possibilities of that section.

Warranted to give satisfaction.

GOMBAULT'S
CAUSTIC BALSAM

A safe, speedy and positive cure for

Curb, Splint, Sweeny, Capped Hock, Strained Tendons, Founder, Wind Puffs, and all lameness from Spavin, Ringbone and other bony tumors. Cures all skin diseases or Parasites, Thrush, Diphtheria. Removes all Bunches from Horses or Cattle.

As a HUMAN REMEDY for Rheumatism, Sprains, Sore Throat, etc., it is invaluable.

Every bottle of Caustic Balsam sold is Warranted to give satisfaction. Price $1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars, testimonials, etc. Address

THE LAWRENCE-WILLIAMS COMPANY, Cleveland, Ohio.

For Sale--$10,000
Orange Ranch
Most Attractive Country Homes in So. California

Located in San Diego County in the most healthful locality in the world, elevation 1500 ft. 28 acres in property, all good land, 18 acres in oranges, lemons, walnuts and fruits. Trees 12 years old. $4500 Two-story, hard-finished house, with modern plumbing and conveniences, situated on elevation overlooking entire valley. 2-story rustic barn, with shingle roof, stone foundation; brick store house; 100,000-gallon concrete reservoir, connected with pipe lines through orchard for irrigating; one tenement house in eucalyptus grove now rented; 3 wind mills, with tank painted and roofed; one pumping plant. Improvements on property cost present asking price. Is the finest place for many miles around. Special reasons for selling. Will accept part cash, terms for balance, or Pasadena or Los Angeles property as part payment, balance cash.

See

H. E. Carse
622 I. W. Hellman Bldg., Los Angeles

What a Few of the Best Cooks in the World Say About the
Anchor Egg Separator

Waldorf-Astoria Hotel Chef Says:

"I am using The Anchor Egg Separator, it gives perfect satisfaction; no one should be without it where eggs are used."

Delmonico's Chef Says:

"I take pleasure in saying The Anchor Egg Separator works perfectly, no well regulated Hotel or household can afford to be without it."

Sherry's Chef Says:

"The Anchor Egg Separator fills a long felt want; I would consider it cheap at ten times the cost. I would not be without it at any price."

Send 10 cents, or the names and addresses of ten poultry raisers, and we will send you a Separator, postage prepaid.

West Coast Mill
705-709 Griffin Ave., Los Angeles, Cal.

Pacific Seed Co.
C. Bagnall, Prop.
GROWERS AND IMPORTERS OF
Grass, Vegetable and Flower Seeds
All Kinds of Bulbs and Onion Sets
609 J St., Sacramento, Cal.
Send for Catalogue. Please mention Cultivator.

Queries and Replies

Questions to be answered in this department should be received at this office one week before reply is expected. Write plainly on one side of the paper and sign full name and address. Unsigned communications receive no attention.—Ed.

Diseased Peaches.

I send peach leaves from one-year-old grafted trees. They are apparently affected with some disease that kills the leaves and stunts the trees. What is cause and cure?—W. S., Burbank.

Prof. Smith says: In regard to samples of diseased peach leaves recently received, would say that these leaves show some indication of a shot hole fungus, but from the specimens submitted this seems scarcely enough to account for any very serious trouble. The leaves have much the appearance of having come from a tree which was in poor condition generally. This may result from some trouble with the root, such as root knot, or from some other weakness in the tree. I would advise your subscriber to dig up an affected tree and examine the roots carefully and see if there is not some indication of something wrong with them.

Watermelons Dying.

I have noticed for the last two weeks that some of my watermelons are dying without sign of insects or gophers. I think they are afflicted with some kind of disease. Enclosed find sample. Kindly answer as to disease and remedy.

Also how does dry rot enter into potatoes? I have about three acres with nearly every potato affected. The seed were perfectly healthy. Is the fault in the soil? Can these potatoes be used as stock food without injury?—Subscriber, Arroyo Grande.

Referred to Prof. Ralph E. Smith of Southern California Pathological Laboratory, who writes:

The specimen of watermelon vine is evidently affected with the disease called "wilt." This takes the form of a dry rot on the stem just under ground, which causes the top to wither and die. It is caused by a fungus which lives in the soil and cannot be eradicated by any known method. The only way to control the trouble is to plant watermelons on land which has never grown the crop before. The disease rapidly increases from year to year if watermelons are grown repeatedly on the same ground. Care must be taken not to put anything on the ground which has had any connection with previous crops of watermelons, such as manure containing the old vines. The disease is also sometimes spread by water running from affected ground on to the other land. The watermelon seems to be the only plant affected by this particular fungus, so that cantaloupes, cucumbers, squash, pumpkins and other crops can be grown on affected land.

As to the dry rot of potatoes, we would be pleased to receive specimens of this trouble. From the description given we are not able to tell just what it may be.

Cucumber Pickles.

Please give formula for cucumber pickles, both sweet and sour.—C. M., Oroville.

Here is a very simple recipe for the sour pickle. A much more complete and better one may be found on household page.

Make brine strong enough to bear up an egg and put in fresh cucumbers. When needed for use soak out and put in vinegar.

Tomato Catsup.

Please give recipe for good tomato catsup.—C. A., Napa.

See household page, this issue.

Possibly Aphis.

I have noticed that some leaves of my muskmelons are covered with spots which look white on the top and yellow on the other side. Other leaves are turning yellow along the vine. Is this a disease and what is remedy?—A Subscriber, Arroyo Grande.

It is impossible to give a definite answer to such a question. We have seen leaves covered with aphis which appeared much as you say these do. It is possible these insects are infesting your vines.

Gypsum.

Will you please inform me when to buy land plaster and the price per ton; also freight to S. F.—Subscriber, Arcata.

The Fire Pulp Plaster Co. of S. Alameda street, Los Angeles, say they will ship land plaster or gypsum f. o. b. San Francisco at $7.00 per ton, in car lots. Regarding smaller quantities, should you wish, write them.

Lawn Making.

Please give me best method of making lawn. What kind of fertilizer to use, soil being clayey. What preparation will the ground need, also what kind of seed to plant.—Mrs. E. C. G., Los Angeles.

A lawn may be planted almost any month of the year in California, but we believe now we would prefer to wait until October or November, and if the ground is sufficiently heavy clay to make it sticky, it would take that length of time or longer to get it in condition. We would cover with stable manure which should be deeply spaded in. Then keep thoroughly wet for some weeks to start all the weeds possible, which should be kept hoed down. The writer of this at one time made a lawn on heavy clay soil which cracked so badly it was necessary to haul in a loam to give a surface better fitted to receive the seed. In that case nearly six inches of sandy loam was covered over the clay, although two or three would have answered. The manure, if it be well rotted, should have but few seeds and earlier planting could be given; but in any case a few months wetting and hoeing will put the soil in better condition. Soil can hardly be made too rich for a fine lawn. Finely ground bone meal is one of the best commercial fertilizers to use, either on the lawn or on ground being prepared for seed. Getting the ground ready is one of the most important factors in making the lawn. The kind of seed to plant is a matter of taste largely, although the blue grass is preferred by most people. The writer prefers a mixture of blue grass and white clover, which makes a beautiful lawn and is easier to keep in good condition than one of blue grass only. If the lawn is under trees or where heavily shaded then blue grass has the preference, for it will stand shading best of any grass. Make the surface even, and while it should be well rolled or tramped to firm the subsoil, the surface should be fine and mellow with repeated rakings. Sow seed thickly, on still morning before breeze starts to blow and cover with rakings from cow corral which should be screened to a fine dust. This may be put on to depth of ¼ or ½ inch. Wet two or three times daily till established.

Oranges as Fertilizer.

Would you please tell me through the query column of the value of oranges as fertilizers for orange trees? What value have lemons as fertilizer for lemon trees? If lemons are used as fertilizer on orange trees will they cause oranges to be sour? Amateur, Lakeside.

At one time orchardists feared to put oranges and lemons on the ground for fear of the effect of the acid on the soil, but we believe this fear has entirely passed and now culls from packing-houses are hauled to the orchards and plowed under. The only objection to this is in the carrying to the orchard a vast number of the spores of blue mold or the mold which causes the rot of oranges. This now causes more orchardists to refuse to have them in the orchard than fear of any effect upon the soil. If put in the compost heap and thoroughly rotted down before applying to the orchard, we presume they would make good fertilizer. Lemons applied to orange orchards would have no effect upon the flavor or sweetness of the fruit.

Almond Hulls.

Are almond hulls good for sheep?—B.

This was referred to Dr. Twombly, and while he has had no experience, his opinion is that they would be of little nutritive value.

Runners on Strawberries.

I am a beginner in growing strawberries for market. I would like to know whether to keep runners off strawberry vines or allow them to grow and root. Some tell me the latter is the best. My idea is to keep off all runners. Kindly advise.—A Subscriber, Carpenteria.

By all means keep off the runners if you want abundance and good quality of fruit. When it is desired to grow the vines for resetting, then get the thriftiest and best young plants possible, and grow the young vines from runners before the parent plants have ever fruited. This will give vigorous plants and the older vines will soon give good crops. When bearing begins, however, keep down all runners.

Drying Figs.

Kindly advise as to drying figs in a small way, not for market, but simply home use.—S. B. L., Gardena.

Allow fruit to become fully ripe on trees; some even allow it to drop and pick up from the ground. If picked green the skin is tough and leathery. Dry on trays but do not let it get too dry and hard. After drying some place in box and sulphur,

DON'T BUY GASOLINE ENGINES UNTIL YOU INVESTIGATE "THE MASTER WORKMAN," a two-cylinder gasoline, kerosene or alcohol engine, superior to any one-cylinder engine; revolutionizing power. Its weight and bulk are half that of single cylinder engines, with greater durability. Costs Less to Buy—Less to Run. Quickly, easily started. Vibration practically overcome. Cheaply mounted on any wagon. It is a combination portable, stationary or traction engine. SEND FOR CATALOGUE. THE TEMPLE PUMP CO., Mfrs., Meagher and 15th Sts., Chicago. THIS IS OUR FIFTY-FIFTH YEAR.

Anthrax Cure, Milk Fever Outfits. See O. J. Weber Co., 555-557 S. Los Angeles street, Los Angeles.

same as ordinary dried fruit, in order to kill all insect eggs which may infest the fruit. Lately, however, most have preferred dipping in a boiling salt solution. This has been found equally good and the short drying of the surplus moisture in midday sunshine fits the figs so they may be packed away and they will keep.

Thrips.

Please give me the name of insect infesting bean leaf which I mail you. —Mrs. J. F. A., Sunset City, Sutter Co.

This leaf was submitted to Prof. Quayle of Whittier and he reported that it had every appearance of having been infested with the thrips. This insect is very susceptible to kerosene emulsion spray, which should be applied very weak to bean vines as the bean will not stand a strong spray. The ordinary method of making the kerosene emulsion is one gallon kerosene, one gallon water, one-fourth pound laundry soap. This, thoroughly churned and mixed together for fifteen or twenty minutes, is the stock solution, one gallon of which should be added to twenty-five gallons of water. But in the case of beans, instead of twenty-five use thirty-five gallons of water, which will be abundantly strong to destroy the pests. It is probable, however, before this is read, that the pest will have disappeared; but the effect upon the vines will not disappear so quickly.

Veterinary

Dr. R. T. Whittlesey, veterinarian, of 714 East Seventh street, Los Angeles, will answer questions in this department. In writing of sickness or injury to any animal be explicit in giving symptoms and particulars. Always enclose full name and address, but if assumed name or initials are preferred they will be used.

If an immediate mail reply is wished enclose $1.00 for such service, but for replies in paper only, no charge is made if the answer will be of general interest.

Kidney Worm.

I have a valuable hog which seems to be seriously affected in her hind parts, which she drags after her, having no use of them. Seems to eat well. What is trouble and remedy?

These symptoms would seem to point to what is called the kidney worm. If this is it, there is no cure. Would advise examination when she is killed.

Cribbing.

I have a four-year-old colt which I regret to say is a "cribber," or as some call it, a "wind sucker." Is there a remedy?—L., Pomona.

This is a habit which it is is almost impossible to cure. A strap buckled tightly around the throat will prevent them from sucking down any air. If kept in a box stall where there is no place for them to catch their upper teeth, they may sometimes forget the habit. Where this is done, hay may be fed from a rack instead of a manger.

Sunstroke.

I have a valuable mare which seems well and hearty, but as soon as the sun rises she begins to pant and seems badly affected with the heat, but it is impossible to start a sweat on her. A year ago she would pant when I worked her, but now she does it all the time. And she is losing her appetite.—H. B., Coachella.

I think your animal has been overheated, which has resulted in a partial sunstroke. At least that is the way they act after sunstroke, and they seldom entirely recover.

California Farm Names

ONLY a few farm names have been reported this week, but sufficient to show there is much interest in this feature of the Cultivator. We believe this campaign will continue for some time as people more and more become aware of the real advantage to a place in having a name of its own. A northern exchange, in speaking of the benefit of naming the home, says:

When your children and grandchildren return from their new homes twenty-five or fifty years from now, no matter who the owner may be, the old farm will go by the old name, associated with many of the most pleasant recollections of life.

As a matter of fact, you will think more of the old farm because it has a name of your own choosing; a permanent, fixed, well recognized name, like the name of the nearest town or station. You will take better care of it; take better care of the improved live stock which carries the name of the farm.

Having selected a suitable name, let that name be inscribed at the entrance, or put it in some other way about the buildings or at the nearest cross-roads, so that the public will become familiar with it. Then have it printed on the stationery that you use in your correspondence.

Names Sent in This Week.

"Minnewawa Vineyard," owners, Dr. and Mrs. W. N. Sherman, Fresno. This is the home place of Mr. and Mrs. Sherman, on which the delightful homestead is. There are 640 acres given over to the growing of olives, raisins, peaches, table grapes, oranges, plums, alfalfa and live stock. It is five miles east of Fresno and near an electric car line into the city.

"Palomitos Vineyard," owners, Dr. and Mrs. W. N. Sherman, Fresno. Palomitos is Spanish for "little doves." This vineyard is planted largely to Malaga and Emperor table grapes, also to raisins and alfalfa. It is six miles northeast of Sanger and twelve miles east of Fresno.

"Keystone Ranch," owners, Dr. and Mrs. W. N. Sherman, Fresno. In this ranch are forty acres devoted to alfalfa and live stock. It is ten miles south of Fresno.

"Glendell Grove," owner, Monroe Miller, Lakeside, San Diego county. Mr. Miller writes: "We are in a nice glen or dell and have combined these two words to make the name of our place. We are twenty miles northeast of San Diego. We have twenty acres in lemons, ten in oranges, also deciduous fruits and alfalfa. A fine live oak in the back yard shades a circle 150 feet in diameter. Near it is a big rock forty feet square."

"Highland Farm," owner, H. R. Ives, El Cajon Valley, San Diego county. Mr. Ives writes that he has taken this name because of the fact that the ranch is located on the higher lands of the foothills, at the base of towering hills or mountains. "I have fifteen acres, about six of which are in an orchard of oranges, lemons, plums and peaches. Expect to plant more of both citrus and deciduous fruits. Soil is excellent, of decomposed granite. Place situated at southeast corner of valley, with flume as upper boundary. This having water circling about the place makes it most attractive and inviting."

"Paradise Ranch," owner, C. H. Carlson, Hughson, Stanislaus county. "This ranch is located within the limits of the little city of Hughson and we intend to make it like a perfect paradise, hence the name. I intend to make a concrete arch at the entrance, in which will be the name of the ranch and the proprietor. I do not see how any one can get along on a farm in California without the Cultivator. I would surely have it if it cost $5.00 a year."

"Anchorage," owners, Capt. and Mrs. Oscar Kustel, Ontario, San Bernardino county. The Anchorage is given up to the growth of Washington navel oranges.

SOUTHERN PACIFIC INSTRUCTION CAR.

The Southern Pacific is operating an instruction car over the entire route of its Pacific system, being in charge of a corps of expert lecturers, for the purpose of explaining to employees more thoroughly the theory and practice of railroading, particularly in its relation to accidents.

The Harriman lines have spent several million dollars for improved block signal safety system in the last few years, and indeed the Union Pacific and Southern Pacific have more mileage protected by the latest improved block system than any other three large railway systems of the country combined. With these devices comes the necessity for increased education of the man, and the company, through a traveling school, is endeavoring to help them gain the necessary instruction.

The instruction is organized as carefully as a college course. The car has a completely equipped school room, in which the lecturers hold forth to yardmen and all employees who come in contact with the operation of trains. At the lecturer's desk is a miniature block system, by means of which the "pupils" can be graphically shown the operation of the wonderful system in minutest detail. Behind are charts illustrating change of time table, and blackboards showing tabulated systems with rules governing change in all kinds of trains, and orders for trains by telegraph.

The car is now on the Coast Division and has since last October covered the entire system. It will be five more weeks on the trip completing it about August 31st, the last three weeks being spent in San Francisco. The car is run as an extra, stopping at each station to examine and instruct railroad telegraph operators and at yard terminals the school sessions are held in the forenoon and afternoon.

This work is entirely in addition to the ordinary examinations given employees before they enter the service, while the public's chief interest is in the fact that it makes the men more competent through advanced knowledge. Yet it has a great interest for the men also in that it enables those desirous of increasing their knowledge and bettering themselves to gain capacity and, therefore, stand better chance to gain in position.

Southern California walnut growers are anticipating good results from the new method of bleaching walnuts, which consists in treating a solution of salt with a current of electricity. It is said to be even superior to the old method, which is the cause of a great many suits which were entered by Anderson, Barngrover & Company, owners of a patent.

Classified Liners

Rates 1½ cents per word per issue. No ad accepted for less than 25 cents. Our classified columns are the clearing house for the readers of the Cultivator. Here you can insert an ad for the small sum of 1½ cents per word per issue, and be sure that it will be read by thousands.

MACHINERY.

WE CARRY A GENERAL LINE OF MAchinery, gas engines, air compressors, boilers, engines and pumps. 40 car loads of screw pipe and casing can be cut to lengths, also all kinds and sizes of fittings. Several hundred iron fence posts. R. KELLY MACHINERY CO., corner of Mission road and Macy street, Los Angeles, Cal.

FOR SALE—SECONDHAND PIPE AND oil well casing, all sizes, any amount; boilers and engines; gas and distillate engines; pumps, etc. Get our prices before you buy. A. CANNADY & CO., 1029 N. Alameda St., Los Angeles, Cal.

CLOSING OUT GASOLINE ENGINES NEW and secondhand from 5 to 60-H. P. and other machinery. See us before buying. Can save you money. BAILIE & BRANDT CO., 943 N. Main St., Los Angeles.

FOR SALE—AT HALF ACTUAL VALUE No. 7 U. S. Cream Separator, good as new. One No. 9 machine new, to close out. K. B. Norswing, 5833 S. Main St., Los Angeles.

FOR SALE—MEHRING MILKING MAchine with extra parts and covered pail, all in good order. WM. H. BIRD, Box 6, Compton, Cal.

FOR SALE—21-H. P. OTTO DISTILLATE engine in fine running order at an exceptionally low price. 117 BRUNO ST., LOS Angeles.

FOR SALE—6-H. P. INTERNATIONAL also Peerless engine; never been used; at a snap. N. W. cor MAIN and BRUNO STS., Los Angeles.

FOR SALE—5-H. P. ALTERNATING CURrent motor in good running order. Cheap. BAILIE & BRANDT CO., 943 Main St., Los Angeles.

FARM LANDS FOR SALE.

RANCH FOR SALE—105 ACRES AT $40 AN acre; 85 acres in cultivation; nearly all of remainder can easily be put in cultivation; 45 acres level land; 800 full bearing apricot trees; 5-room dwelling; good large barn; fruit drying plant; 5 miles north west from Moorpark; half mile of school; land suited to beans, hay and corn. For further information apply to WM. ROBINSON, Moorpark, Ventura county, California.

FOR SALE—1 TO 10-ACRE TRACTS ON CAR line, between Riverside and new cement works; good for chicken ranches, alfalfa or gardening; will sell on easy terms; plenty of water on each tract. C. C. POND & N. R. BELL, Riverside, Cal.

FOR SALE—A BARGAIN—20 ACRES ALfalfa; 2 wells; 12-H. P. pumping plant; 9-roomed house, barn, furnished complete, with cows, pigs and farming tools; family orchard; ¾ mile from town of San Jacinto. Address L, BOX 37 or 'phone 676 Home.

EGGS FOR HATCHING.

EGGS FROM MY PRIZE WINNING BARred Rocks; won all firsts, all seconds but one, and all specials on Barred Rocks at L. A. C. P. A. Show, 1907. Eggs from best pens, $3 per 15; $12.50 per 100. Stock for sale. CHAS. E. SMITH, Gardena, Cal. San Pedro Interurban car to Smith's Crossing.

POULTRY

KILLAMITE KILLS THEM—BEST INSECT powder made for fowls or plants. 50c for 2½ lb. sifting can, express prepaid by us if your dealer hasn't it. Regular 10c can free, postage paid, for 10 addresses of poultry keepers. WEST COAST MILL, 705 Griffin Ave., Los Angeles, Cal.

FOR SALE—STOCK AND EGGS OF THE following standard bred poultry: Black and White Orpingtons, Brown and White Leghorns. J. J. Verkouteren, Route 3, Hanford, California.

WANTED—MALE HELP.

NINETEEN JOBS GOING AT PRESENT—Electricity, plumbing, bricklaying taught in few months; tuition back after two months; advanced students paid wages. Free catalogue. UNION TRADE SCHOOL & CONTRACTING CO., 120-126 E 9th St., Los Angeles, Cal.

CATTLE.

FOR SALE—TWO YOUNG JERSEY BULLS—For particulars address DR. C. S. LANE, Santa Barbara, Cal.

DOGS.

SABLE AND WHITE COLLIE PUPPIES—Sires, Brandane Wishaw Squire and Glen Fana Bounder, litter brother to Anfield Model. Dams, Ormskirk Gloriana and Presidio Nellie. $10 to $25; 2 to 8 months. GLENALPINE KENNELS, Grandville, Cal.

FOR SALE—COCKER SPANIEL PUPS, 8 weeks old; blacks, $10 each. MINNEWAWA VINEYARD, Fresno, Cal.

TREES.

FOR SALE—1,500 EUREKA LEMON TREES and 1,000 Washington navel orange trees, true to name. Also street and ornamental trees. Clean, healthy stock only offered. GEO. B. WARNER, SANTA ANA, CAL.

SEED.

FOR SALE—EUCALYPTUS RUDIS SEED, fresh, by pound or ounce. MINNEWAWA VINEYARD, Fresno, Cal.

PARTNER WANTED.

WANTED—A PARTY TO TAKE AN INterest in my seed and poultry supply business, who has a good nursery and can furnish plenty of nursery stock. Have a fine store; grand location and splendid opportunity. Address or call, S. H. CHURCH, 636 S. Main St., Los Angeles.

NURSERY FOR SALE.

OLD ESTABLISHED NURSERY BUSINESS for sale. Good stock. Good location. Good reasons for selling. Address THE AUBURN NURSERIES, East Auburn, Cal.

What MORE Could You Desire In A Savings Bank?

20,000 Depositors
Strong Directorate
Capital and Surplus Over
$900,000
Resources
$10,000,000

GERMAN AMERICAN SAVINGS BANK

Tallest Building in Los Angeles

SPRING & FOURTH STS.

Heart of the Business Center
Model Banking Facilities

State Mutual
Building & Loan Association
LOS ANGELES, CAL.

223 SOUTH SPRING STREET
ESTABLISHED 1889
Largest Association in California

6% Interest Paid

Assets [Jan 1, 1908] $2,002,111
No Admission or Withdrawal Fee
Only 30 Days' Withdrawal Notice
Money to Loan for Building

OFFICERS AND DIRECTORS
DR. W. G. COCHRAN, President.
A. E. POMEROY, Vice President.
W. D. WOOLWINE, Vice President.
C. J. WADE, Secretary.

D. M. CUTHBERT, Loan Inspector.

Send for Booklet and Statement
Mention This Paper

Deposit Your Surplus Savings
WITH THE
California Savings Bank
Los Angeles, Cal.
4% Paid on Time Deposits
3% Paid on Checking Accounts

EDISON PHONOGRAPHS, VICTORS, ZONOPHONES
Records and Supplies, delivered at your nearest railroad station upon receipt of full retail price. Write for particulars and ask for catalogue. Peter Bacigalupi & Sons, 1113-15 Fillmore St. San Francisco

Household Department

THE MAN BEHIND THE PLOW.

There's been a lot to say about the man behind the gun,
And folks have praised him highly for the noble work he done;
He won a lot of honor for the land where men are free—
It was him that sent the Spaniards kitin' back across the sea.
But he's had his day of glory, had his little spree, and now
There's another to be mentioned—he's the man behind the plow.

A battleship's a wonder and an army's mighty grand,
And warrin' a profession only heroes understand;
There's something sort o' thrillin' in a flag that's wavin' high,
And it makes you want to holler when the boys go marchin' by;
But when the shoutin's over and the fightin's done, somehow
We find we're still dependin' on the man behind the plow.

They sing about the glories of the man behind the gun,
And the books are full of stories of the wonders he has done;
The world has been made over by the fearless ones who fight;
Lands that used to be in darkness they have opened to the light;
When God's children snarl the soldier has to settle up the row,
And folks haven't time for thinkin' of the man behind the plow.

In all the pomp and splendor of an army on parade,
And through all the awful darkness that the smoke of battles made;
In the halls where jewels glitter and Where shoutin' men debate;
In the palaces where rulers deal out honors to the great,
There is not a single person who'd be doin' bizness now
Or have medals if it wasn't for the man behind the plow.

We're a-buildin' mighty cities and we're gainin' lofty heights;
We're a-winnin' lots of glory and we're setin' things to rights;
We're a-showin' all creation how the world's affairs should run;
Future men'll gaze in wonder at the things that we have done,
And they'll overlook the feller, just the same as we do now,
Who's the whole concern's foundation —that's the man behind the plow.

—S. E. Kiser.

HOW PERRY BECAME A HERO.

PERRY ADAMS sat in his room poring over a big book. Every little while he would jot down some passages from the book on a bit of old wrapping paper with a stub of lead pencil. And as he worked he shivered, for it was zero weather without and extremely cold within. There was no artificial heat of any kind in the room, which was almost bare of furniture, and showed that the occupants of the house, of which this room was a part, were very poor.

Occasionally Perry would warm his benumbed fingers over the little coal oil lamp which spluttered and smoked on the table in front of him. He was wrapped in a bedquilt against the drafts that came in round the rattling window and beneath the ill-fitting floor which led out of doors.

Just as the clock was on the point of striking 8 a door which communicated with another room was opened and a pale, sad faced woman came in, speaking gently to Perry.

"Son, here's a cup of hot tea. It will warm you up a bit as you work. I wish we could afford to keep a fire in the kitchen, for then you could go in there and study of nights. But coal is so dear that we can scarcely afford to have enough to keep the stove warm during the day."

"How did you make the tea, mother, dear?" Perry asked, taking the cup of steaming beverage and drinking it off.

"Over my lamp, dear," replied the mother. "I held a tin cup of water over the lamp flame till it boiled. Then I dropped in a pinch of tea. Is it nice and hot, dear?"

Perry rose from his chair, though it was somewhat of an effort to do so, wrapped as he was from neck to toe, and put his arms about the pale little mother. "Yes, mother mine, the tea is excellent," he said, in a loving voice. "And you're the best mother in the world. Now you'll catch cold if you remain up without fire, so go to bed and keep warm. The fire is all out in the kitchen, isn't it?"

"Yes, an hour ago, and you could put your hand on the stove. But I've been sitting beside it doing some mending. I have fixed up your coat—darned the broken places and cleaned the collar."

"Ah, little mother," said Perry, tenderly, "you are always doing something for me. When shall I ever be able to do half as much for you?"

"All I ask is that we may some day be able for you to go to college, where you may be able to pursue your favorite study of electricity. I ask for nothing for myself—only for health to watch over my boy and to minister to his wants. It is very hard for me to see you working day after day, month after month, and year after year for our support, when you should be in school fitting yourself for the real work of life. And I feel that I am so helpless in the matter." The loving mother's eyes were a bit misty as she said this to her boy and Perry, kissing her, assured her that she was first in his mind and heart and the study of electricity only secondary. "Of course, mother mine," he went on to say, "I'd love to make a thorough study of electricity, for I really believe that I might make some wonderful discoveries some day. But—there's an ocean of time. I'm but 16 years old. If I manage to keep the position I now have in Mr. Green's store, we will be able to lay away a few dollars each month. After we've played the miser for a few years we'll have enough to enable me to go to college. And you shall go with me. We'll take a little cottage—maybe one with a few spare rooms to let out to other students and thereby help out with the rent. Oh, I've thought it all out, mother dear, and all we must do is to be patient and wait—wait—"

"Oh, you dear, courageous boy," said Perry's mother, kissing him and compelling him to be seated at his desk again. "And now I shall go to bed, for you have only an hour to study. I must not keep you talking when you should be alone with your books."

But just as Mrs. Adams was about to retire to her bedroom a quick knock was heard on the door, and she hurried to see who was demanding admittance at so late an hour. A neighbor's child stood there stifling frightened sobs. "Oh, Mrs. Adams, please may Perry go for the doctor? Ma says brother has the croup an' may die. She says to hurry, please."

Perry was out of his quilt and into his hat and overcoat like a flash. As his home was almost a mile from the town where he must go for the doctor, he decided to run with all possible speed and borrow a neighbor's horse to ride on the errand. This he did, and was soon going at a brisk trot toward the town. A railroad cut, some 60 feet deep, lay between him and town, and was crossed by means of a bridge. Perry was nearing the cut when the sound of a horse's hoofs sounded close behind him. From the sound Perry judged the traveler to be coming at a good pace and drew his horse's rein, guiding him outside the road to let the coming vehicle pass.

A great black horse, head thrust out, nostrils dilated, neck strained to the utmost tension, dashed past him, dragging a buggy which held only one occupant. In an instant Perry saw that the horse was running away and that the driver had lost one of the lines, which was loosely whipping the ground beside the running animal. About an eighth of a mile further on the road turned abruptly to the right, following the line of the railroad cut for a quarter of a mile before reaching the bridge. Perry's heart stopped as he thought of the danger of the rider in that buggy. Suppose the horse should go straight ahead instead of taking the turn to the right. Within 200 feet horse and man would go over the level edge of the cut, landing on the tracks sixty feet below.

Perry's horse had been left behind by the running animal, but now his rider laid whip and hard strong heel to him, urging him to run. On and on, faster and yet faster, ran Perry's horse, a big, strong, well-fed animal that seemed to enjoy trying his speed against that of the runaway.

"As I feared. He didn't take the turn." Perry gasped the words. But he was now beside the running horse. The occupant of the buggy was helpless and could only hold on and await the inevitable.

Perry strained every nerve. His horse was now neck and neck with the runaway. Only about 100 feet lay between the racers and the edge of the ditch. Perry knew that his own life was in danger, but he would not shirk the work before him. Reaching out he grasped the bridle of the running horse, jerked upon it with all his excited strength, holding to the horn of his saddle with his other arm and crying "Whoa! Whoa!" to his obedient horse. His own horse stopped suddenly, as if he realized the danger that was just in front of him. And in doing so he caused the other horse to plunge, rear and drop to his haunches.

And then it was that Perry and the man in the buggy had the opportunity to look at each other. The man had quickly jumped from the buggy and was holding his horse's bit. "Why, upon my soul, my rescuer is none other than Perry Adams! Wait a bit, my boy, till this animal quiets down, and then I'll get hold of that right hand of yours and tell you what I think of a boy who would risk his life as you have risked yours to save that of a fellow creature."

"Why, Doctor Downs!" cried Perry, himself a bit out of breath and glad of a chance to drop off his horse for a minute. "Well, since I've found you here, I'll not have to go into town. The Browns' baby has the croup and I was coming to fetch you to do what you can for it."

"We'll fix these lines, Perry, and together we'll return to the Browns. I have a lot to say to you, boy, and I'm blamed if I can find words fine enough to express my gratitude."

"That't all right, Doctor," said Perry. "I understand how you feel, so we'll let the matter pass. I only did

"God give us men! A time like this demands
Strong minds, great hearts, true faith and ready hands;
Men whom the lust of office does not kill;
Men whom the spoils of office cannot buy;
Men who possess opinions and a will;
Men who have honor—men who will not lie."
—Holland.

what any one with a heart in his breast would have done. You owe me nothing, Doctor."

But Dr. Downs felt differently about the matter, and one day a few weeks later he walked into Perry's home with some very startling and splendid news. After he had talked to Perry for a little while he took his leave, grasping the boy's hands and saying earnestly: "And may the best luck in the world be yours, my boy. You are not only a hero but as fine a specimen of young manhood, of honor and industry as I ever saw in all my life. Good-by and good luck."

Perry ran into the kitchen, where his mother was preparing supper "Mother mine, we are to pack and go to D——, wnere we'll take the little cottage near to the college, for I've been declared one of those Carnegie heroes and Dr. Downs has just told me that I am to have $2000 to spend on my education! The money comes from the Carnegie Hero fund. And, what's more, Dr. Downs insists on putting another $500 to the fund. He declares that I saved his life at the risk of my own. He says there was no possible chance of his escaping death had I not come to his assistance. You see, the railroad fence along that part of the cut had been blown down by the blizzard, and there was nothing between the doctor and the ditch. But, mother dear, what are you crying for? I feel like laughing and laughing, and then falling on my knees and thanking God for the good fortune that has befallen me."

"I'm crying for joy, my dear, heroic son." said Mrs. Adams. "But like you, I feel like falling on my knees. Come, let's give thanks to our Creator together, son."—Florida Agriculturist.

RECIPES.

Cucumber Pickles.

Cover the bottom of cask with common salt; gather the cucumbers every other day, early in the morning or late in the evening, as it does not injure the vines so much then as in the heat of the day; cut the cucumbers with short pieces of the stem on, carefully laying them in a basket or pail so as not to bruise; pour cold water over and rinse, being careful not to rub off the little black briers, or in any way to bruise them, as that is the secret of keeping them perfectly sound and good for any length of time. Lay them in a cask three or four inches deep, cover with salt, and repeat the operation until all are in; pour in some water with the first layer—after this the salt will make sufficient brine, Now spread a cloth over them, then a board with a stone on it. When a new supply of cucumbers is to be added, remove stone, board and cloth, wash them very clean, and wipe every particle of scum from the top of the pickles and sides of the cask; throw away any soft ones, as they will spoil the rest; now put in the fresh cucumbers, layer by layer, with salt to cover each layer. When cask is nearly full, cover with salt, tuck cloth closely around the edges, placing the board and weight on top; cover the cask closely, and the pickles will be perfect for two or three years. Cucumbers must always be put in the salt as soon as picked from the vines for if they lie a day or two they will not keep. Do not be alarmed at the heavy scum that rises on them, but be careful to wash off all the board and cloth. When wanted for pickling, take off weight and board, carefully lift cloth with scum on it, wash stone, board and cloth clean, and wipe all scum off the cucumbers and sides of cask, take out as many as are wanted, return the cloth, board and weight, and cover closely. Place the cucumbers in a vessel large enough to hold two or three times as much water as there are pickles, cover with cold water (some use hot,) change the water each day for three days, place the porcelain kettle on the fire, fill half full of vinegar (if vinegar is very strong add half water,) fill nearly full of cucumbers, the largest first and then the smaller ones, put in a lump of alum the size of a nutmeg, let come to a boil, stirring with wire or wooden spoon so as not to cut the cucumbers; after boiling one minute, take out, place in a stone jar, and continue until all are scalded, then pour over them cold vinegar. In two or three days, if the pickes are too salt, turn off the vinegar and put on fresh, add a pint of brown sugar to each two gallons pickles, a pod or two of red pepper, a very few cloves, and some pieces of horseradish. The horseradish prevents a white scum from rising.

Green Tomato Soy.

Two gallons tomatoes green and sliced without peeling, twelve good-sized onions sliced, two quarts vinegar, one quart sugar, two tablespoons salt, two tablespoons ground mustard, two tablespoons black pepper ground, one-tablespoon allspice, one tablespoon cloves. Mix all together and cook on top the stove until tender; stir frequently to avoid scorching. Seal in glass jars. This is a pleasant sauce for almost every kind of meat and fish.

Tomato Catsup.

Scald, peel and core a peck of sound, ripe tomatoes. Mash as if for stewing. Season with a teaspoon of ground black pepper, half a teaspoon of red pepper, one teaspooon each of cloves, allspice and mace, and three large onions cut very fine, with salt to taste. Put all in a porcelain lined kettle to boil, and when the tomatoes are thoroughly cooked rub the catsup through a sieve to get out the seeds and pieces of spice. After straining return to the kettle and let it boil until thick as cream. Set aside and when cold put into pint bottles, filling each to within half an inch of the cork, and pouring in on top of each a teaspoonful of salad oil. The bottles should be kept in a cool, dry place, resting on their sides.

Sweet Ripe Cucumber Pickles.

Take ripe cucumbers, cut in two, scrape out the seeds, cut into strips and soak over night in salt water. To every quart of vinegar add one pound of sugar; boil and skim. Boil the strips in the vinegar until tender and quite transparent. Take out the pickles, strain the vinegar, put it over the fire with a small muslin bag of mixed spices, boil two hours, pour over the pickles, cover and put away.

Will any subscriber who has a favorite recipe for making small sweet cucumber pickles favor other subscribers by sending it in?

The Oldest Savings Bank in California

FOUNDED IN 1857

The Savings and Loan Society

101 Montgomery St., Cor. Sutter St., San Francisco

CAPITAL FULLY PAID $1,000,000.00

Exclusively a Savings Bank whose policy is for ***Conservatism*** and ***Safety,*** the result of ***50 years experience.***

Deposits may be made and withdrawn by mail.

San Francisco Savings Union

Founded June 18, 1862 Northwest Cor. California and Montgomery Sts., San Francisco

Conducts a Savings Bank Business Exclusively

Capital Paid Up, $1,000,000.00. Surplus, $1,183,632.00.

Total Assets, $27,508,850.00.

E. B. POND, President.

W. C. B. de FREMERY AND C. O. G. MILLER, ... Vice-Presidents.

LOVELL WHITE, Cashier. . . . . R. M. WELCH, Asst. Cashier.

DIRECTORS: John F. Merrill, Wm. A. Magee, W. C. B. de Fremery, H. C. Breeden, Jacob Barth, Fred H. Beaver, Wakefield Baker, C. O. G. Miller, E. B. Pond.

Every facility afforded for opening accounts and making deposits and withdrawals by mail. Correspondence invited.

Largest National Bank West of Denver and South of San Francisco

First National Bank

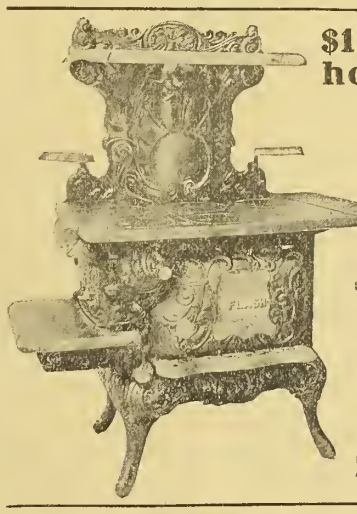
of Los Angeles, California

UNITED STATES DEPOSITORY FOR GOVERNMENT FUNDS

TOTAL RESOURCES, $16,000,000

ADDITIONAL ASSETS—One Million Five Hundred Thousand Dollars invested in the stock of the Los Angeles Trust Company and the Metropolitan Bank and Trust Co., and held by the officers of the First National Bank, as Trustees, in the interest of the shareholders of the Bank.

We are prepared to extend to the small depositor the same personal and careful attention that we do our largest accounts.



$16.30 buys this handsome six-hole Nickle-Trimmed Cast Range direct from the Manufacturer

without high shelf. With high shelf, just as shown in the cut, $19.97; large oven, six cooking holes, best quality of iron. Burns coal or wood. Handsome nickel trimmings. OUR TERMS are the most liberal ever made. You can pay after you receive the range. You can take it into your own home and use it 30 days. If you don't find it exactly as represented, the biggest bargain you ever saw, you won't have to keep it.

Write today for our beautifully illustrated Stove Catalogue No. 101-C. A postal card will do it. Don't buy until you get it.

P. F. Ross & Co.

268 Market St. San Francisco, Cal.

Home Made Ice Cream and Candy

Appeals to Everyone in the Family

Has been going since the very day of publication. Full of all that is known about Home Made Ice Cream and Candy. Nearly Three Hundred Formulas.

Make 60 cent Chocolates for 15 cents

Taffies Nut Candies Butterscotch Everything

A 50c Book **You Get It Free With the Cultivator** For 1 Year's Subscription

Paid in advance. For old or new names who pay for the coming year. Enclose a $1.00 bill and ask for the "Candy Book." But remember, you will not receive the book unless the remittance pays for at least a whole year from this date. Address

Cultivator Pub. Co., Los Angeles, Cal.

Cultivator Order Blank

_____ 1908

CULTIVATOR PUBLISHING CO.,
115½ No. Broadway
Los Angeles, Cal.

Gentlemen—Enclosed find $_____ for which please send the **Cultivator** for one year to the following, or credit on my account

from _____ 190— to _____ 190—

NAME	P. O. ADDRESS	STATE

Are you an old or new subscriber? _____

SIGNED _____

ADDRESS _____

The Produce Markets

Los Angeles Markets

LOS ANGELES, Aug. 5, 1908.

Butter.

Butter has advanced 5 cents for extras during the week, but owing to heavy recipts and decline in Eastern butter the tone of the market is very weak at this time though actual selling price to trade is 2½c advance on quotations.

Wholesale quotations now are:

Creamery ex per roll..........55
Firsts..........52½
Dairy..........25
Cooking..........22
"Butterine"..........15@20

Cheese.

Cheese is still weak though an effort is made to strengthen it by holders of large stock.

Southern California..........14½@17
Northern fresh..........13½@14
Longhorn..........17@17¾
Eastern singles..........16@16½
Cheddars..........17
Imported Swiss..........27@27½
Swiss..........17@17½
Oregon..........15
Limburger..........17½

Eggs and Poultry.

Eggs have advanced 1c during the week though a slight weakness prevails at the advance. It is predicted, however, that there will be no decline.

Eggs local candled..........30
Eggs case count..........26½@27
Firsts fresh..........29
Eastern fresh..........25@26
Eastern fresh jobbing price....21½@22
Storage..........23@23½

Wholesale prices..

Hens per lb..........10@12
Young roosters per lb..........17
Fryers..........15@17
Broilers per lb..........15@17
Roasters..........16
Old Roosters..........7
Turkeys..........16@18
Geese..........11@13
Ducks..........10
Squabs..........1.25@1.50

Live Stock.

The following quotations are f. o. b., Los Angeles, on all stock.

Hogs from 175 to 200 pounds..........6
Prime steers..........4¼
Heifers..........3½@3¾
Calves per lb..........4½
Sheep ewes per head..........3.75@4.00
Lambs per head..........3.00@3.25
Wethers..........4.00@4.50

Potatoes.

Quotations on potatoes of high quality are carried at $1.00 and $1.25, but most dealers will only offer 85c and even then demand fine goods. The market has been weakened by large offerings of low grade stock which is filling the warehouses.

Wholesale prices are:

Sweet potatoes per lb..........3½@4
White Rose new..........1.00@1.25
Local Burbanks..........1.00@1.25
Northern Highlands..........1.00@1.25

Onions.

Onions are still in a helpless condition with little promise of an immediate betterment.

Wholesale quotations are:

Bermudas per 100..........1.00
Silverskin new..........1.00@1.25
Crystal wax per crate..........1.00@1.25
Northern Red..........1.05@1.25
Garlic..........7@8

Vegetables.

The following are commission house prices; deduct freight and commission to secure farm prices.

Artichokes per doz..........30
Beets per doz..........25@30
Bell peppers per lb large..........7
Bell peppers box..........30
Beans limas per lb..........2@3
Beans string..........2½@3
Cabbage sack..........60@65
Cabbage red per lb..........2
Celery per doz green hothouse..1.25
Corn per box..........30@40
Chili peppers per lb..........4
Cucumbers per box..........20@25
Cauliflower per doz..........1.25
Carrots per doz..........25@30
Egg plant lb..........3@4
Green onions doz bunches..........20@30
Horseradish..........12½
Lettuce per crate..........60@75
Mint per box..........40
Okra..........10
Peas sugar per lb..........3½
Parsley..........30
Parsnips..........35@40
Rhubarb per box..........1.25
Radishes per doz..........15@20
New summer squash per box..........15
Summer squash per box..........10@25
Salsify..........15@20
Spinach per doz..........15@17
Turnips dozen bunches..........25@30
Tomatoes lug box..........25@35

Citrus Fruits.

Navels fy off bloom..........2.00
Navels ch..........1.50@1.75
Valencias..........3.25@3.35
Grapefruit seedless..........3.00
Grapefruit seedlings..........1.75@2.00
Lemons fancy..........2.25
Lemons choice..........1.75
Limes 15-lb box..........75

Fresh Fruits.

Wholesale prices on the market are:

Red Astrachans new..........75
Astrachans packed box..........1.35@1.50
Bellefleurs..........1.25@1.50
Alexandria 4-tier..........1.50
Gravenstein 4½-tier..........1.50
Crab apples..........1.10
Apricots per lug box..........75@1.00
Cantaloupe st..........90@1.00
Cantaloupe locals large crate..........1.75
Cherries Oregon fancy..........1.75
Currants per box..........85
Dewberries..........4
Figs per box..........60
Grapes Thompson seedless..........75
Grapes Concord per crate..........1.00@1.50
Muscats per crate..........75@85
Grapes Malaga..........50@75
Rose of Peru..........85
Nectarines..........1.00
Pears per box..........1.00
Plums Burbanks per box..........75
Plums Sonoma..........50
Plums Satsumas..........75
Plums Kelsey..........75
Plums Wickson..........1.00
Plums Tragedy..........75
Silver prunes..........75
Peaches per lug box..........65
Pineapples per lb..........7
Raspberries per box..........4@5
Strawberries per box..........2@4
Extra fancy..........10
Blackberries per box..........4@5
Loganberries per box..........3@4
Gooseberries..........8@10
Watermelons per lb..........1¼@1½

Dried Fruits.

Wholesale prices are:

Apricots..........8@9
Evap. apples fy per lb..........7½@8
Figs loose white..........6
Figs blk..........4
Peaches..........9@10
Pears..........11½@12½
Nectarines..........14
Prunes..........4@4½

Beans Dried.

Wholesale prices:

Limas per ctl..........5.50
Pink No 1..........3.80
Lady Washington..........5.00
Small white..........4.75@4.80
Black eyes..........3.55
Garvanzas..........4.80@5.00
Lentils..........9@10
Bayou..........3.80

Nuts.

Almonds per lb..........15@16
Pecans polished..........12@15
Peanuts Virginia..........7½
Peanuts California..........7
Walnuts No 1 SS..........14

Honey.

Wholesale quotations:

Extracted Water White..........7
Comb W W..........16
Comb white..........15

Hay.

Price paid to producers f. o. b. Los Angeles are as follows:

Barley No 1..........13.00@15.00
Barley No 2..........10.00@13.00
Alfalfa northern per ton..........11.00@12.50
Alfalfa local..........12.50@14.00
Plain oat No 1..........15.00@17.00
Wheat No 1..........13.00@16.00
Wheat No 2..........12.00@14.50

Grain.

Wholesale selling price f. o. b., Los Angeles.

Wheat new per ctl..........1.85
Wheat in 100-lb sacks..........1.90
Kaffir corn..........1.80
Barley..........1.55
Corn Eastern sacked..........2.00
White oats..........1.90

Feed Stuff.

Selling price F. O. B. Los Angeles as follows:

Cracked corn..........2.05
Shorts..........1.80
Bran..........1.65
Oil cake meal..........2.50
Feed meal..........2.10
Rolled barley..........1.55

The recent decision of Judge Wellborn in the matter of the irrigation rates of the Imperial Valley Water Company has caused a cessation of the extension of irrigation canals.

San Francisco Markets

SAN FRANCISCO, Aug. 4, 1908.

Butter.

Butter dropped a half cent immediately after last week's quotation and has remained at 23 for extras since. Market is now firm at that quotation.

California extras per lb..........23
California firsts..........22
California seconds..........20½
California thirds..........20
Fresh packing stock..........19½
Packing stock No. 2..........18½

Cheese.

Cheese is in heavy supply with quotations slightly lower than last week.

California young American fy..........13
Firsts..........12½
California flats fy..........11½
Firsts..........10½
Young America fy..........14½
Eastern fy..........16
Oregon fy..........13

Eggs and Poultry.

Eggs have advanced from day to day. Receipts have been light with the market very strong on fancy stock.

Official quotations of the S. F. Wholesale Dairy & Produce Ex. are:

Fresh ranch eggs..........30½
Eggs firsts per doz..........23½
Eggs thirds..........20
Eastern selected..........24
Eastern firsts..........22
Eastern seconds..........20

Hens per doz..........3.50@5.50
Hens extra..........6.50@7.50
Young roosters..........5.00@6.00
Old roosters..........3.50@4.50
Fryers per doz..........4.50@5.00
Broilers per doz..........3.00@4.00
Geese per pair..........1.50@2.00
Goslings per pair..........2.00
Ducks young..........5.00@6.00
Hen turkeys per lb..........20@21
Gobblers live..........19@20
Spring turkeys..........24@26
Pigeons young..........1.25@1.50

Live Stock.

San Francisco prices gross weight:

Steers No 1..........3¾@4
Do second quality..........3¼@3½
No 1 cows and heifers..........3@3¼
Second quality..........2¾@3
Hogs 100 to 225..........6½
Hogs 225 to 300 lbs..........6
Calves per lb..........3½@4½
Lambs spring..........4½@4¾
Wethers No 1..........4
Ewes No 1..........3½

Potatoes.

Potatoes have declined heavily and the tone of the market is now good on the present quotations which are below those of last week.

Wholesale market quotations:

New potatoes per ctl..........75@90
do per box..........1.00@1.15
Early Rose new..........75@85
Sweets per lb..........3@3½

Vegetables.

Wholesale quotations:

Asparagus per lb..........5@7
Asparagus No 2..........2@4
Bell peppers per bx..........60@65
Celery per doz..........35@50
Cucumbers per box..........35@50
Chili peppers per box..........40@60
Corn per sk..........1.25@1.75
Egg plant per box..........35@60
Green peas per lb..........2@3
Lima beans..........4@5
Squash per box..........35@50
Onions green per box..........70@75
Okra per box..........75@1.00
Rhubarb per box..........50@65
Tomatoes per box..........25@40
Tomatoes River large box..........35@60
String beans..........3½@5
Wax beans..........3½@5
Garlic new..........4@6

Onions.

Onions red per sk..........60@70
Onions yellow per sk..........70@75

Citrus Fruits.

Valencias facy..........2.50@4.00
Grapefruit seedless..........3.50@4.00
Grapefruit seedlings..........1.75@2.25
Lemons ch..........2.00@3.00
Lemons fy..........3.25@4.00
Limes..........3.25@3.50

Fresh Fruits.

Apples green per box..........25@50
Apples fy Gravenstines..........90@1.15
Apples Astrachans..........50@75
Crabapples..........25@60
Apricots per box..........20@50
Apricots per ton..........15.00@20.00
Blackberries per chest..........2.00@3.50
Cherries white per drawer..........35@60
Cherries Royal Annes..........3@6
Cherries Black..........3½@6
Currants per chest..........5.00@7.00
Figs per crate one layer..........50@75
Grapes per crate seedless..........50@75
Grapes sweetwater..........40@65
Grapes Muscats..........85@1.25
Gooseberries per chest..........1.00
Gooseberries per lb..........3@7
Huckleberries per lb..........10@12½
Loganberries..........4.00@6.00
Cantaloupes Turlock..........75@1.25
Cantaloupes River..........50@75
Nectarines..........60@75
Pears Bartlett per box..........50@75
Pears other varieties..........40@50
Plums lug box..........35@60
Plums boxes crate..........25@50
Peaches lug box..........50@75
Peaches per box..........30@50
Peaches baskets..........20@35
Aligator pears per doz..........7.00@9.00
Raspberries per crate..........1.50@1.75
Raspberries per chest..........4.00@6.00
Strawberries per chest..........3.50@5.00
Longworths per chest..........4.00@6.00
Watermelons per doz..........1.25@2.50

Dried Fruits.

1908 prunes being contracted for at 4 cents for Santa Claras at 3¾c for outsides.

Apricots show remarkable firmness and have advanced materially. In fact all dried fruits are showing much interest.

New crop contracts, 25-lb. lots—Apricots per lb.: Choice, 10@10½; extra choice 11@11½; Fancy 12@13.

PEACHES—Standards, 5@5¼; choice 8½@8¾; extra choice 9@9¼; fancy 10 @10½.

Apples (evap.)..........4½@6
Apricots per lb st..........6@6¼
Apricots choice..........6¼@6½
Apricots fy..........7½@8
Figs white..........2¼@3½
Nectarines..........10@13
Plums pitted..........12@15
Peaches st..........5@5¼
Peaches ch..........5¼@5½
Peaches fy..........6@6½
Pears..........5½@7
Prunes 4-size bag basis..........2¾@3½

Raisins—1907 crop, f. o. b.: Clusters and Layers, 20-lb. bxs—Imperial Clusters, 6-crown, $2; Dehesa Clusters, 5-crown, $1.75; Fancy Clusters, 4-crown, $1.40; London Layers, 3-crown, $1.10; do, 2-crown, $1.05. Seeded, 25-lb. bxs—Fancy bulk, per lb., 5½@6c; Choice bulk, 5½@6c. Loose Muscatels, 50-lb. bxs—Standard, 4-crown, 4c; do, 3-crown, 3¾c; do, 2-crown, 3½c; Seedless, 3¾c. Seedless Sultanas—Unbleached, 4¼@4½c. Thompson Seedless—Unbleached, 4½@4¾c. Dried grapes, 3c.

Nuts.

Walnuts S S No 1 new crop..........12½@13
Walnuts No 2..........10@10½
Almonds nonp..........11@12
Almonds IXL..........10@10½
Ne Plus Ultra..........10

Beans Dried.

Limas..........4.90@5.00
Pink..........3.25@3.40
Small white..........4.50@4.60
Large white..........4.50@4.60
Lady Washington..........3.45@3.50
Black eyes..........3.40@3.60
Red kidneys..........2.75@3.00
Garvanzas..........3.50@3.75
Bayo..........3.10@3.25
Horse beans..........2.25@2.40

Hops.

Hops per lb..........3½@6½
Hops old fancy..........2@4
Hops 1908 contracts..........9@10

Honey.

Clear white comb..........15@17
Amber..........12@15
Extracted w c..........7½@8½
Extract light amber..........6½@7½
Beeswax No 1 per lb..........28@30
Beeswax No 2 per lb..........25@27

Hay.

Somers & Co. say:

Shipments of hay to the San Francisco market are steadily on the increase, the total for the week ending today amounting to 4510 tons in comparison with 3770 for last week and 2910 for the week preceding that. Because of this increase, there has been a decided weakening in values here and receivers of hay have had the greatest of difficulty in handling arrivals without occasioning too bad a break. On standard grades of hay prices are off from 50c to $1.00 per ton and if present shipments are not curtailed there will be a still further decline. Considerable quantities of hay have been contracted for shipment to this market and if cars are furnished freely, we may expect a rather disappointing market for several weeks to come.

It is undeniably true that the hay crop is short throughout the State this year, but with the exception of the Livermore district all principal hay centers seem to have sufficient quantities to fill all available warehouse space.

Choice wheat hay..........16.00@17.00
Good wheat hay..........14.00@15.50
Other grades same..........11.00@13.00
Wheat and Oat..........11.00@15.50
Tame oat..........11.00@15.50
Wild oat..........10.00@13.50
Stock hay..........8.00 to 10.00
Alfalfa..........9.00@13.00
Straw, per bale..........45@75

Grain.

Wheat No. 1..........1.62½@1.67½
Barley new..........1.31@1.40

Corn small yellow..... ..1.72½@1.77½
Oats white..... .....1.45@1.55
Oats gray.... ....1.40@1.55
Rye new crop..... .....1.47½@1.50

Feed Stuff.

Bran per ton.....29.50@31.00
Feed cornmeal per ton.....39.00@40.00
Cracked corn per ton.....40.00@41.00
Rolled barley per ton.....29.00@30.00
Oil cake meal per ton.....36.75@38.25
Cocoanut cake per ton.....25.00@26.00
Middlings.... ....32.00@35.00

Citrus Market

LOS ANGELES, Aug. 5, 1908.

The few oranges going forward now are being received well and commanding firm prices. The auctions are absorbing all the surplus and it appears as if the remainder yet to market will be cleaned up at satisfactory prices.

Shipments.

Shipments of citrus fruits to date aggregate 27,317, of which 4049 were lemons. To same date last season, 26,279, of which 3043 were lemons.

NEW YORK, Aug. 3.—Eight cars Valencias, one car grapefruit and one mixed car sold. The market is very steady on good quality stock, but lower on ordinary grades sizes 80s to 150s. There is a good demand for good quality grapefruit, but today's offering consisted of old stock that was unattractive. Weather clear and favorable.

VALENCIAS—
Independent Grs Ft Co.....$3.65
Brook S B Ft Ex..... ..... 2.50
Old Mission C C Chapman..... 4.15
Golden Eagle C C Chapman..... 3.35
Orchard Nat Or Co..... ..... 4.20
Standard Nat Or Co..... ..... 3.50
I X L Benchley Ft Co..... 3.40
Premium Benchley Ft Co..... 3.10
Titus Ranch..... .... 3.90
El Toreador San Mar Grs Pack As 3.60
Taylor's Best.. .... 3.45
Alta Cresta A H Ft Ex..... 4.10
Roberta A H Ft Ex..... ..... 3.60
Cupid Fillmore C F Assn..... 4.05
Airship Fillmore C F Assn..... 3.60
Oriole Fillmore C F Assn..... 3.35
Sceptre S S Ft Ex..... ..... 3.70
Planet S S Ft Ex..... ..... 3.10

GRAPEFRUIT—
Alta Cresta A H Ft Ex..... 3.75
Crocus S B Ft Ex..... ..... 3.40
Old Mission Chapman..... ..... 5.95
Robusta A H Ft Ex..... ..... 3.40
Canna S B Ft Ex..... ..... 2.85

ST. LOUIS, Aug. 3.—Weather very hot. Market is firm on good stock. Four cars sold. Four on track.

LEMONS—
Coyote O K Ft Ex..... ..... 3.45
Commercial A H Ft Ex Pren..... 2.15
Bonanza E B Leach Cdula Vista.. 3.70
National E B Leach Chula Vista.. 3.55
Bridal Veil Pinkham McKev..... 4.10

PHILADELPHIA, Aug. 3.—Two cars Valencias sold. Market is steady. Weather hot. Five thousand boxes of Sicily lemons selling this afternoon.

VALENCIAS—
Stag A C G Ft Ex Azusa..... 4.00
Valle Vista Grs Ft Co..... .... 4.21
Tahquitz G H Johnson Hemet.... 3.99
Standard G H Johnson Hemet.... 3.72

CINCINNATI, Aug. 3.—Weather hot and muggy. Market is advancing. Two cars sold.

VALENCIAS—
Hawk S A Ft Ex Pomona..... 3.15

LEMONS—
Serenade T C C Ft Ex Sanger.... 3.05

BOSTON, Aug. 3.—Four cars sold. Eleven on track. Weather favorable. Market is doing better.

VALENCIAS—
Stag AC GFt Ex Glendora..... 4.20
Pointer ACG Ft Ex Glen..... 4.00
Aurora E Peycke Co..... 3.85
Climax E Peycke Co..... 3.15
Chess Queen Ely Gilmore Co..... 3.50
Bishop Ely Gilmore Co..... ... 2.95
Giant Palm..... .... 3.05
Mountain Lion Speich & Co..... 2.60
Cobbler R H Shoemaker Jr..... 2.45

CELEVELAND, Aug. 3.—Weather very hot. Market is firm on good fruit. Two cars sold. Four on track.

LEMONS—
Los Fuentes Crock Sperry Summ 4.05
Montecito Croc Sperry Summer... 3.55
Whittier S T Ft Ex Whit..... 2.45
Pico S T Ft Ex Whit..... 2.50

PITTSBURG, Aug. 3.—Four cars sold. Four on track. Market is unchanged. Weather warm.

VALENCIAS—
Goldfinch S S Ft Ex El Modena.. 3.85
Royal Knight R H Ft Ex Red.... 4.30
Newsboy R H Ft Ex Red..... 4.10

LEMONS—
Coyote O K Ft Ex..... 2.50
Bluejay O K Ft Ex..... 2.30

Hesperia, San Bernardino county, orchardists are planning for a rabbit drive to take place in the near future.

For Mehring Foot-Power Milking Machines see O. J. Weber Co., 555-557 S. Los Angeles St., Los Angeles, Cal.

A FACTORY TOWN IN THE CORNFIELDS.

From cornfield to manufacturing town and site of one of the largest industrial plants of the country is the transformation which a year has brought to a section of Illinois prairie about twenty miles from Chicago. The change has followed upon the organization of the eighty million-dollar Corn Products Refining Company to control the glucose industry of the United States. The new town, as yet unnamed, is growing up around the site selected for the company's five-million-dollar plant. The Standard Oil interests, which dominate the new corporation, are said to be responsible for the decision to build the plant in the center of the corn belt, and for the choice of the present location on a section of farm land about twenty miles from Chicago along the drainage canal. It is near the lines of several of the corn-carrying roads and a mile from the small town of Summit, Ill.

The Corn Products Company has no intention of emulating the policy of the Steel Corporation, which has built up a city around their new steel plants at Gary, Ind., and has concerned itself only with the glucose plant itself, but as soon as it became known in Chicago that the biggest plant of the Corn Products Refining Company was to be erected in the open country, real estate promoters flocked to the ground and started the development of the adjacent territory.

Work was begun on the new Corn Products plant last year, but it was decided for the present to build only one of the three units which are to make up the maximum capacity of 60,000 bushels a day. At the present there are about 800 workmen on the ground, whom the Corn Products Company are housing in temporary quarters, but the Chicago speculators have laid out and graded streets for a small manufacturing center and are in the midst of a campaign to bring new industries to the ground selected by the Standard Oil interests.

The Corn Products plant will not be ready for operation till next year.—American Industries.

THE NEW AGRICULTURE.

The Cultivator is in receipt of the 375-page book entitled: "The New Agriculture," published by Munn & Co., New York, at $2.00. The book is written by P. Byard Collins. It consists of ten chapters ranging from "The New Call to the Farm;" "The New Soil;" "New Fertilization;" "New Creations;" "New Machinery" to "New Inspirations." The book opens with a statement that "Back to the Soil" was never more attractive and never so heeded as during the opening years of the twentieth century. It appeals to us as being written more in the effort to show attractiveness of farm life to the city man and to get him to return to the farming industry. We hardly think it is written from a practical, hard earned knowledge of agricultural practices. We note in it some things like its commendation of the Spencer Seedless apple, which farmers have generally believed to be a fake of the first water, and which is here spoken of highly and compared with the navel orange. However, on the whole the book tends to dignify farm life and show its rightful position as compared to other callings. Along this line it says in the foreword:

"Farm life was never so attractive as it is today, and this, notwithstanding the fact that the present methods of production and distribution outside the farm leaves much to be desired. Almost unthinkable sums of wealth which the farmer annually creates is annually appropriated by a few powerful corporations, but this is not more true than that all other classes of workers are equally and even more terribly exploited. But an evolution so active that it approaches the phenomena of a peaceful revolution is going on in society, long standing abuses are being curtailed or abolished, and the present social system is destined in the near future to undergo profound modification before it is finally displaced by something better or transmuted into another form. While, therefore, farm life offers more inducements than at any previous period of the world's history, and vastly more in America than in any other country of the globe, from the present moment of reform to the final fruition of the social growth of which the reform is an indication, is the farmer to reap more and more nearly the full reward of his toil."

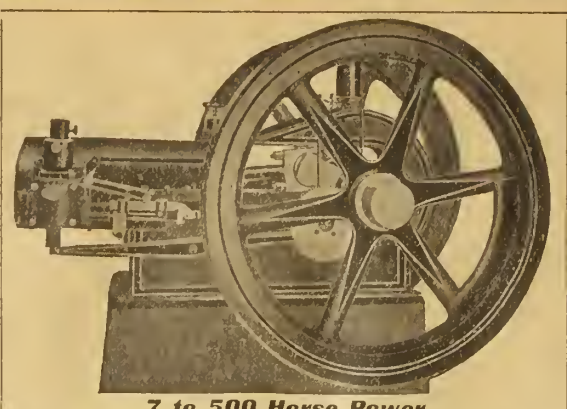
The Popular

Western

Built In the West Best For the West

FACTORY AT YOUR DOOR

LONGEST LIFE FEWEST PARTS
LEAST FUEL ALWAYS GOES



7 to 500 Horse Power

Irrigation Plants Designed Constructed Installed

U. S. GOVERNMENT TEST

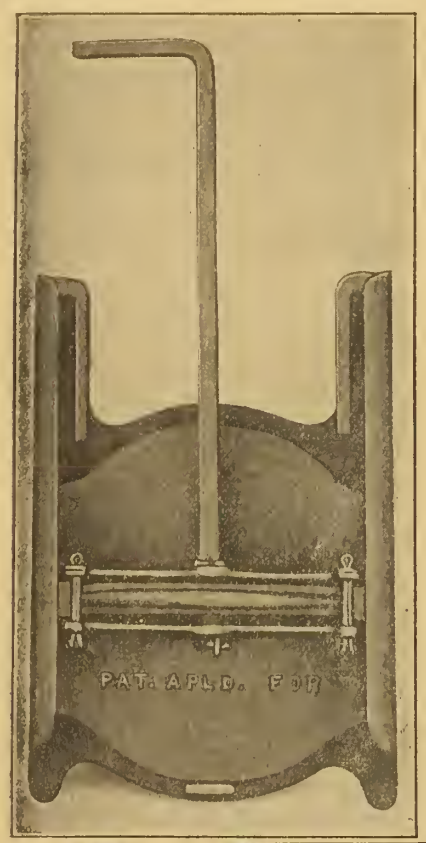
35 H. P. Western Engine Been Run 2 Years

RAN 87 DAYS DAY AND NIGHT

With One 20-Minute Stop to Lace a Belt
Send for the Copy of Test

Western Gas Engine Co.

Works and Office:
908 to 932 No. Main St. Los Angeles, Cal.
Send for Catalogue.



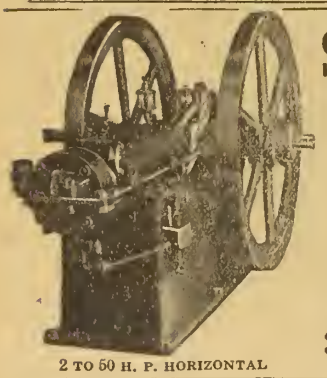
Pomona Pressure Gates

A Great Aid in Irrigation

These gates are made similar to the ordinary slide gates except that there is a locking device interposed to lock the cover in any desired position or to press the two faces together to make a WATER TIGHT joint, from either direction when closed. The parts are very simple, only a tapering screw with a split tapering nut socket. By turning the handle to the right tightens, and to the left loosens the cover or it may be removed entirely.

Pomona Mfg. Co.

Pomona, Cal.



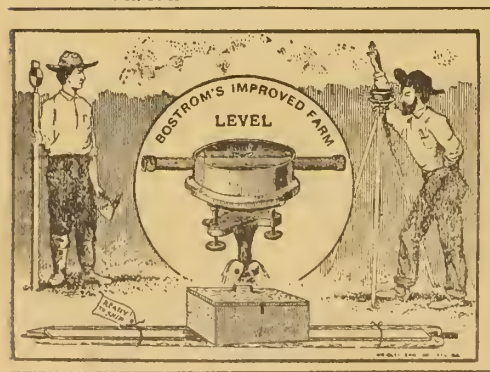
2 TO 50 H. P. HORIZONTAL

STOVER GAS ENGINES

The simplest and the best. We have had long experience installing pumping plants. We know our business. See us before you buy. 2 to 50 H. P.

LIVINGSTON & LEE

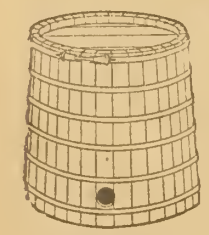
352 So. Los Angeles St., Los Angeles, Cal.



BOSTROM'S IMPROVED FARM LEVEL

Used for irrigation and drainage work. Cheapest and best level yet invented for farm use. Has the latest patented improvements in simplicity and usefulness. Can be operated by any one. Price including telescope tripod and target rod $12.50.

PALACE HARDWARE COMPANY
581 Market Street, San Francisco
Coast Agents. Send for Circular



Wine Tank

Tanks Tanks

WINDELER'S PLANING MILL AND COOPERAGE

GEO. WINDELER, Prop

Water Tanks, Wine Tanks made from carefully selected stock by careful and experienced workmen. "Tanks that are well made last a long time." It will pay you to get my prices before buying.

Geo. Windeler
144-154 Berry St. San Francisco, Cal.

Water Tank

500,000 Feet of

Water Pipe and Well Casing

All sizes, any amount. Special Prices while it lasts. Write or Phone for Prices.

Adams Pipe Works
2025 Bay Street, Los Angeles, California
Phones: F1917; Broadway 1264

THE

Latest Deep Well Turbine Pump

Guaranteed to deliver from 100 gallons per minute upwards, depending on the diameter and capacity of well, from a depth of 50 to 300 feet below the surface. Can be either belt driven or direct connected to electric motor as occasion requires.

Write for Catalogue 46B.

A deep well pump that has no valves or plungers to wear or get out of order, no gears, consequently no noise or breaking of teeth.

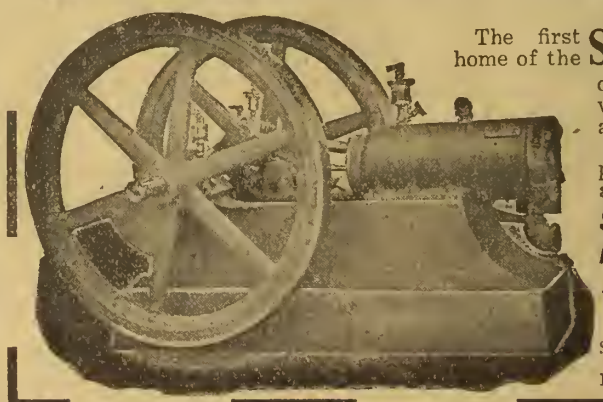
Compact, durable, always primed and ready to operate, constant flow, hence increased capacity of well.

This type of pump is fast taking the place of Vertical Steam, Deep well Plunger and Propeller Pumps.

Byron Jackson Iron Works

Main Office and Works:
Carlton Station
West Berkeley, Cal.

Samson Gasoline and Distillate Engines



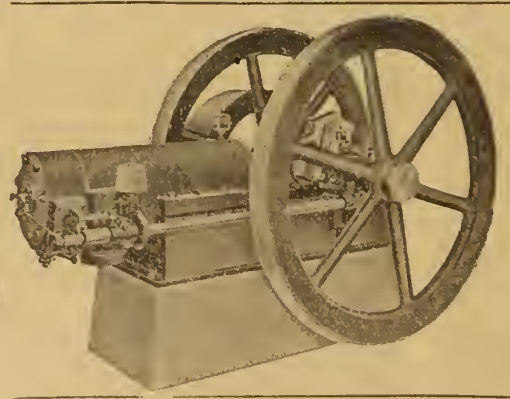
The first home of the SAMSON engine is a large one. It's second home, which is everlasting, is a happy one.

They may be compared with the sea—always ready to roll.

Samson Iron Works

Office and Factory:
1100 to 1198 Aurora St.
Stockton, Cal.

BRANCHES:
San Francisco,
Cor. Market and First Sts.
Fresno, 920 J St.



HERCULES DISTILLATE ENGINE

Heavy, Strong and Simple in Construction

The Right Engine at the Right Price

Horizontal and Vertical; All Sizes. Buy direct from the manufacturer and save agent's commission. Send for our new Catalogue C.

The Hercules Gas Engine Works
Alameda, Cal.

Olds Gasoline Distillate Engines

For all purposes, Stationary, Portable and Spraying. All sizes from 2 to 100 H. P. Simple, durable, warranted, are giving fine satisfaction to purchasers on the Coast. Prices and circulars mailed on application to

The Compressed Air Machinery Company

Dealers in all kinds of machinery

34 to 40 Jessie St.,
San Francisco, Cal.

SEND FOR BULLETIN NO. 15

LIBRARY
OF THE
UNIVERSITY OF CALIFORNIA

California Cultivator

Published Weekly — One Dollar a Year

Los Angeles — August 13, 1908 — San Francisco

A Shady Glen in the Mountains

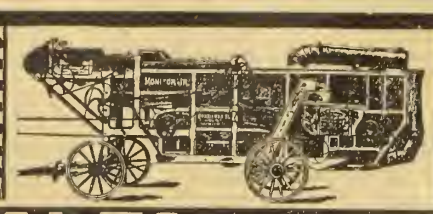
One of the Cool Spots in Our Mountains Which Make Us All Long for Barefoot Days Once More

Alamo Gas and Oil Hoisting and Stationary Engines

Best in price, appearance and quality. Self-starting and small operating cost. A complete line of repair parts and accessories always on hand. Complete pumping plants installed and we are prepared to construct all kinds of mining machinery on contract. Write for catalog and prices.

Harrison Machine Works

719-721 N. Main Street **Los Angeles, California**



ALFALFA — $3298.00

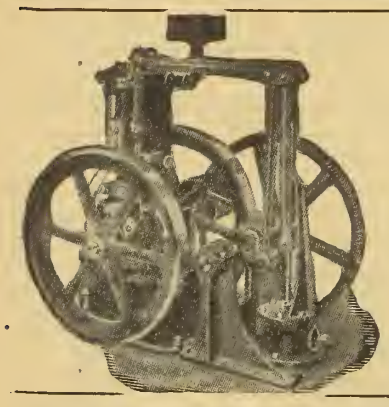
ONE SEASON'S EARNINGS

It will pay every Farmer who reads this "Ad" to write us especially if interested in Clover or Alfalfa growing. We can refer you to a man who made $3298.00 in Alfalfa last year.

HE WILL TELL YOU HOW IT WAS DONE

We manufacture the machine shown in the cut; it threshes, separates, hulls, and cleans ALL the seed for market. No other machine will do it. You should write us and get our Alfalfa Booklet FREE. It will give you valuable information. Mention this paper.

BIRDSELL MFG. CO., South Bend, Ind., U. S. A.



A Handy Little Engine

Just the thing to run the feed cutter, the pump, the churn, the grinder, or anything on the ranch. It's well named

The Little Wonder

Write or call on

Wm. Gregory

602 No. Main St. **Los Angeles, Cal.**

From photograph showing amount of

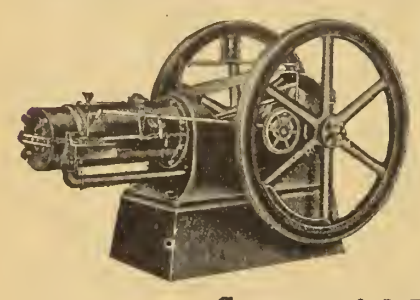
Ten-Inch Pipe

made by four men from 10 bbls. of cement in 9 hours — 280 two-foot joints, or 560 feet. This pipe was made with the

"K T" Moulds

An equal amount can not be made with any other tools in the same period of time. Write for "Brown Book" and price list.

THE KELLAR-THOMASON MFG. CO., Covina, Cal.



For the Land's Sake!

IRRIGATE WITH A

Commercial Gas Engine

SEND FOR BULLETIN NO. 11 AND YOU WILL

Commercial Engine Company

953-955 No. Main St. - Los Angeles, Cal.

Pioneer **RUBBER SANDED ROOFING**

Requires no paint; easy to put on—and stays on; Rain-proof and Sun-proof.

We want you to know Rubber Sanded Roofing. That is why we wrote "Roof Talk," a 24-page Booklet about Roofs and Roofing, illustrated from cover to cover. Let us send you a copy of "Roof Talk"—together with Samples of Rubber Sanded Roofing, and put you in touch with our local agent in your community.

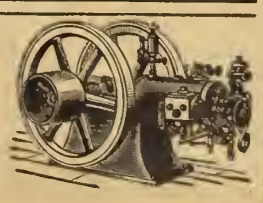
Pioneer Roll Paper Co. Department 11 Los Angeles, California

Makers of Rubber Sanded and Rubber Flexine Roofing and Refiners of Asphaltum

A Gasoline Engine 35 H.P.

Used short time; in good condition.
For Sale at Half Price. A Bargain.

National Wood Pipe Co., 404 Equitable Bank Building Los Angeles, California



A Railway on the Ranch

Saves Much of the Hard Labor

The equipping of the ranch with a ***Portable Railway*** is a very ***Profitable Investment*** and ***not*** very expensive.

Our booklet S. F. 60 gives several suggestions for applying it to the Dairy and Ranch.

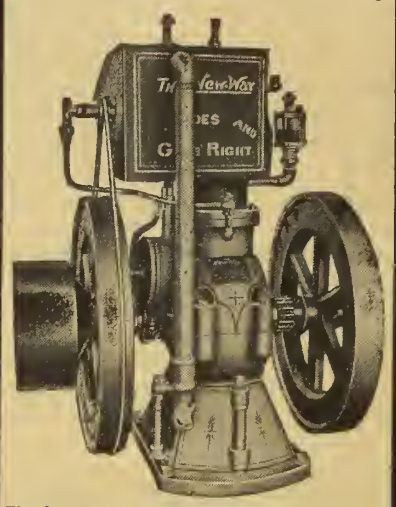
Works at Koppel, Penn.

Eastern Offices:
Pittsburg
New York
Chicago
Boston

ARTHUR KOPPEL CO.

212 So. Los Angeles St. ***Los Angeles, Cal.***
Chronicle Building ***San Francisco, Cal***

THE NEW WAY AIR COOLED ENGINES



The first and only SUCCESSFUL AIR COOLED Gasoline engine manufactured

HENSHAW-BULKLEY & CO.

Distributers for California Nevada and Arizona

San Francisco ***19-21 Fremont St.*** ***Los Angeles*** ***335-337 E. Third***

The Monarch Stump Puller

The Monarch is a Puller constructed on the most correct and scientific principles, and is made of the strong- and best materials obtainable.

The Monarch

Is the most successful and most popular Stump Grubber on the market today.

Write Us for Catalogue of Stump Pullers, Farm Implements, Wagons and Vehicles.

Pacific Implement Co.

133-153 Kansas St. San Francisco

When writing advertisers, mention Cultivator.

Irrigating Hose

12oz. Canvas Coated or Plain. Good for several seasons.

1¼ Inch
2½ "
4 "
6 "
9 "

3 Inch

Galvanized or Brass Couplings.

Prices on Application

Tents, Stack Covers, Picking Bags

The Wm. H. Hoegee Co.

INC.

138-140-142 So. Main St., Los Angeles

Both Phone Exchanges 87

Your Eastern Trip

SOUTHERN PACIFIC

May be arranged so that you may travel by way of

New Orleans and the Sunset Route

San Francisco and the Ogden Route

Portland and the Shasta Route

Enjoying the balmy air of the South or the cool and bracing air of the North.

Personally conducted excursions every day from Los Angeles via all routes without change to principal eastern points.

City Ticket Office:
600 S. Spring St., cor. Sixth
Southern Pacific

Cultivator Order Blank

_____ 1908

CULTIVATOR PUBLISHING CO.,
115½ No. Broadway, Los Angeles, Cal.

Gentlemen—Enclosed find $_____ for which please send the **Cultivator** for one year to the following, or credit on my account from _____ 190— to _____ 190—

NAME	P. O. ADDRESS	STATE

Are you an old or new subscriber? _____

SIGNED _____

ADDRESS _____

California Cultivator

Vol. XXXI—No. 7 Los Angeles, California, Thursday, August 13, 1908 Subscription $1 a Year

Preparing Cattle for Exhibition Purposes

An Address by H. G. Van Pelt at the Chicago National Dairy Show

FOR obvious reasons, the breeder of pure bred cattle realizes the importance of fitting and showing representatives of his herd at the County, State and International shows and fairs. Through these mediums, he and his cattle are brought in touch with a multitude of men and breeders who go to make up the great cattle industry of the world.

If success in the show-ring is attained, extensive advertising is gained and makes both breeder and herd popular, and the result is a ready demand for all surplus stock that can be thereafter produced. All exhibitors, however, cannot be winners. Nevertheless, if the cattle have been so prepared that they present an appearance that is a credit to the breed, the advertisement is of extensive value; but of greater value yet is the knowledge gained by the breeder in having impressed upon his mind the deficiencies of his cattle, and he goes home resolved to come back another year more strongly prepared to enter into the friendly strife of the show ring. Thus, the breeder who loses is prompted to improve on his old methods of breeding and feeding, and the one who wins knows well he must put forth every effort to remain in the front ranks another year, and in this manner it is plainly seen that to the show ring is due a large share of the credit of bringing our various breeds of cattle to their present high rate of perfection.

Many factors enter in to determine whether or not results gained from exhibiting justify the labor and cost involved in the operation. One time there is when it is certain that keeping the cattle at home is the advisable thing to do; that is when the breeder has not thought of showing until a few weeks before the time for the shows to begin. Thorough preparation of extended duration is an absolute necessity and great, indeed, is the time, labor and expense necessary to bring even the best of animals out in a winning condition; but he who considers the trouble and cost of preparation rather than the advantages to be gained by good fitting will never be a successful exhibitor, and his cattle will always be found in the lower ranks where they can add nothing to the fame of their breed or breeder. On the other hand, time and money judiciously spent in preparation will return large rewards in the form of prizes, advertisement and honor.

Sometimes it is advisable for the young breeder to exhibit cattle of other men's breeding, to let it be known the superior quality of his foundation stock; but the older breeder should always follow the plan of breeding his own show stock and showing his own breeding stock, then the ribbons won will bring home honors that are all his own.

To recapitulate then: The man who has surplus stock to place upon the market and has animals of superior show-yard merit, on which he is willing to devote his time and money to bring them out in the best possible condition, can do nothing better than to go ahead with the intention of supplying winners to the shows, always remembering the true English saying that "Anyone can show any kind of cattle and lose, but it takes a good man with good cattle to win."

Probably no mistake is made more often than the one of simply not beginning preparation early enough. Often we hear criticisms to showing, based on the fact that so many animals are ruined through fitting. I am thoroughly convinced that more cattle are ruined by a lack of real fitting than through good, careful preparation. The animals thus ruined are often caught up out of pasture three or four weeks prior to the show and crowded to their utmost capacity with corn and anything else that will suffice to lay on fat. This haste in getting ready, and hard grain, always leads to disaster. Fat is laid on the body, in the body and around the genital organs in large patches, resulting in a ruination of the beast for breeding purposes, and seldom makes a winner of it. If this may be called fitting, then fitting ruins cattle and should be done away with. True it is, and must be admitted, that the most careful fitting often injures more or less the breeding qualities of some of our best show animals; but the better herdsmen, and those who win the most ribbons, seem to have the least trouble from this source. The main reason for this is that they extend their feeding over a longer period and are not compelled to crowd their animals so rapidly.

The older members of the herd should be selected at least ten months prior to the show, and the calves a year before this. In fact, the breeder should take great pains in breeding for his show calves. The careful breeder knows the cows that produce his best calves; it is not always the cow possessing the best show-yard form either, but through some peculiarity she nicks just right with the sire and produces a calf of outstanding merit. Considering these points, the breeder who is always looking forward to years to come selects his cows and so breeds them that they will calve at the proper time for the calves to show at a good long age. Even then some are better than the rest and the judgment of the breeder is called into practice to pick out the number he needs to show; and this is best done when the calves are about ten days old, for it is safer to believe that if the youngster loses his calf form he will return to it, rather than to rely on a poor calf growing into good form. A good plan to follow is to select two animals at first for each one you desire, for oftentimes the judgment between two animals will be changed as they develop. Then, again, an animal sometimes " goes wrong" and you have another to fall back upon. Later, as the feeding advances, it is an easy matter to pick out the best one of the two animals and the other one can be rejected. In making your selections, lay all prejudices aside, judge your animals as though they belonged to someone else. You must find their weaknesses so you can overcome them through fitting. Select those conforming to one type. Every breeder has, or should have, a clearly defined picture in his mind's eye of the proper type, and his show animals should all tend towards this one type—insuring uniformity. And what pleases the eye of the judge more than to see each entry you lead into the ring resemble closely the one you just led out? When showing in groups the advantage becomes still more apparent.

Character and style, though of little value at the pail and churn, are all important factors in the show ring. Difficult as they are to define, they always pleasingly attract your attention when present and give to the animal a proud dignity of carriage, refinement of countenance and a desirable prominence of features throughout. Their presence is indicative of vigor, thrift, constitution, prepotency and as when found in man, all that goes to make up an honest, reliable individual. But these points are not all; with them go quality, conformation and beauty to make up the winner. Animals beefy in conformation, heavy over the shoulders and through the thighs, with small or badly formed udders and small misplaced teats, though often seen in the show ring, would have better been left in the pasture. Narrow heads, sleepy eyes, small muzzles, shallow barrels, are all indications of poor feeding capacity and are all quite readily noticed by the judge. In fact, to win in the present day show yard, where competition is invariably keen, the dairy animal must conform to the dairy type in the strictest sense, and unless it does, its chances are poor for winning anything more than criticism. When the animals that are to constitute the show herd are properly selected, feeding operations should begin at once to insure plenty of time to place the beast in its best form.

A famous breeder said that all time was too short. This is putting the case rather strong, but the feeder should look ahead to the time when he should have his animals finished, and allow himself enough time to bring his cattle slowly and gradually into bloom by that time. I strongly believe there is nothing, not even breeding, that exerts so much influence toward producing show cattle as liberal embryonic nutrition, followed by careful and liberal feeding from birth to the showing. While the calf is in the embryo state its feeding should begin by supplying the dam liberally with food stuffs rich in protein and ash, as bran, clover hay, gluten, oats, oil meal, etc., from which she can produce nourishment for the foetus.

Preparing Cattle for Exhibition Purposes.

By so doing the foundation is strongly laid; the calf is born strong in bone and muscle with the prepotent characteristics of its ancestors strongly marked, and is soon on its feet starting further development by drawing nourishment that, through the use of nitrogenous food, its mother has stored up in her udder for her infant. On the other hand, had the cow been starved or fed on stuffs rich only in carbohydrates, as is the case with corn, it matters little what possibilities were stored up in the embryo by the prepotency of the sire and dam, they remain in a dormant state for the want of stimuli to start their development, and the calf is born in a weakly, stunted condition, with scarcely enough strength and stamina to draw the first milk, and the calf so seriously handicapped must ever remain nearer the plane of the common scrub than to the plane of the blue and purple winner.

Not a day can be lost from birth to exhibition day if the calf is to compete successfully. No food can take the place of milk, but even this should be fed with the greatest of judgment. The calf should be taken from the cow when about three days old and taught to drink from the pail. Care must be taken from now on to prevent scours, which are the greatest menace to the feeders' skill. A bad case of scours is liable to give the calf a setback of a week or two in its development. The pail from which the calf drinks must be kept absolutely clean and sweet, the milk fed regularly and at the same temperature each time. A teaspoonful of soluble blood flour added to each feed of milk will prove more efficient than anything else in preventing scours and promoting growth of bone and muscle. As a rule, dairy calves must be satisfied with skim milk after the first month of their existence, but this should not be true of the show calf; neither should the milk it receives be too rich in butter fat, but this is a question that must be decided by the feeder and it is an

Continued on page 154.

Long Lived Harness

The old harness will do double service if you treat it now and then with a softening application of

EUREKA Harness Oil

Made specially to preserve harness leather. Lasts a long time without drying out. Gives a fine, black finish. Just what everyone needs who keeps a driving horse. Made by

STANDARD OIL CO.
(Incorporated)

EVERYTHING FOR THE FARMER

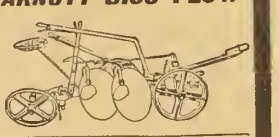
ARNOTT ORCHARD CULTIVATOR

Acknowledged the BEST. Five feet wide. Spring teeth if wanted. Horizontal lift. No neck weight.

Steel and Malleable Iron. Dust proof wheels..... **$45.00**

SANDERS-ARNOTT DISC PLOW

SINGLE **$60.00**



DOUBLE **$80.00**

COLUMBUS WAGONS

Three inch Skein. Four inch Tire. Brake and Pole. **$80.00**

PACIFIC ORCHARD TRUCK

3¼x10 Skeins. 28x30 in. wheels.. **$32.50**

LEATHER TRIMMED

Guaranteed Twelve Months **$65.00**

MONITOR WINDMILL

8 ft.....$30.00
10 ft..... $45.00

The New 8 and 10 Foot MONITOR

MONITOR ENGINE

Simple Economical

2 H. P....$130
4 H. P. $250
6 H. P. $350

Catalogue No. 9 Sent Free on Application
Address Department G.

ARNOTT & COMPANY Inc.

112-118 South Los Angeles Street

QUALITY ARNOTT GUARANTEED

Los Angeles California.

When writing advertisers, mention Cultivator.

With the Citrus Growers

A BIT OF CITRUS HISTORY.

A LOOK at California citrus industry given in Citrus Fruits by R. M. Teague is so good, that we quote from it as follows:

Citrus culture in California, like so many other lines of fruit growing, took its inception with the advent of the early Missions something like a century ago. In its beginnings it was sporadic in character,—a few trees of oranges and lemons (more especially limes in the earlier period) that dotted the landscape over widely separated points, usually found an abiding place within the shadow of the Mission Churches or their immediate environs. For the most part they were planted to supply local wants, no attention whatever being given to their culture as an article of commerce. In sort and variety they were also limited, consisting chiefly of the seedling orange and the Mexican lime. This dearth in kinds and sorts was universal—it was as pronounced in the sheltered portions of Northern California, in the great thermal belt of the San Joaquin and Sacramento valleys, as in Southern California. In so far as progress and development was concerned, there was none from the time of the advent of the early Missions and the period of American occupation. Even after that period the advance was slow and purely local in character, representing small plantings of trees in gardens and limited orchards calculated to meet a local demand for fresh fruit. Some efforts were, however, a feature of the late sixties and early seventies, when oranges began to find their way by ocean vessels to San Francisco and other northern points, chiefly from Los Angeles county. These early shipments were usually sent out in bulk, sometimes in barrels, sometimes in sacks, and at other times in boxes. In the northern markets these brought good prices, which greatly advanced the interest in citrus culture and stimulated planting not a little. The first great impetus to citrus growing, however, took its inception when the railroads were completed and made it feasible to ship direct to the Eastern markets.

Citrus culture, as a great force in California's horticultural development, takes its date from about 1870. One year previous to that time, Riverside had already taken the initial steps toward becoming a great orange growing section—a distinction which has been augumented with the years, until it is recognized the center of the industry in the United States. At about the same time many other places were exploiting orange planting. Growing settlements with citrus culture as a basic industry were springing up all over Soutnern California, but chiefly in the San Gabriel valley. For the most part, these early plantings, when coming into bearing, paid handsome returns. In not a few cases as high as $2000 was realized from a single acre, and from $500 to $1500 was not unusual. Naturally an industry yielding returns like this attracted men and money from all sections, with the result that land values increased rapidly and the new acreage, being constantly planted, resulted in a development, the like of which has probably no parallel in the annals of horticulture. A few figures in the rough will tell forcibly the giant strides made in 1890-91, when Los Angeles county shipped 2212 cars and San Bernardino county (then including what is now Riverside county). 1708 cars; 1898-99 when the total cars shipped from Southern California aggregated 15,000, valued at about $12,000,000. Since that period, the advance has been healthy, though not quite so pronounced. At the present writing, the total shipments from south of the Tehachepi range of mountains will average between 25,000 and 30,000 carloads, valued at about $25,000,000.

While this development was going on in the Southern counties, the American spirit of enterprise was not idle in other sections of the State. In the thermal belt of the San Joaquin valley, from the southern portion of Tulare county along the base of the Sierra Nevada mountains, there is a vast area of country adapted to the orange and the lemon. Experimental plantings here and there gave early evidence of climate and soil conditions favorable to citrus culture. Notably true was this of the section of which the town of Lindsay is now the citrus fruit center. As a business proposition, oranges and lemons began to be planted in that locality about fifteen years ago, though experimentally and in a small desultory way citrus fruits were known in that neighborhood as early as 1862-'63. Last year (1906-'07) the shipments from Central California aggregated something like 2000 carloads. For the most part the fruit ripens earlier than in Southern California, thus insuring an independent market which in no way conflicts with the industry as between one section and another. At present there are about 4500 acres in bearing and fully 11,000 acres, both young and old, planted out. The quality of the fruit is in every way superb, clearly indicating that California's sunshine, soil and climate are quite as good in one section as in another. The natural supply of water in that region is ample, and warrants the prediction that at no distant date orange shipments will be as pronounced from that section as raisins are from Fresno.

Besides these two citrus growing empires within the borders of the State, there is also what is known in the trade as the Northern Citrus Belt. For the most part this is somewhat broken up or scattered over several counties, including Placer, Sacramento, Butte, Yuba, Stanislaus, Merced, Sonoma, etc. At particular points in all of the above northern and central counties, there are protected areas free from biting frosts in which citrus fruits find congenial conditions. Thus it will be seen that the orange and lemon, though rated as tropical fruits, yet find a wide geographical distribution in a State which is nothing if not a world unto itself for the growing of almost every fruit of the temperate and tropic zones.

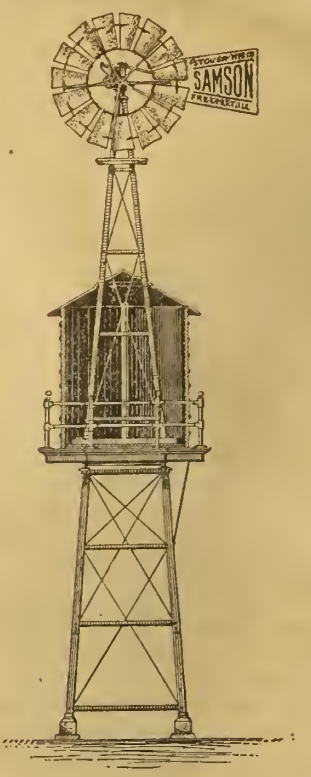
Redlands orange growers are planning for an extensive campaign against the yellow and black scale. Fumigation will be the principal method of work.

All Western Oregon is becoming interested in the good roads campaign, and a large meeting is to be held this month at Portland.

An extensive forest fire in northern Sonoma county and southern Mendocino counties burned for more than a week and did vast damage.

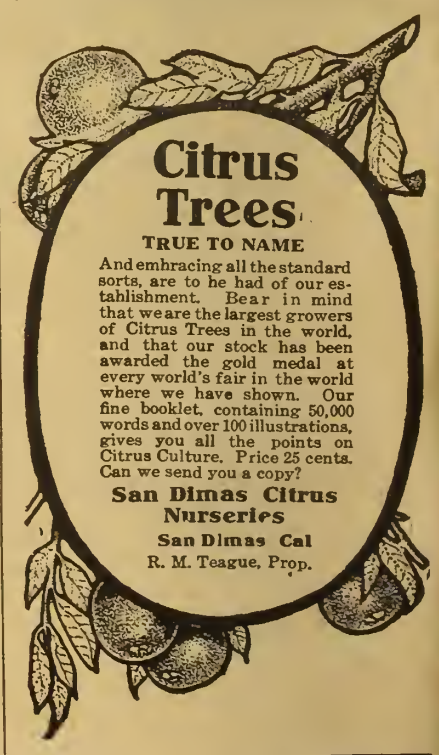
SAMSON WIND MILLS

Have double gears, removable bearings and center lift, which double the life of the mill. They will last longer, pump more water and give better satisfaction than any other WIND MILL.



This is an up-to-date Sub-structure, Tank and Wind Mill outfit complete; substantial, economical and attractive. We build all kinds. Write us or our general agents for full information and prices, description &c., before purchasing.

The STOVER MFG. CO.
FREEPORT - ILLINOIS
30 California Avenue
CRANE CO., LOS ANGELES and SAN FRANCISCO
General Agents for California



Citrus Trees

TRUE TO NAME

And embracing all the standard sorts, are to be had of our establishment. Bear in mind that we are the largest growers of Citrus Trees in the world, and that our stock has been awarded the gold medal at every world's fair in the world where we have shown. Our fine booklet, containing 50,000 words and over 100 illustrations, gives you all the points on Citrus Culture. Price 25 cents. Can we send you a copy?

San Dimas Citrus Nurseries
San Dimas Cal
R. M. Teague, Prop.

Oldest and Largest in the Southwest

SECURITY SAVINGS BANK

Los Angeles, California

CAPITAL AND RESERVE $1,200,000.00
TOTAL RESOURCES OVER $20,000,000.00

We Pay Interest

4% on Term Savings and on Six Months Certificates of Deposit

3% on Ordinary Deposits

By special arrangement 'Ordinary' accounts may be checked against without presentation of a pass book, and 3 per cent. interest will be paid on the minimum monthly balances.

IRRIGATION OF ORANGE TREES.

From an address delivered some time ago at Riverside by Mr. C. E. Rumsey, we quote the following as reported by the Riverside Enterprise:

"I do not know how old irrigation is, but I do know that cultivation runs back as far as Adam and Eve's time. Irrigation is considered young, but investigation shows us that long before America was discovered the Pima Indians were building irrigation canals in Arizona, living in houses and weaving cotton. Today traces are plainly visible of the early forms of irrigation. So, after all, irrigation is a pretty old art in America. Irrigation has changed this valley into a fertile spot and made possible the wonders that have been accomplished in agriculture.

"Men seem to differ about irrigation as they do on all subjects. One of the greatest fascinations of agriculture is its uncertainty. We must fight nature as we as use it, in spite of the old saying to 'let nature take its course.'"

"I have it from a well-known authority that 25 per cent of the irrigation lands would eventually become worthless because of the lack of drainage. Land must be drained as well as irrigated. Irrigation is running water into land and not running it off as many of us are guilty of. The requirements of irrigation vary. It depends altogether on the lay of the land."

Mr. Rumsey also told of an experiment that was being carried on by James Mills on an orange grove. This grove, when he last saw it, was doing well in spite of the fact that it had only been irrigated once in one year. He declared that it was at the lower end of a mile of groves, and probably the trees grew by an invisible system of sub-irrigation.

"This experiment got some of us to thinking. The question was raised as to whether we were using too much water. Six years ago there was a man who had a chance to get rich, but he did not see it at that time. He had a chance to get at a song some orange groves from Matthew Gage, who only allowed one inch of water to the acre for irrigation. These groves with a limited supply of water are among the best in the country, and this man who turned them down realizes now that one inch of water to every five acres is enough. In some cases I think one inch of water to every five acres is too much.

"There are almost as many differences of opinion regarding cultivation as there are on irrigation. In cultivation men have as many theories as in irrigation. When I first came here, I went around seeking information, and I got it. Everybody seemed to have something different to tell me. Finally I put it all into one pot and formed my own course. Some men would no more give up plowing than they would irrigation. I plow every year myself, and try to plow as deep as nine inches and get eight.

"When I see an orchard where the cultivation is only two inches deep, other orchards where the roots are growing under cement sidewalks, then I think of all the horseflesh I am killing, the money I am wasting in cultivation and irrigation. I am up in the air, I cannot understand.

"Just as soon as I get a theory, I fight it. I think a man should form his theory. I am beginning to think that we can fertilize with great quantities with better success.

"In closing, I would like to warn you to beware of the man who thinks he knows it all. I am as scared of him as I am of the pruner."

AN ENGLISH ICELESS REFRIGERATOR CAR.

A new refrigerating car, the design of two Liverpool experts, has been put upon the English market. The London Times, in describing it, says:

"Up to the present practically no improvement has been made in the ordinary iced box car for carrying perishable produce, a system which has decided limitations. The car now introduced accomplishes the cooling by means of a mechanical refrigeration plant, which consists of a small inclosed type ammonia compressor of special design mounted on one end of the car; an ammonia condenser designed for cooling by the air current produced by the motion of the car and placed on the roof; an expansion valve arranged to keep, automatically, a constant pressure in the evarporators within the car, and consequently a constant temperature therein, and ammonia evaporators, placed in suitable positions inside the car, arranged to provide a regular supply of cold to keep the car temperature constant during stoppages. The compressor is driven from one of the axles by chain gearing, a change speed gear and disengaging mechanism being interposed between the axle and compressor. The driving wheel placed on the axle may be arranged to allow the toothed part to swing in either direction, and thus keep in the same plane as the driven wheel on the intermediate shaft.

"The advantages claimed for this type of car over those now in use are that it is independent of any ice supply whatever; it is available at any point on the line and at all times; it obviates delays due to icing, and, in addition, the expense attaching to ice storage and filling; it effects a lower temperature than is possible with ice on a journey without renewals; and it is free from the risks due to careless or insufficient icing."

FUMIGATION IN THE NORTHERN COUNTIES.

Citrus growers in Glenn and Colusa counties have been fumigating for the yellow scale, which is a very serious pest on the orange trees of that section, and now the olive growers at Fair Oaks, in Sacramento county, are arranging to fumigate for the black scale. This pest has been increasing in numbers for several years past in spite of the establishment of numerous colonies of Scutellista cyanea, and some of the growers there have made up their minds rather to resort to artificial methods than depend longer upon parasites. At the present time the hot weather has checked the spread of the scale and the work will be largely preventive, it being hoped that fumigation will kill off all the young scale that have escaped the sun's heat and so check its further spread.

Do Irrigation Work---Quicker and Easier

For Leveling Fields—For Cutting and Clearing Laterals

The photo is from an actual field-scene in New Mexico, where a 20th Century Grader is leveling seed-beds on the great truck-farm of Herman Blucher. He says: "Your 20th Century Grader has no equal for land-leveling, seed-bed making, ditching and for all kinds of irrigation work. I have reduced my force one-third since buying this machine." The

20th Century Grader

weighs only 600 lbs—light and handy—and is easily handled by one man and two horses. It is all steel and malleable iron. Price very reasonable. It pays for itself in one season. If your dealer hasn't it ask for name of nearest agent. Write now for new free booklet with large cuts showing every part.

Baker Manufacturing Co.

281 Dearborn St. Chicago, Ill.

WILLIAMS' GOOSE-NECK CULTIVATOR

Especially adapted for citrus orchards. Sizes 8 to 14 feet. Lightest draft. Free trial to responsible parties. No agents. You pay only one profit. Write today

WILLIAMS & SON, Manufacturers

Orange, California

TREE TANGLEFOOT

A Sticky Preparation Applied Directly to the Bark of the Trees

Will not injure trees. A band 5 inches wide and 1-16-inch thick cannot be crossed by any climbing insect pest. Remains sticky five to ten times as long as any other known substance. You can test it at slight expense, as no apparatus is required. Used by the carload in New England against the Gypsy and Brown-Tail Moths. In California it preserves prune orchards from the Canker Worm Wherever the Gypsy or Brown-tail Moths, Tussock Moths fall or Spring Canker Worm or Web Worm appear TREE TANGLEFOOT is of great value, and should be used when the caterpillars begin to crawl while they are very young.

Price 25c per lb. Liberal discount on quantities. The only safe and effective banding preparation. Send for testimonials.

THE O. & W. THUM COMPANY

Manufacturers of Tanglefoot Fly Paper Grand Rapids, Michigan

TENTS

Fumigating and Lemon Curing Tents our Specialties

Irrigating Hose, all sizes. Prices and Samples quoted upon application. Write your wants Wagon Covers, Hay Covers, and Canvas Covers of Every Description.

Mellus Bros. & Co

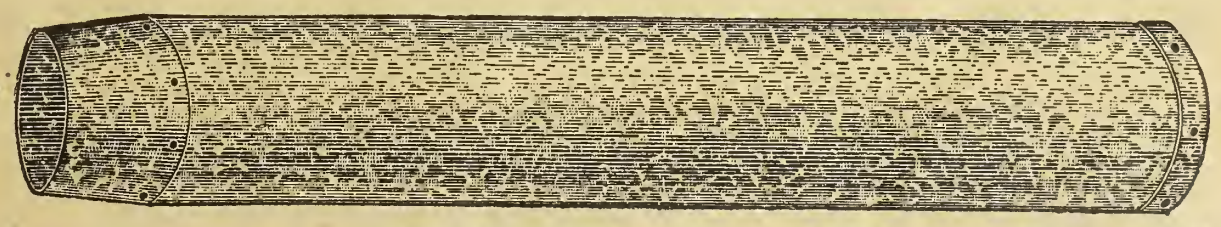
Phones—Home, F 4871; S. S., Main 3500
250 East Fifth St., Los Angeles, Cal.

Rid your premises of Gophers and Ground Squirrels by using **Gopher Dope**

Gophers and Ground Squirrels will not live where Gopher Dope is used. Absolutely harmless to other animals or fowls. DIRECTIONS—Put one ounce in the holes and run ways and in a short time Gophers will disappear from your premises. Absolutely guaranteed or money refunded. 2-Pound Can, $1.00; 6 2-Pound Cans, $5.00, f. o. b. Los Angeles. For Sale only by

B. & G. Disinfecting Co., Phone Home A 9089
417 Laughlin Building. Los Angeles, Cal.

When writing advertisers, mention Cultivator.



AMERICAN SURFACE IRRIGATION PIPE

SAVES WATER, GRADING AND TIME

The **only** way to **irrigate Alfalfa. Cheaper** than **Flumes.** This is only **one** of our **specialties.** We make **Riveted Water Pipe** in lengths of **ten feet** from **single sheets.** Let us **prove** to you that we make **Pipe** and **Tanks right.** WRITE FOR CATALOGUE.

AMERICAN STEEL PIPE & TANK COMPANY

FORMERLY TALLERDAY MANUFACTURING COMPANY

636-7 Pacific Electric Building Los Angeles, Cal

Deciduous Fruit Culture

GRAFTING THE PEACH.

The peach, when grown upon peach-roots, is more often propagated by budding than by grafting, says the Kansas Farmer. Budding is carried on in July and August upon stock grown from seed during the season. It can be done rapidly and, under proper conditions, gives better results than any other method of propagation. Grafting, however, frequently gives satisfactory results. The most satisfactory way is to graft in the spring, at the time when the sap is beginning to flow. The stock upon which the graft is made should be of the previous season's growth. Remove the soil to the first roots and cut off the tree an inch above them. This method is known as the cleft graft. Make a sloping cut from the roots at such an angle that it will remove about half the surface of the horizontal cut. With a chisel or sharp blade split the stock at right angles to the cut that has just been made. This cleft should extend about an inch, or down to the roots.

The scions should be cut the previous fall or winter and stored in moist leaves in a cool, dark cellar. This will keep them in a dormant condition till the time for using them. To prepare the scion for grafting, take about eight inches of the terminal growth, making a wedge at the lower end an inch in length. This wedge-shaped part should be thicker on one side than on the other, and it is better to make the cut so as to include a bud near the upper portion of the thicker side of the wedge. Insert the wedge of the scion into the cleft of the stock, with the thick part of the wedge toward the side of the stock in which the bark has not been cut away. See that the cambium or growing part of the scion fits exactly to the cambium of the stock. Push the scion down into the top of the wedge-shaped cut even with the top of the stock. The shape of the wedge is such that the cambiums of the two parts will be held firmly together. Cover the portion with wax and draw the earth over it. The scion soon opens its buds and begins rapid growth. A good grafting wax for outdoor use is made as follows: 4 ounces of resin, 1 ounce of beeswax, half a pint of raw linseed-oil. Melt all together gradually and turn all into a pail of cool water. Pull until the color becomes light, make into rolls, and wrap with strong oiled paper. These rolls can be laid away and used at any time.

The apricot is gratted upon the peach in precisely the same way as has been described for the peach.

METHODS OF INDUCING FRUIT BEARING.

It isn't often that the fruit grower is concerned about his fruit trees not setting fruit, as the general tendency of most varieties is to overbear. There are some varieties, however, which are slow in coming into bearing, and individual trees of standard varieties sometimes fail to set fruit.

Horticulturists have for many years practiced various methods to induce fruitfulness and with some degree of success. All these methods, as girdling the trunk, root pruning, and summer pruning of the branches temporarily check the growth of the tree, and the consequent slow growth induces the formation of fruit buds. It is well-known that the buds which produce fruit in any particular season were formed the season before and their formation is believed to begin early in the growing season This being true, the time is now at hand for such work; if put off much later in the season, it will be too late, as the time for the formation of fruit buds for next year's crop will soon be passed.

By root pruning is meant that a small portion of the roots are cut off, and the operation may be performed with a spade or in any way which is best suited to individual needs.

Summer pruning takes the place of the annual winter pruning, and is the same in most respects except that it is done in June instead of winter or early spring.

Girdling or ringing consists in removing a ring of bark from the trunk or larger limbs. This ring is sometimes two inches or more in width; all the bark within this space is removed, thus exposing the wood. The method of checking growth, though often employed, is rather drastic, and should be used with caution. A more rational method is to girdle the branch or trunk by cutting through to the wood by making one continuous cut and not removing any of the bark.

Some authorities state that the proper time to check the growth of a tree in order to induce the formation of fruit buds is at the time when the bark begins to set on the new growth. As this is rather a delicate feature to determine the average person will make no mistake if he does this work any time in the fore part of June.—W. Paddock, Horticulturist, Colorado Experiment Station.

UNSEASONABLE BLOOMING OF TREES.

It is not uncommon for fruit trees of all kinds to bear flowers in late summer or in the early fall. This tendency is more marked in the semi-arid regions than in the humid states, but the explanation is simple.

One writer reports an instance where a pile of weeds was burned underneath an apple tree. The heat from the fire was sufficient to shrivel the leaves to the top of the tree on the exposed side, but it did not otherwise injure the tree. This was in August, and a month later the tree came into bloom on the parts which had been injured.

This result was probably due to the drying out of the buds by the effects of the fire, an effect similar to that produced by the low temperature during the winter months.

In a somewhat similar way a lack of water during the middle of the summer causes the buds to dry out and to become mature. Then, if water is applied later, second growth starts in and some of the blossom buds unfold.

These unseasonable flowers do not often set fruit. However, fine specimens of the Red June apple were received at the Agricultural College last November. These specimens were picked in an orchard in Utah from trees which produced a normal crop in June. Some weeks later the trees put forth a partial second crop of bloom and a few fine specimens matured.—W. Paddock, Colorado Agricultural College.

SQUIRRELS AND GOPHERS.

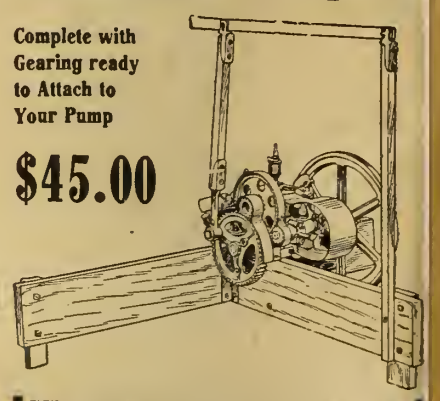
Both ground squirrels and pocket gophers are known as gophers, a name which should be properly applied only to the latter animals. The ground squirrels are so called because, unlike the tree squirrels, they live upon the ground and have their homes in burrows in its surface. There are several kinds of these in different parts of the State, and they are usually gray or striped. They subsist chiefly upon seeds and grain, though insects compose not an inconsiderable portion of their diet. They may be killed by the use of poisoned wheat in spite of the popular opinion that "gophers fatten on it." The following formula has been used effectively in Kansas:

Dissolve one and one-half ounces of strichnia sulfate in a quart of hot water. Add a quart of syrup and a teaspoonful of oil of anise. Thoroughly heat and mix the liquid. While hot, pour it over a bushel of clean wheat and mix completely. Then stir in thoroughly two or more pounds of fine corn meal. There should be just enough to take up the extra moisture. Let the wheat stand over night and distribute next day, placing a few grains at the mouth of each burrow. Two or three applica-

Aermotor Gasoline Engine

Complete with Gearing ready to Attach to Your Pump

$45.00



Will pump all the time, wind or no wind, and deliver as much water as an 8 ft. Aermotor in a good wind.

From 225 to 1600 gallons per hour, depending on height water is to be raised.

Air cooled, uses Gasoline or Distillate.

A reliable, durable engine at a very low price. Can You Afford to be without one.

Send for Special Circular.

Tanks Towers Pumps Distillate Engines

Smith-Booth-Usher Co
Machinery and Supplies
Successors to
S. J. Smith Machinery Co. and L. Booth & Sons
212-214 S. Los Angeles St., Los Angeles
Home, Ex. 1090—Sunset, Main 1090

Placer Nurseries

We have now growing for next season's delivery a large stock of all leading varieties of trees and vines. We propagate only the best commercial sorts. Our trees and vines are the best that good care can produce and in their selection, propagation and growing we spare no labor or expense; and they are true to name. That is what you want.

Contract now the trees and vines you will want for next season's planting.

Write us.

Silva & Bergtholdt Company
Newcastle, California

An Income for Life

May be had by planting a grove of **Eucalyptus** trees. We are headquarters for all varieties of **Eucalyptus Seed.** Also carry a good assortment of trees in flats. Write for our 1908 seed catalogue. It describes the kinds and tells what the wood is best suited for. Don't delay. Do it now.

GERMAIN SEED COMPANY
326-328-330 S. Main St. Los Angeles, Cal.

For the Season of 1908-09
We Shall Have to Offer
Pedigreed Fruit Trees
SEVERAL NEW FRUITS AND NUTS OF IMMENSE VALUE TO CALIFORNIA
Eucalyptus Trees
BY THE 1000 OR 100,000
NO BETTER STOCK GROWN
Please send us your name and address, and you will get all particulrrs. We are now taking contracts for ***Eucalyptus Trees*** in large quantities.
Leonard Coates Nursery Co. Inc.
Morganhill, Santa Clara Co., Cal.

Now Is the Time to Plant

Cover Crops
Canadian Peas
Vetch
Fenugreek
Burr Clover

Onions
White Burmuda
New Queen

Cabbage
Winningstadt

Our Seed is the Best
Johnson & Musser Seed Co.
113 N. Main St., Los Angeles, Cal.

STRAWBERRY PLANTS
Strong one-year-old plants for August planting; Brandywines, $2.50 per M. Klondike, Lady Thompson, A-1, Excelsior and Midnight, $3.00. A full line of this season's plants later. New catalogue ready in September, giving full description of our improved strawberry plants and other small fruit.
G. H. HOPKINS & SON ***Burbank, Cal***

When writing advertisers, mention Cultivator.

tions may be necessary before the field is rid of squirrels. The poisoning must be done during the summer, because the animals hibernate in winter and the poison is only wasted.

Pocket gophers live almost wholly in the ground and feed upon the roots of plants and trees. The poison recommended for ground squirrels is excellent for these animals. It must, however, be put in the burrows. They may be opened with a spade and a few kernels of poisoned wheat dropped in, leaving the hole open. An excellent tool for opening the holes is made by putting a sharp steel point on the end of an old spade handle. This may be thrust through the ground into the burrow and the wheat dropped through the hole thus made. If poisoned wheat does not prove effective, substitute corn.—S. Arthur Johnson.

HOW TO CUT SCIONS.

It has been demonstrated by the most successful fruit growers that the scion from which a tree is grown has much to do with its productiveness when it approaches the bearing age. Much has been said and written concerning the value of a hardy root for the trees in our orchards, but, in my opinion, scions from productive annual bearing trees are fully as important to the orchardist.

These can be cut any time in the fall after the wood is fully ripe and the buds well healed. This occurs when the leaves fall and the buds are exposed for a time to the air, which so hardens them that no loss of moisture will occur through these natural outlets during the dormant periods.

Select vigorous, hardy, disease-resisting trees for your scions. They should also have established the reputation of being annual bearers, producing fruit of high quality. We believe these characteristics may, in a measure, be intensified when great care is exercised in selecting the scions which are to be used in making the root grafts. The same principle also applies to the top-working of the fruit trees.

PICKING PEARS.

As most pears become thoroughly mellow only after being removed from the trees, some difficulty is experienced in getting them into a marketable condition without letting them decay. The weather is so warm during much of the pear season that all of the injured fruit decays very rapidly. If, however, care be taken not to pick the fruit until it is thoroughly mature, and to handle it very carefully, much difficulty may be avoided. Varieties differ very much in the length of time required for mellowing after being picked, and in the perishableness of the fruit, some quickly becoming ready for eating, with little loss, and others mellowing so slowly that a large percentage decays before they become palatable.

ARGENTINE ANT.

Prof. H. J. Quayle of the Experiment Station force located at the Pathological Laboratory at Whittier, writes that he has taken the Argentine ant in Southern California at Uplands, Azusa and Los Angeles. At Uplands and Azusa it is distributed over about one-quarter of a square mile of citrus orchards, and over four or five blocks square in the city of Los Angeles, around Tenth street and Burlington avenue.

The seventh annual convention of the National Nut Growers' Association will be held at Chattanooga, October 27-28-29, 1908.

Test It Free

TRADE MARK

WILGROW

THE WIZARD OF THE FIELDS

Test It Free

A Free Sample of This Perfect Fish Fertilizer for Every Reader of the Cultivator

Every manufacturer who desires to sell his product to the farmer ought to be willing to let that farmer try his goods in a small way to find out whether or not they are what they are claimed to be. At least, that is the way we feel about it. And for that reason, we offer to send you a sample of WILGROW absolutely free—not one cent of cost to you. All we ask you to do is to send us the names of three of your neighbors and the name of your local dealer.

What Wilgrow Will Do

It will feed everything in plant life.
It will double the crop of tomatoes.
Roses thrive on it.
Oranges and lemons just love it.
Celery grows crisper and in greater quantities.
All flowers take on an added beauty and bloom in greater profusion.
Cauliflower responds quickly.
Berries of all kinds are more luscious and plentiful.
The yield of radishes, onions, lettuce, parsley, carrots, parsnips and all other vegetables is greatly increased and their quality much improved.
We would like to have you prove these claims.
Will you send for your free sample today?

What Wilgrow Is

It is a scientifically prepared plant food.
It is not a medicine for plant life.
It is made from fish guano, but so prepared that it will contain just the right percentages of the different plant foods.
It is a concentrated plant food, and is put up in the most convenient packages for its distribution.
A 25c package contains as much plant food value as a large load of barnyard manure.
The 25c package is especially adapted for use in flower gardens, small vegetable gardens and lawns.
Our 25-lb. bag is for field use and does away entirely with the expense of big machines to distribute it or the time of horses that could be well spent at other work.

Originated and Owned by

The F. B. Carlisle Co

Port Angeles, Wash.

W. P. Holliway

3955 Menlo Ave. Los Angeles, Cal.

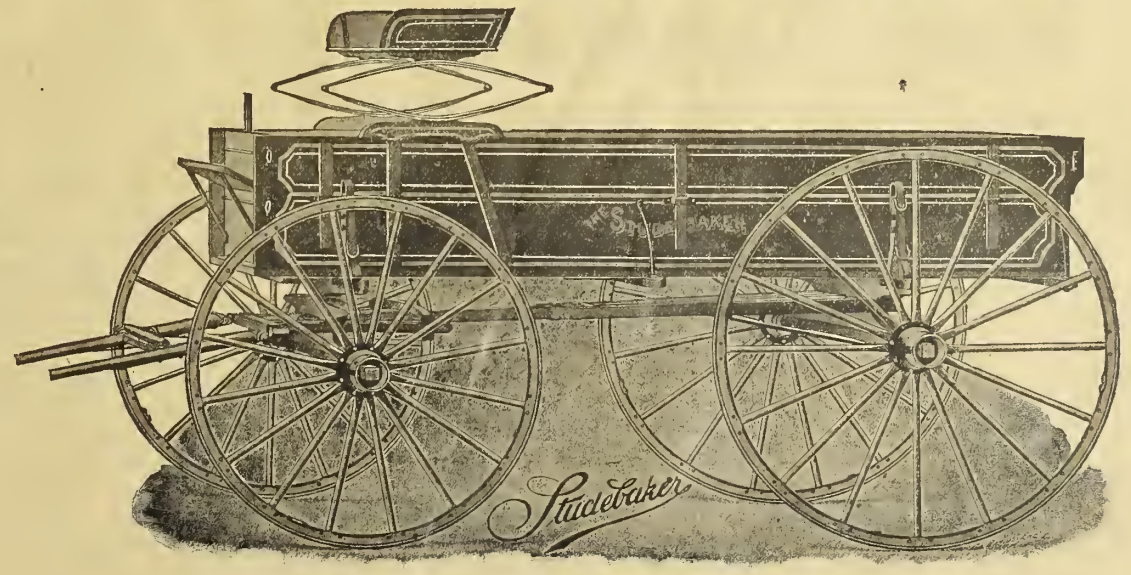
State Agent for California, Arizona, Nevada and Utah

Cut Out, Fill In and Mail This Coupon Today:

The F. B. Carlisle Co., Port Angeles, Wash.
Gentlemen: In accordance with your offer published in the California Cultivator, please send me a free sample of Wilgrow. Also kindly send free sample to the following neighbors of mine.

Name .....Address .....
Name .....Address .....
Name .....Address .....
My dealer is .....
Name .....
Town .....
State .....

Studebaker Wagons



You are now marketiug your crops of hay, grain, fruit or vegetables. You need a wagon. Get the best.

We can furnish the exact wagon needed for every condition. Write for catalogue or call at our store and learn about the best wagons made.

Newell Mathews Co.

Wagons, Carriages & Implements
200 North Los Angeles Street
Los Angeles, California

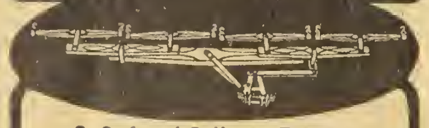
IT'S PENNY WISE

Policy to set out a good tree, costing good money, and then let the sun burn the bark or the rabbits gnaw it, when for $1 an acre you can get Yucca Tree Protectors that are practically indestructible. Write for free sample of the wrap. Yucca Manufacturing Company, 1380 Willow street, Los Angeles.

You will have reading for the whole family with the CULTIVATOR and SUNSET. Both a year for $2.00. Order through Cultivator.

There is a wide range in the habit and growth of nut trees. In size they run all the way from the six foot hazel bush to the monarch walnut and, as to longevity, from the ten years of an almond to the centuries of the pecan.

HEIDER



2, 3, 4 and 5-Horse Eveners

For SULKY, GANG and DISC PLOWS

Ask Your Dealer for "Heider" Eveners, or Write Us

HEIDER MFG. CO.,

Mfrs. of all kinds of Eveners, Ladders, Etc.

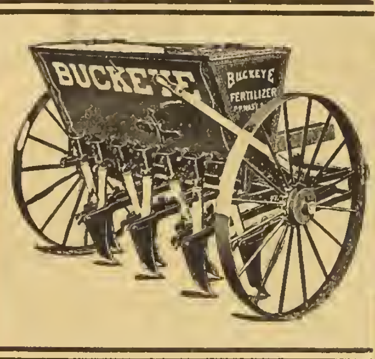
Dept. 3. CARROLL, IOWA.

Fertilizer Drills

GET THE BEST

Buy the Buckeye

7 Hoe 7 Inch or 8 Hoe 8 Inch



Will furnish set of plates when requested (without extra charge) for sowing peas or vetch.

Hawley, King & Co.

Los Angeles St. bet. 2nd and 3rd Sts.

Los Angeles, Cal.

Water Pipe Cheap

25 CAR LOADS NOW BEING UNLOADED

250,000 feet of this shipment is second-hand pipe, practically as good as new, and is now on sale at a big discount by the Adams Pipe Works, 2025 Bay street. Sizes and prices: ¼ inch 1½ cents per foot; 3-8 inch, 2 cents per foot; ½ inch, 2½ cents per foot; ¾ inch 3½ cents per foot; 1 inch, 4¾ cents per foot; 1¼ inch, 6 cents per foot; 1½ inch, 7 cents per foot; 2 inch, 9¾ cents per foot; 2½ inch, 15 cents per foot; 3 inch, 18 cents per foot; 3½ inch, 20 cents per foot; 4 inch, 32 cents per foot.

Oil well casing prices and sizes: 2 inch, 7 cents per foot; 2½ inch, 9 cents per foot; 3 inch, 13½ cents per foot; 3¼ inch, 15 cents per foot; 3½ inch, 17 cents per foot; 4 inch, 18 cents per foot. All pipe is carefully inspected, new coupling and new thread are put on every piece, every joint is guaranteed to be first-class, serviceable pipe. This pipe is sold in any amount; small orders are given the same attention as large ones. Mail orders promptly filled. To reach the Adams Pipe Works, take car marked Pacific Boulevard, starting east on 7th St. from Broadway. All lines will transfer to East 7th St. new line. Ask conductor to let you off at Bay St., and go east half-block. Phones, A1917, Broadway 1164. Los Angeles, Cal.

Balfour, Guthrie & Co.

IMPORTERS OF

THOMAS PHOSPHATE POWDER

AND

NITRATE OF SODA

SAN FRANCISCO FRESNO LOS ANGELES

WRITE FOR PAMPHLET A D PRICES

When writing advertisers, mention Cultivator.

Bees and Their Care

SUCCESSFUL MANAGEMENT OF APIARIES.

The most important factor in this line of work, I believe, is to be done in cleaning of frames, bottom-boards and hives in general. See that all colonies have queens and how brooding is progressing. In cleaning hives, etc., it has always been easier to have an extra hive body and bottom-board. The first thing is to set empty hive down, then proceed to clean frames and place in the empty hive body. In this method I find we kill less bees and work faster.

The next time around we spread brood. That is, for those colonies that need it, and it has been my experience that nearly all colonies with brood on or in four frames need it, if there are enough bees to cluster on six frames. I generally give them one comb in the middle, then place pollen frames on outside of brood nest, and on each visit to the yard thereafter, I spread likewise. After first spreading I always piece the comb containing eggs and larvae on outside of sealed frames on brood, so in case of any chilling it will be better for the colony to lose the larvae than the brood, as we are working for young bees to help rear more brood, and as a rule, queens lay in combs between hatching brood better than they do between combs containing larvae and eggs. Now as I have described brood spreading I will describe equalizing. It is my opinion that it is the best policy to hold up strong colonies by help from the weaker ones. Of course, if you have plenty of time to stimulate brood rearing and if your strong colonies have eight to ten frames of brood from the strong ones, place the empty frame in middle of brood nest of the strong colony. We will now suppose all colonies are ready for the flow. We begin supering by giving one super with a bait comb, and if the flow is late in arriving, as in the past two seasons, and colonies commence building cells and preparing to swarm, if increase is wanted, we draw two combs of hatching brood and queen cell and start a nucleus, inserting in their place frames containing full sheets of foundation, thus preventing them from building drone comb, and nine times out of ten preventing swarming.

If no increase is wanted then cut cells, and if there are any weak ones in the yard do some more interchanging of brood for empty combs.

After flow is on, super where needed. Never super a colony that has no need for it. When supers are two-thirds or nearly two-thirds finished place a super under it, and so on through the flow.

In some cases where you draw two frames of brood and it does not check the swarming fever, then shake them on full sheets of foundation, and if the queen is very prolific give one comb of hatching brood and one frame of larvae. Select larvae, if possible, too old to start queen cells from. This plan has never failed to quell the swarming fever, and I have never had a swarm to go out.

When taking honey one man shakes the supers and another man carries and stacks them up.

After this, super colonies as if expected another flow.

The most essential thing in successful beekeeping, whether out of apiaries or not, is the quality of stock, good prolific queens. Holy Land or Three-Banded Italians mated to Golden drones are my preference. M. O.

BEES AND FRUIT GROWING.

A very valuable line of work, and one that dovetails in with fruit growing perfectly, and more profitably than any other one thing that I can think of, is the production of honey, says Z. L. Sutton in the Farmers' Home Journal. Anybody whose capital is limited and area of land small, can soon build up an independent business with fruits, chickens and bees. It is perfectly marvelous what can be done on a few acres of ground when put to such uses as here suggested. In fact, every farmer who grows any fruit of consequence should have a few hives of bees, and even if they have no fruit, there is nothing else on the farm tnat will yield a greater revenue than a few hives of bees. "The bees should be in first class patent hives to pay," when managed properly.

Besides the honey and profit, there is another reason why the fruit will find the bee a helpful business associate. Every fruit grower ought to know how important it is that all forms of plant life be perfectly pollinated, if it is to bear its full, its particular fruit. Undoubtedly the bee performs this function better than any other insect. As he gathers the nectar of the fruit blossoms, he loads himself down with the fertilizer pollen, and as he moves from flower to flower he carries this essential element on wings and legs to be absorbed by the pistils of the neighboring blooms. Until this last year or two I was afraid of bees, and would not go near them, as they would sting me on the slightest pretext, but being engaged in growing all kinds of fruit, and believing that a number of colonies of bees would pay for themselves in one good fruit season, in helping to pollenate the bloom, I determined to buy a lot, even if I was afraid of them. Last spring, 1907, I bought forty good swarms, and all that were in old-fashioned box hives or logs I transferred into the very best make of patent hives. I bought a good bee veil, bee gloves, and the best book on bee culture that I could find. I was considerably nervous at first, but soon got so I could do most anything with the bees, and before the season was gone all fear of the bees had vanished and I enjoyed working with them more than any other work on the farm.

RESULTS—Last year was an off fruit year with nearly every one in my section of Kentucky. I had the finest crop of strawberries that I have ever had, with the poorest prospect to start with in the spring that I have ever had. More strawberry bloom was killed by frost for me than ever before, and I did not think I could possibly have over half a crop. Every late bloom was thoroughly worked over and pollenized by the bees, and every berry was large and perfect and brought top prices. I had no nubbins to sell for half price. From less than two acres of ground I sold $525 worth of berries, and I believe the bees acount for anywhere from $100 up to one-half of the $525. I had a peach orchard close to my house and the bees, that was loaded down with as fine peaches as I ever have had. My apples were better than usual, and all the trees loaded with apples on my home farm where I have the bees. I have an apple orchard on another farm where there are no bees, and the crop of apples was very light in that orchard. My table has been supplied with honey "the healthiest and purest sweet on earth," every meal nearly, for a year, and I have given the sick and friends a number of pounds, and my book account shows a surplus of over $200 worth of honey sold and on hand. I consider the investment in forty hives of bees to be as good as in forty good Southdown ewes, with a great deal less trouble, merely for the surplus honey and swarms of bees, and not estimating the value to fruit bloom. I now have fifty-five hives, and could sell the whole lot at $5 per colony.

Bees pay well for the money, and to the fruit grower their value is inestimable.

BEESWAX.

Many people still think that bees gather wax from somewhere just as the wasps gather the fibrous stuff from wood from which they construct their nests. No greater mistake ever existed. The bees in a sense do gather wax, but it is from each other. The wax of bees is like the butter of cattle, yet the production is quite different. The butter of the cow comes from the milk and the whole from a gland. Just so with the bee. There are eight glands on the under side of a bee's body which secrete and exude wax. It is claimed that this wax in its first form as discharged by the gland is quite thin, with great evaporating power. This fluid substance adheres to the eight scales on the under side of the bees and evaporates and leaves a scale of wax This is gathered from the bees and carefully woven into the delicate combs in which they store their honey. No churning process is needed with the bees' wax.

At a recent meeting of beekeepers in the Yakima valley, in Washington, Jesse Thornton read a paper on the marketing of honey, in which he described the different grades known to the market as follows:

Fancy honey should have all sections containing well filled combs, straight and firmly attached to all four sides, unsoiled by travel and stain or otherwise, and all cells sealed except the row next to the wood.

No. 1 should have all sections well filled, but might contain crooked or uneven combs, detached at the bottom or with but few cells unsealed and as free as possible from travel stain. The section should be scraped clean from propolis.

An exchange says: The busy bee has the laugh on the department of agriculture. "If it is so foolish as to work all summer at making honey in order that it may have something to eat during the winter," suggested one wise inspector, "it would work all the time down in Jamaica, where they have 365 days of summer." Secretary Wilson accordingly ordered that some of the government's liveliest bees be taken to Jamaica, escorted by a half-dozen watchers. For several months the entire outfit has been in the West Indian Island, and a few days ago the following message was received by the department: "Nothing doing. Bees are on. No winter here, and they struck on honey-making as soon as we arrived."

Live Stock and Dairy

HOT DAYS.

THE Fresno weather man has gone East to sell patent rights for frost alarm clocks and smudge pots. The weather is running away with itself. The temperature is high and the mercury is trying to climb out of the top of the thermometer to seek a cooler place to rest. Frost alarm clocks sounds good! It sounds cool! The only frost or coolness just now is found in the refrigerator! How little man or beast suffers in California when the thermometer runs up in the 100s, 112, 113, 114, 115, 116—five days of sizzle, yet the work never stops for the heat. The Chinamen hoe Johnson grass and morning glory. The teams spread out the raisin trays or haul in the malaga grapes to the packing houses; neither man nor beast collapses with the heat.

Cultivation.

Fruit lands that have received careful cultivation show up this year in the greenness of the foliage. It is standing the blistering sun better than the leaves on plants on the rough cloddy soil. For a number of years past the Bermuda grass is growing its rankest. There is a fraction under seventeen acres as measured in the survey, in the Bermuda field known as the triangle. On March 5th eighteen heads of horses and sixteen head of two-year-old heifers were turned into this field. On May 20th the stock was taken off long enough to flood the land. After a week twenty-two horses, eight colts and twenty head of cattle were placed on it. During July the teams not needed for work were turned into it until it carried eight head more. These animals were all fat and in high condition when taken off the pasture on July 28th. As soon as the land is again well watered they will go back on it and we will expect it to keep them for six or eight weeks longer in prime order. Truly, Bermuda grass is a blessing in a dry year like this. We have a number of small lots of Bermuda that do equally as well but will not stop to tell of them. Right here I wish to say, do not plant Bermuda grass, but if you have it, do not despise it but use it to its fullest feeding capacity. Make a blessing out of misfortune.

DIPPING SHEEP FOR SCAB.

the idea of saving expenses of plowing has gained vogue. The vineyards this year that have the best crops are those that were plowed both ways and then cultivated well. Some well cultivated vineyards are slightly burned but the entire foliage is not cooked and withered. It seems a pity for the season has been exceptionally free from mildew and pests. Nearly every vineyard shows spots that have fully a third of the grapes cooked on the vines.

Cows.

It is surprising how well the cows are holding up in their milk, only a shrinkage of 5 pounds a day per cow. Today they had their first sorghum; the heavy wind of Friday laid low some sorghum and we cut it for them. They relished the change from cut alfalfa. Shorty says "they smacked their lips over it." The heat out in the fields is too great for the cows, and they are allowed to stand in the small well filled ditches in the cool water under the dappling willow shades, to ruminate until the cool evening breezes blow fresh and sweet. They are fed freshly cut alfalfa, for it does not pay to let them wander far in the intense heat for a full stomach.

Bermuda Pasture.

The hot summer never proves too much for these pastures. When the alfalfa shortens in its growth, until it blooms when less than a foot high,

Sunshine.

The sunshine makes the corn grow rapidly. The Indian corn is now in full tassle and bees are singing their sweetest as they gather around it. The sorghum is beginning to head out. We thought it would have been in the silo before this time. The cool weather was hastening it to maturity. Then the weather broke loose and the sun gathered himself up and hurled heat down on it. The corn almost seemed to be pulled out of the ground. It stretched up rapidly, grateful for the warmth. It has stretched up and up—tip-toeing to reach the sun. How much taller will it grow? The poor little morning glory in the sorghum field once was a power but now it looks very wan and tired of living. Life to a plant without sunshine is like life to a man without a belief in a God—something without much value.

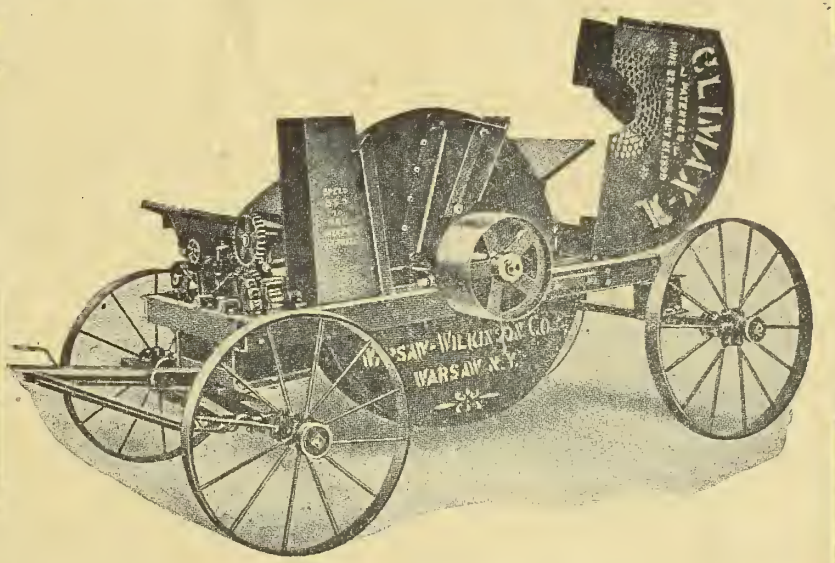
Alfalfa.

While I am praising Bermuda grass and corn do not think I am regardless of alfalfa. The wealth of the dairyman lies in alfalfa, for it furnishes his protein and succulency in the small package. It has a greater value pound for pound in feeding than ordinary bran. It must be balanced with other foods rich in flesh forming matter or animals will grow thin eating it. It is very like the Salsbury treatment for the human family of rare beefsteak for obesity. Balance it with barley, corn or other foods and its value is found out. This season the man with a good alfalfa field has a treasure as a revenue producer. Hay in the barn costing $11.00 a ton—hay that two or three years ago would have been dear at $5.00 a ton. Why? Because the dairy cow has come to her own all over the valley. She is known to be the wealth producer. It is only a few years ago that I used to purchase alfalfa hay cheap enough to use for fertilizer. Now, with corn to balance the alfalfa crop, the dairyman and stock raiser must study to hold the cattle and the feed in balance. A few extra head of cows or horses will often make the difference between profit and loss. Whenever it is necessary for a breeder to buy hay for his stock, then it must be exceptionally valuable to pay any returns. Alfalfa hay stands today the cheapest feed we can grow for stock. A stand of alfalfa well cared for is good for twenty years or more. After the first year it will make from 8 to 10 tons of hay to the acre year after year. Oranges, grapes, peaches and olives are all profitable on the ranch, but for real pleasure in country life, give me the cattle and horses. They fill the eye. They give beauty to the landscape.—M. E. Sherman.

Berkshires--Shorthorns

My Berkshires took every blue ribbon and Gold and Silver Medal in the female classes. Choice pigs at low prices. G. A. Murphy, Perkins, Cal.

Climax Ensilage Cutters



In the Climax Pneumatic Ensilage Cutter both the cutting and elevating are done by a large wheel which carries the knives on one side and the elevating fans on the other. Both the cutting and elevating, therefore, are done at one operation, in a much simpler manner and with an expenditure of much less power than in those machines where the elevating device is a fan attachment added to the cutter.

The convenience of having an ensilage cutter of large capacity on its own road wheels is obvious. We confidently assert that no other ensilage cutter is so easy to work and easy to move and set up as ours, or has such large capacity for power used. They are unequalled in simplicity, strength and durability, convenience and safety in operation, and the excellent quality and uniformity of the silage.

We received at the

St. Louis Fair the Only Award

for ensilage cutters of the side-wheel type, 15 to 25 tons of green corn per hour, where cut in one-half-inch lengths, other feed in proportion. For further particulars, call on or address

O. J. Weber Co. 555-557 South Los Angeles Street Los Angeles, California

FLYFOE

That is just what it is. Sprayed on stock it kills or keeps off all those awful pests, flies, mosquitoes, gnats, etc. Do you realize what that means? Use it and note how much easier it is to keep your stock in condition and how comfortable they are. Sprayed on your cows the increased milk yield will many times pay for its cost. You should use something of the kind and

FLYFOE

will be found the most effective "fly bouncer" on the market.

If your dealer does not keep it, we will ship a 1-gallon can at $1.25 or a 5-gallon can for $5.00, and will prepay the freight. If not fully satisfied with it money refunded. Made by the

West Coast Mill

Los Angeles, California

Sugar-Beet-Pulp (Kow Breakfast Food) For Sale

At fifty cents per ton F. O. B. cars or wagon, fresh from factory. Conceded to be the cheapest and best Dairy Food in California. Write for freight rate if too far to haul.

Also ***MOLASSES*** at $1.50 per barrel.

Los Alamitos Sugar Company Los Alamitos, Cal.

EXCLUSIVE
Tubular
ADVANTAGES No. 7

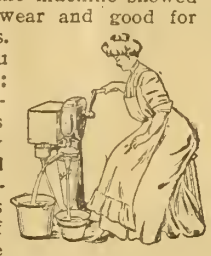
DURABILITY

When you buy a Tubular you can rest assured it will last your lifetime, and then be good for another 25 years or more.

Tubulars are the cheapest Separators made

simply because they last the longest and do the most satisfactory work.

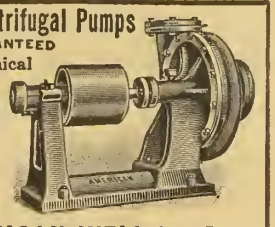
We proved this by a "Fifty Year Test" The total cost of repairs was 75c—total time of adjusting, 10 minutes—total time of oiling, 8 minutes, and at the end the machine showed practically no wear and good for another 50 years.



Let us send you Catalog No. 130; contains full account of this "Durability Test"—a postal will bring it prepaid. It proves our 28 years of experience is the best guarantee you can get in your separator purchases.

The SHARPLES SEPARATOR CO.,
West Chester, Penna.
Toronto, Can., San Francisco, Calif., Chicago, Ill.

American Centrifugal Pumps
GUARANTEED



Highest mechanical efficiency.
Saves 25% of power over all other pumps.
Give us your pump specifications.
Manufactured by
THE AMERICAN WELL WORKS
Aurora, Ill., U. S. A.
Branch Offices:
Chicago, Ill., First National Bank Building.
New York, N. Y., 2-4 Stone St.
San Francisco, Cal., 305 Market St.
New Orleans, La., J. H. Menge & Co.
Dallas, Texas. Joplin. Mo.

John Lynch Breeder of Registered Shorthorns
MILK STRAIN
Box 321 Petaluma, Cal.

PURE BRED BERKSHIRES
Young Stock For Sale
Wm. H. Bird Box 6, Compton Cal.

FARMERS' BOOKS
Order Through the Cultivator

FEEDS AND FEEDING.—By Prof. W. A. Henry. Is a thorough, accurate and reliable handbook for students and stockman, giving most practical and useful knowledge on plant growth and animal nutrition, feeding stuffs, feeding animals and every detail pertaining to this important subject, indispensable to every owner of live stock. 658 pages. 6x9 inches.
Cloth $2.00

AMERICAN GRAPE GROWING AND WINE MAKING.—By George Hussmann of California. With contributions from well known grape growers, giving wide range of experience. The author of this book is a recognized authority on the subject. Illustrated. 269 pages. 5x7 inches.
Cloth $1.50

STANDARD OF PERFECTION.—By the American Poultry Association and used as the standard for judging all shows. The thing for dealers in fancy stock.
Cloth $1.50

PERFECTED POULTRY OF AMERICA.—This is the most recent publication, and is one of the finest poultry books ever issued. It contains full page illustrations of all breeds and varieties of poultry, turkeys and water-fowl. On many of its pages are represented the feathers from each section of the fowl. Gives the information necessary for the selecting of the best specimen in your flock.
Cloth $2.50

A. B. C. AND X. Y. Z. OF BEE CULTURE.—By A. J. and E. R. Root, the leading authority on Bee Culture Its reputation is known to all Beekeepers. 536 pages.
Cloth $1.50

CAMPBELL'S SOIL CULTURE MANUAL.—By H. W. Campbell. The originator of the "Campbell System of Dry Farming." A complete guide to scientific agriculture as adapted to the semi-arid regions. Of great value to all Western ranches. 320 pages.
..... $2.50

Cultivator Publishing Company

PREPARING FOR EXHIBITION.

Continued from page 147.

easy matter for him to blend skim milk and whole milk in such a manner as to induce greater development of framework and yet retain enough of the butter fat to give the youngster an appearance of health, thrift and beauty.

Never wean the calf until after the shows are over, for after a long journey, when surrounded by strange environments, nothing will tempt the calf and keep him in shape like lots of good, sweet milk. When about two months old the calf will begin to crave for some solid food; then bright clover or alfalfa hay, some green food and a light grain ration, such as will be described later, will add to the welfare of the youngster. A box containing salt and a lump of chalk should always be kept within reach of the calf. Chalk regulates the digestive tract and assists in eliminating the dangers of scours. By all means allow the calf plenty of bulky food, sunshine, exercise and dry, well bedded sleeping quarters.

In feeding older animals the science becomes more of an art and the feeder has many problems to consider. All that can ever be said or written will not make feeders unless good care and judgment is used on the part of the feeder himself, and in no other calling. is judgment more necessary.

Cows, two year old heifers and yearling heifers that are to be shown in milking form should be selected and bred ten months before the first show of the circuit. Many exhibitors, however, do not follow this plan and very frequently we find cows freshening on the circuit. It is very difficult to give these cows the attention and quiet surroundings on the fair grounds that they would receive were they at home, and many times ill results follow. Further than this, it is almost impossible to get the cow into proper form and hold her there for a long circuit of fairs that are to follow, so that although she may show to a distinct advantage at one or two fairs she is quite liable to be found losing her laurels before the shows have finished. Taking these facts into consideration, it becomes apparent that all animals to be shown in milk form should freshen a month before starting for the shows. If the cows have been producing heavily during the year and are emaciated and out of condition, they should be turned dry at least two months before parturition, when feeding should begin. In carrying on his operations, the feeder should be governed by the following facts and furnish foods acordingly:

1. The campaign which the cow is about to enter will be a strenuous one and will demand all the strength and power that the cow commands. For the purpose of storing up energy, strength and stamina, oats are a most excellent food and should form a large portion of the ration.

2. It is much easier to eliminate or retain fat upon the body of the cow after she freshens than it is to gain it. For the purpose of storing up fat to be drawn upon later. feeds rich in carbohydrates, such as corn silage, corn meal or hominy feed, in limited amounts may be used.

3. All judges admire a large, distended barrel because it indicates greatness of feeding capacity. Such barrels cannot be produced in a week or a month, even though the cow is naturally excellent in this respect. To induce perfection in this respect, large amounts of palatable food, such as clover, alfalfa hay, green corn or clover, silage or roots should be fed continuously. Neither can a thick, hard hide covered with long, harsh hair, which is the result of last winter's hard work and exposure, be quickly converted into a soft, pliable, oily hide with soft short hair in a few weeks. Ground flax seed and oil meal added in small amounts for three or four months prior to freshening, however, will tend towards marked results in this respect.

4. These foods are all rather hard on the digestive apparatus, which no doubt has already been taxed to its utmost during the preceding period of lactation. To rest the digestive organs and counteract any ill effects that other foods might have, nothing can take the place of good bran.

Summing up, then, we find that a ration made of oats, corn meal, oil meal and bran, supplemented with roughage of a palatable form is quite efficient during the dry period. As calving time approaches, the grain ration should be gradually lessened and for three or four days preceding and following parturition, mashes made up of ground oats, bran and oil meal mixed together with warm water will bring best results. After the immediate effect of calving is past, another system of feeding must begin.

This time the object in view is to remove some of the fat from the body and stimulate the largest possible milk flow. Roots, green foods and feeds rich in protein, such as gluten feed, bran, oats, oil meal, etc., may all be used to advantage. When the cow is first changed from mashes to food of a more solid nature, the amount should not exceed 5 pounds. This should be increased slowly and gradually and there is no better plan to follow than to increase the ration one-half pound every other day. This seems slow procedure to most feeders and were I asked to give what I considered the greatest secret in successfully bringing a cow into the best possible condition and to the point where she would produce her greatest possible amount of milk and butter it would be: Start the cow after freshening on a small ration, never increase her feed oftener than every other day and not more than one-half pound. With a fresh cow in fleshy condition, with her maternal instincts stimulated to their highest degree, as they are during the first thirty days after giving birth to her offspring, there will be as great response to an increase to half a pound of grain as to five pounds.

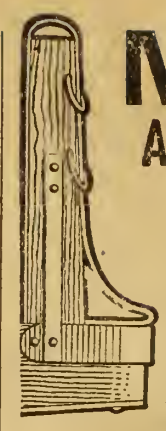
A few other advantages of this plan are as follows:

1. The danger of over feeding is reduced to a minimum.

2. The digestive apparatus is given due time to recover from the weakening effects of parturition.

3. The feeder is given time to study his charge and to determine the character of feed demanded by the cow.

This last point is of great importance, because upon the feeding of the cow after freshening depends largely the condition of the cow when she enters the show ring. Every beast reserves the right to retain its own individuality, so that no fixed rules can be laid down to cover all cases. If the cow refuses to milk off the fat from her body, foods rich in protein can be used to increase the ration to stimulate greater production, but if she shows indications of milking too



MICA
AXLE GREASE

adds years to the life of a wagon. Just what a farmer, teamster or drayman needs to make the "wheels go round" with least wear and most profit.

Poor grease cuts the boxes out of your wheels — don't use it — get Mica Axle Grease and save the wagon.

Mica Axle Grease has just the right "body" to wear long without running. Coats the axle with an anti-friction surface of powdered mica which is almost as good as roller bearings.

Your wagon needs Mica Axle Grease — ask the dealer for it.

STANDARD OIL COMPANY
(INCORPORATED)

Third Annual Sale
OF
SHORTHORN CATTLE

For Sale—70 Head of Shorthorn Cattle of the

Roselawn Herd

On Sept. 11, '08, at 12:30 o'Clock

At the Old Home, one mile south of Woodland, Yolo County, California. Write for Catalogue. Free Buss.

Mrs. W. B. and T. B. Gibson

Geo. P. Bellows, Auctioneer
Maryville, Mo.

H. P. Eakle sells 66 head the following day.

Shorthorn Sale
At Woodland, Cal.
Saturday, Sept. 12th

66 Head Registered Shorthorns at Public Sale
23 Head of Cows and Heifers, 43 Head of Bulls

Busses will meet all trains. Lunch served. Sale to begin 12:30 P. M. Write for descriptive catalogue. Catalogue ready August 20th.

AUCTIONEER: H. P. EAKLE, JR.
GEO. P. BELLOWS, R. M. DUNLAP.
Maryville, Mo.

T. B. Gibson, Woodland, Cal., will sell on the preceeding day, Sept. 11th. Parties wishing can attend both sales.

Thoroughbred Poland China Swine
Black Minorca and Barred Rock Poultry
High Grade Stock of Best Strains.
Young Stock For Sale
M Bassett Hanford, Cal.

The Whiting Jersey Stock Farm Company
Is making the very best strains of blood fresh from the island of Jersey a specialty.
Whiting Jersey Stock Farm Co. Heber, Imperial Co., Ca

Geo. C. Roeding, Fresno, Cal., breeder of
Thoroughbred Holstein Bulls and Heifers
Thoroughbred Berkshire Boars and Sows

heavily and of becoming emaciated, the increase should be of foods richer in carbohydrates or fat producers, to encourage the retention of some of the fat of her body. It is a much simpler task to show animals that are not to be in milking form, because they may be carried on steadily and gradually with foods (before mentioned) which tend to produce growth, condition, softness and oiliness of hide and hair without interruption.

Hand and hand with feeding goes care and management, and it matters little how skillfully one is supplied if the other is lacking—only poor results follow. During the summer months, when heat is severe and flies are pesky, the show animals should be kept in a cool, darkened but well ventilated barn, with stalls well bedded, in the day time, and turned to pasture during the night to graze and exercise while the flies are absent. Daily grooming of a thorough character with a soft brush and a flannel rag, saturated in a mixture of equal parts of coal oil, glycerine, tanners' oil, pennyroyal, carbolic acid and sulphur tends to bring the oily secretions and soften up the hide and hair and keep away the flies. If allowed to run in the hot sun all summer only a hard, harsh hide and sunburned coat can be expected. Thirty days before showing, it is a good idea to clip short all hair on the belly and udder. This brings into pleasing prominence the mammary veins and milk wells. Extra hairs over the shoulders, neck or tail head that mar the looks of the animal should also be carefully trimmed off at this time.

As show time approaches there are many details that demand the exhibitor's attention. Always have your charges well broken to lead and stand while being shown. Nothing is more embarrassing to the exhibitor and disgusting to the judge and observers than a wild, unruly calf in the show ring, unless it is one that stands in that position which shows nothing but its weak points. The horns should be trimmed and rasped into proper size and shape, and horn covers provided to prevent them becoming scratched up. Animals whose feet have grown into improper shape and sizes, which is often the case with aged bulls, should be placed in stocks and have their feet trimmed into shape so the beast can walk to best advantage when presented to the judge. When these smaller details have been attended to the animals are ready to prepare for shipment.

Reduce the grain ration two days before loading, substitute bright hay and omit entirely the last feed, or substitute a bran mash. Unless the shipment is very long, good, bright hay will suffice for the older animals and they will unload in better form than though grain had been fed en route. The calves, on the other hand, should have their milk regularly but in lesser amounts than when at home. If grain is fed on the train or just before loading, the excitement and jar of the car often produces indigestion, causing the animals to bloat and great troubles result.

If the weather is hot, water must be supplied in limited amounts on the car. Take feed and roots with you for they are expensive on the fair grounds and often difficult to buy at any price. On unloading do not allow the cattle to gorge themselves with strange water. Feed lightly the first day, and nothing is better at this time in relieving fever and freshening up the travel-sore beast than a good feed of roots. You should arrive on the grounds three or four days before the day of the cattle show and have your charges well upon their feed and showing at their best at this time. Exercise them regularly and have them well on their feet; take them to the arena before the show and find a good place for them to stand. All animals must receive thorough grooming and have their coats laying in a sleek condition.

At last, the time to stand before the judge has come. All horns are polished, feet trimmed and cleaned and no stone left unturned to make the animal win. If you are confident you have an outstanding winner, get to the ring before anyone else and get the eye of the judge from a distance. He thereby takes in the whole contour of your beast at once and receives a favorable and lasting impression. If you know your animal's weaknesses are apparent, let the others enter the ring first and then get right close to the judge and in the thickness of the fight he may overlook the deficiency.

No blame can be attached to the herdsman who can successfully cover up a fault. That is part of his business, but he should take care that in covering up one he does not produce two. It is seldom that the herdsman can improve on nature and with a shrewd judge it is often better to place the beast in his natural position. Keep on the same side of your animal as the judge, keeping your eyes on both. Have your beast's feet well under him and showing at his best. You should have him so trained that he will stand quietly in his most imposing position, making showing an easy task.

When a long circuit of fairs is to be made it is a very difficult task to hold the animals in bloom and have them fresh at each show. Always keep a good supply of roots on hand and feed lightly of all hard, heating food stuffs. Exercise freely, keep your stalls well cleaned and bedded. In this case the extra expense of a palace car will more than pay for itself in the added good done for the cattle.

When the last show is over, the attendants and herd are glad to return home, for the trip has been a trying one to man and beast; but on arriving home the herdsman's duty is not yet completed. He must cool out his cattle so they can be fitted for another year in a fresh condition, or remain at home as successful breeders. On the carefulness with which the cattle are cooled out depends the future usefulness as much as it does on the care of fitting. All corn and feed of a heating nature must be removed from the ration, the cattle turned to grass if it is during the pasture season; otherwise succulent food and exercise must be given. Of course the ration must be reduced gradually. A few doses of raw linseed oil helps to clean the digestive tract and in due time the animals are down to a breedy condition and ready to respond to another year's fitting.

If you have won with your cattle, you have achieved the success for which you have been laboring; but in case you have been defeated, lay aside all prejudice, and profit by the lessons of the show; find your mistake rather than abuse the judges; and above all do not get discouraged but resolve that in profiting by your mistake, you will try again and success will eventually crown your efforts.

Discussion.

The Chairman: Does anyone wish to ask Mr. Van Pelt any questions?

Member: What would you do in the case of a little calf that will scarcely drink milk?

Mr. Van Pelt: That is a very difficult task. If you cannot get the calf to drink milk, it might be better to place it back on the cow. It is a question whether you can teach them to nurse. I believe if it is possible to get the calf back on the cow, that it is the thing to do; but if it is not, it is a question whether the animal will show to the best advantage.

Member: I notice some exhibitors wet grain before they feed it. Is that right?

Mr. Van Pelt: I would rather feed it in dry condition except for bran mashes. For instance, in parturition time cows need something tempting to their appetites, something that places their bowels in a laxative condition, then I would feed bran mash.

Prof. Van Norman: You need it hot in making a bran mash, do you not? Don't you think it advisable to use hot water?

Mr. Van Pelt: Oh, yes.

Member: Would you use a woolen blanket to protect the cows?

Mr. Van Pelt: I think not, they are too heating. In the summer it is well to keep the animals in the barn out of the hot sun. The last thirty days before the show begins I think the animal should be blanketed, and the blanket should be composed of cotton flannel. Simply the commercial cotton flannel would be preferable to the all wool blankets because they do not retain the animal heat so much.

Member: It is claimed by some that the cotton blankets retain the moisture while the wool blankets will let the moisture out.

Mr. Van Pelt: My experience has been that the moisture, which has accumulated in the blanket, is, in a way, quite advantageous to the coat. Softens the hair and hide. In fact, in breeding animals to grow a long glossy coat the practice followed is to spray the animal before the blanket is put on. Each morning the animal is again sprayed and the blanket put on so in the course of time you will get a glossy coat.

Member: You said it was practically advantageous to feed the animals nothing but hay while in transit. From my experience, my cattle have a better appetite on the train than any other place.

Mr. Van Pelt: That is probably true, but one is running considerable risk in feeding on the train because as I say the animals become excited by the jarring of the train, except of course where they are accustomed to shipment. That would make a difference, but on starting the herd out, in the early fall especially, I would prefer the hay.

Member: I think you are correct for people who make only one shipment, for instance to the State Fair.

Mr. Van Pelt: Another thing, even though sickness does not follow the animals consuming a quantity of feed on the train, when they are unloaded they do not have the appetite they otherwise would and do not come to form as they otherwise would.

Wood Soled Boots and Shoes. Boots, $3.25; Shoes, $2.00. O. J. Weber Co., 555 South Los Angeles St., Los Angeles, Cal.

Cream Separators, all sizes, all prices. O. J. Weber Co., 555-557 S. Los Angeles street, Los Angeles.

U S U S
THINK OF IT!

BICKNELL, IND., June 26, 1908.
Have used a U. S. six months; It's perfectly satisfactory. I made 17 pounds of butter the week before using the U. S. The following week with the U. S. I made 27 pounds from the same cows, under the same conditions. It's the best investment I ever made. ALEX. NEAL.

An Investment Paying 33⅓%

and this is exactly what the U. S. earned for Mr. Neal over his former methods of skimming.
If you are not using a reliable

U.S. CREAM SEPARATOR

but skimming your milk by some other method, you are losing just as large a per cent. of cream (which is money) as did Mr. Neal.
It is clean skimming that counts, and the U. S. holds World's Record for clean skimming, therefore it is the separator that every one ought to purchase.

Send to-day for Catalogue No. 20

16 distributing warehouses in U. S. and Canada
501

VT. FARM MACHINE CO. BELLOWS FALLS, VT.

Prompt Delivery Assured
California Customers from San Francisco warehouse. No delays. Address all letters to Bellows Falls, Vt.

MORE MILK—MORE MEAT

IF YOU USE LILLY'S BEST FLY KILLER

I can positively testify to the merits of Lilly's Best Fly Killer. This is the first year that I have not had to fight grub in my cattle. I used it at first last summer having little faith, but the results quickly converted me. My cattle gave more milk, and kept in better flesh on less feed as a result, and I kept them in the stable all night.
A. F. CHAPMAN, Monohan, Wash.

For Sale by Dealers

CUTTER'S
Anthrax and Blackleg
VACCINES

Are given the preference by 80% of California stockmen because they give better results than others do.
Write for prices, testimonials and our NEW booklet on Anthrax and Blackleg
The Cutter Laboratory
Berkeley, California

HOLSTEINS

We Have For Sale a Number of Registered Young Bulls and Heifers $100
All our stock comes from the celebrated herd formerly owned by the Pierce Land and Stock Co., the premium herd of Holstein Friesians in California. Oakwoods Stock Farm Co., Lathrop, Cal.

VENADERA HERD
OF REGISTERED JERSEYS

I have for sale a number of richly bred young bulls, some of them from cows that have high official yearly records.
GUY H. MILLER,
Route 3, Modesto, Cal.

Live Oaks Farm

Frank A. Meacham, Proprietor.
Importer and breeder of RED POLLED CATTLE, SHROPSHIRE SHEEP, RAMBOUILLET SHEEP, HORNLESS AMERICAN MERINO SHEEP. Both sexes for sale. Take electric car at Petaluma or Santa Rosa for LIVE OAKS STATION. Address all mail to
Petaluma, Sonoma Co., Cal.

California Cultivator

ESTABLISHED 1889

Subscription Price One Dollar per year, payable in advance. Dates of expiration of subscription accounts appear each week on the address label. John Jones 7-08 means July 1, 1908. Notify us by mail if you desire to discontinue.

Thursday, August 13, 1908

Address All Communications to
CULTIVATOR PUBLISHING CO.
115½ No. Broadway, Los Angeles.
733 Merchants Ex. Bldg., San Francisco.

Copy for Change of advertisement must be in office on Saturday preceeding date of issue. New advertising copy should reach the office not later than Tuesday to insure insertion.

CULTIVATOR PUBLISHING COMPANY
H. A. PERKINS, EDITOR AND GEN. MGR.

C. B. MESSENGER - - - - Associate Editor
FRANK H. THOMAS - - Advertising Manager
H. G. HUTCHINS - - Subscription Manager

EDITORIAL CONTRIBUTORS:

J. W. MILLS - - Deciduous and Citrus
JOHN ISAAC - - - Horticulture
J. B. NEFF - Walnut Culture and Irrigation.
Mrs. M. E. SHERMAN - Live Stock and Dairy
Q. A. LOBINGIER - - Vegetable Garden
S. S. TWOMBLY - - - - - - Poultry
W. E. FOSTER - - - - Pigeons
L. M. FALL - - - Law Queries
RALPH E. SMITH - - Plant Pathology
S. A. PEASE - Plant Diseases and Injurious Insects

Entered at the Post Office at Los Angeles, California, as Second-class matter.

Contents

SHADY GLEN IN THE MOUNTAINS, Cover.

PREPARING CATTLE FOR EXHIBITION PURPOSES, 147.

CITRUS.—Bit of Citrus History; Irrigation of Orange Trees; An English Iceless Refrigerator Car; Fumigation in the Northern Counties, 148, 149.

DECIDUOUS.—Grafting the Peach; Methods of Inducing Fruit Bearing; Unseasonable Blooming of Trees; Squirrels and Gophers; How to Cut Scions; Picking Pears, 150, 151.

BEES.—Successful Management of Apiaries; Bees and Fruit Growing; Beeswax, 152.

LIVE STOCK AND DAIRY.—Hot Days, 153.

EDITORIAL.—University Farm School; National Irrigation Congress; A Busy Department; National Apple Show; Forest Fires; Year Book of 1907; Rumors of White Fly, 156.

AGRICULTURAL NOTES OF THE PACIFIC COAST.—Northern, Central, Southern, the Coast, 157.

POULTRY.—October Eggs; Apoplexy; Balanced Ration; Cheaper Feed; Mortality of Chicks; Do the Hens Pay; Setting the Hen; Good Layers, 158, 159, 160.

SMALL FRUITS AND VEGETABLES.—Potato Stalk Weevil; Beans and Vetches; Tomatoes, 161.

QUERIES AND REPLIES.—Apple Cider; Making Vinegar; Weevil; Red Spider; Drying Off the Cow; Abnormal Appetite; Bananas, 162.

VETERINARY.—Running Sore; Refuses Hay; Galled Shoulder; Bone Spavin, 162, 163.

ORNAMENTAL GARDEN.—Summer Care of the Lawn; Lippia Repens, 163.

HOUSEHOLD.—Undismayed; In the Last Act; Homely Hints; Washing Summer Dresses, 164, 165.

PRODUCE MARKETS.—Los Angeles Market; San Francisco Market; Citrus Markets, 166, 167.

UNIVERSITY FARM SCHOOL.

The short courses to be given at the University Farm this fall, are as follows:

Dairy Manufacture.—Eight weeks. October 5th—November 25th.

Irrigation, Soils, Forage Crops and Cereals.—Three weeks. October 12th—31st.

Poultry Husbandry.—Eight days. October 12th—20th.

Animal Industry and Veterinary Science.—Four weeks. October 21st—November 18th.

Horticulture and Viticulture.—Three Weeks. November 4th—25th.

The aim of the short course is to give the latest and best knowledge in a condensed and concentrated form to farmers and creamery operators who can spend only a brief period away from their business—to put into a nutshell, as it were, what is now known of the principles underlying the agricultural processes and their application to farm practice. The dominant feature of the course will be their emphasis of the practical aspect of the farm operations and the actual participation by the students in the work under consideration.

The farmers' courses are open to all persons who are at least seventeen years of age. No entrance examinations will be given nor any requirement imposed except an earnest desire to learn and to make the best use of the opportunities freely offered by the State through its university. Tuition is free, and the only charge is a small fee to cover cost of materials used by the student.

NATIONAL IRRIGATION CONGRESS.

The official call sent out by the Executive Committee of the Sixteenth National Irrigation Congress, announces Albuquerque the place and September 29 and 30 and October 1, 2 and 3 as the dates of the next meeting.

The same slogan giving the four objects of the congress is still retained: "Save the forests, store the floods, reclaim the deserts and make homes on the land."

All who are interested in the achievement of these objects or any of them are invited to attend the congress, and, by participating in its deliberations, contribute to a wise direction of national policies and development of practical methods of conserving and developing the great natural resources of the country, thereby insuring a greater stability of prosperous conditions, extending the habitable area, increasing the products of the land and developing internal trade and commerce.

National and State officials, irrigation and forestry experts, engineers, farmers and irrigators, manufacturers, professional and business men, industrial workers, editors and other representatives of the press will attend the Congress.

New Mexico promises a royal welcome and a care for the comfort of the guests. Full information may be had by addressing R. E. Twitshell, Secretary Board of Control, Albuquerque, N. M.

A BUSY DEPARTMENT.

In commenting on the work of the Department of Agriculture, the San Jose Times says:

"It will expend $15,000,000 during the fiscal year begining July 1. The amount is small in comparison with more than $200,000,000 for the Postoffice Department. But it is significant when placed beside a $4,000,000 outlay in 1902. If any administrative officer of the Government has reason for satisfaction with his work it is Secretary Wilson.

"Appropriations in large measure reflect popular demands. For instance, the amount set aside for the Forestry Service during the current year exceeds by $35,000 the entire allowance made to the department seven years ago. The Bureau of Animal Industry follows closely with $3,000,000 for its use.

"Perhaps no department in the Government organization covers so large a field, or benefits as many individuals, as the Agricultural Department. Its experiments in soils, its reports of the possibilities of newly-opened sections of country, and its circulated reports giving scientific reasons for the adoption of the methods it recommends in crop production, are invaluable to the producer, who in past years plodded on in ignorance of the opportunities of his vocation under intelligent direction."

NATIONAL APPLE SHOW.

The people of Spokane, Washington, are pushing the work of preparation for the apple show which is to be held in that city in December. Premiums to the extent of $25,000 are offered, one of which is $1000 for the finest single specimen.

The idea of holding an apple show originated with the members of the Washington State Horticultural Association. After a careful consideration, it was determined to make the affair one of a National character, and to bring together for comparison the standard varieties of winter apples from all sections of the world.

California should bring home some of those premiums.

FOREST FIRES.

California is having more than its share of destructive forest fires this season. Every year thousands of acres of magnificent trees are destroyed in this State by these fires started, no doubt, almost invariably by carelessness. But this year the disasters have been more wide spread than usual, owing doubtless to the fact that we were given practically no late spring rains. The greatest of these fires this year has been in Monterey and Santa Cruz counties. But this is only a drop as compared with the vast number which have raged in practically every county in the State.

As was said, these fires are invariably caused by carelessness, and the damage is such that no proper punishment can ever be meted to the person who has caused the fire. Every well wisher of the State should be alert to aid in every way forest rangers in detecting and bringing to punishment the careless camper or hunter who goes into the mountains and leaves conditions which may cause these fires.

It is not necessary that the careless camper should be the cause of a fire to be worthy of punishment; if he is so thoughtless as to leave a camp fire which might have caused a conflagration, that is sufficient in the eyes of the law to cause him to be arrested and fined. Of course, usually such a party is a reputable and good citizen who, through a momentary thoughtlessness, has done the act which entitles him to punishment. Until this punishment is meted out without mercy this law will continue to be violated. Let us all unite in making it more respected.

YEAR BOOK OF 1907.

Following the custom of the Department of Agriculture, James Wilson, the secretary, has issued and is distributing a year book for 1907. It is a book of 800 pages and full of matter interesting and instructive to the farmer. It is not materially different from the thirteen which have preceded it. But it seems to us it is rather fuller of practical information. Of course the first part of the book, 138 pages, is given up to the annual report of the secretary, in which he reviews the work of the past year and refers to the hopes for the coming year. The remainder of the book is made up of 27 different papers covering a wide variety of subjects, all prepared by officers and special investigators employed by the department. Added is also an appendix of nearly 300 pages with a vast number of tables of crop yields, information as to weather bureau, progress of forestry and a vast fund of other information. Of course the best part of all is a complete index covering the entire book.

This book is for distribution and Cultivator subscribers may secure it by writing to either of the United States Senators or the Member of Congress of the district in which the subscriber resides.

RUMORS OF WHITE FLY.

It is reported that the White fly has been found in trees at Visalia and Chico. What foundation there is for the report we are unable at present to say, but the story comes that a government entomologist found specimens at both places and that they were identified as Aleyrodes citri at Washington. Should this report prove true it would involve a vast destruction of property in those sections, for without doubt the same drastic measures would be necessary here that have been resorted to in Marysville and Oroville. It is to be feared that if this pest proves prevalent the State will suffer severely in the effort to exterminate it.

Shop Talk

SPECIAL CLUBBING OFFER.

The **Cultivator** has arranged for a special club rate with the **Sunset Magazine** of San Francisco, and we wish to announce this week a combination price for both.

This popular California monthly is just the thing to send to eastern friends and relatives and should be taken by all residents for the information derived regarding their own State.

It with the **Cultivator** is certainly a valuable combination: one for articles of general interest in the whole great West and the other thoroughly covering the agricultural interests of the same territory. The regular price of **Sunset** is $1.50 per year, but to **Cultivator** readers who order with our paper we are going to make a price of **$2.00 for both.** The offer is good with either new subscriptions or renewals, and we shall expect quick response to this announcement. Orders may be for both to one address or to different ones.

Agricultural Notes of the Pacific Coast

Northern California

Nevada county promises an immense Bartlett pear crop this season.

Extensive forest fires have raged near Enterprise, Butte county.

The big Hamilton Sugar Factory started up on the morning of August 3.

Several horses were destroyed by the terrific heat in the Sacramento Valley last week.

Yuba City cannery is packing between thirty and thirty-five thousand cans of peaches daily.

Yolo county soil survey undertaken by agents of the Department of Agriculture is in full swing.

Humboldt county supervisors have turned down a proposition looking toward a good roads campaign.

Winters Fruit Growers Association shipped its first car of Tokay grapes the first day of this month.

Small cucumbers for the Haywards Pickle Factory are being shipped from Gridley, Butte county, by express.

Sutter and Butte counties canal systems are reported to supply abundant water even in this dry year.

The fruit drying yards have accepted the hot weather with good grace as it was exactly to their liking.

Yolo county alfalfa hay is going to market in large quantity, Woodland selling her output for $11 per ton.

The grain crop of Yuba City is reported as exceptionally heavy though the straw will be a very light crop.

The Sacramento Valley Sugar Company is receiving quantities of beets from the fields about Davis in Yolo county.

Yuba City, Sutter county, is planning for the early establishment of a winery to handle the wine grapes of that county.

Irrigators and miners of Nevada county have had many a severe fight with forest fires in the endeavor to save irrigating flumes.

Forest Ranger Richardson of the Shasta National Forest will fence land within the forest reserve for the purpose of pasturing horses.

Forest fires at various points about the Sacramento Valley were held responsible by some for the recent intense heat prevailing all over the valley.

Many in Nevada county attribute the intensely hot weather of the last few days to the fact that there is practically no snow in the Sierra Mountains.

A filing was recently made on 5000 inches of water in the Consumnes River to the taken out near the meeting of the north and south forks of the river.

It is estimated that the output of hops in the Sacramento Valley and coast counties this year will be about 65,000 bales, which is about two-thirds the output for 1907.

Entire Sacramento Valley will join in an extensive exhibit to be made at three State fairs of the Middle West. They will be those of Iowa, Nebraska and Kansas. The exhibit will consist of fruits and other products of the valley and will be for advertising purposes. The work will be under direction of the Sacramento Valley Development Association.

Central California

Holdover raisins are now selling strong at 2¾ cents.

Monterey county will make a creditable exhibit at the coming State Fair.

Turlock, Stanislaus county, is shipping a couple of cars of cantaloupes daily.

Raisin men are beginning to feel hopeful as to the returns for the coming crop.

It has been rumored that some Fresno 1907 figs have been sold under the claim of being 1908 crop.

King City, Monterey county, has delivered some remarkably fine beets to the Spreckles factory at Salinas.

The Lodi Fruit & Produce Company is installing a quantity of machinery for the manufacture of grape juice.

Insect ravages in the beet fields near Castroville have been so severe that crops will be much under normal.

Santa Clara valley grape growers have organized and will affiliate with the State Grape Growers' Association.

Castroville, Monterey county, is building a new fruit packing house. It will be ready for the apple shipments of this fall.

Tulare County Board of Supervisors has granted a thousand dollars toward the expense of the Tulare County Agricultural Fair.

Kings County Board of Supervisors has refused to aid the coming county fair financially, and it is rumored that there will be no fair this year.

The directors of the Tulare Irrigation District held a meeting last week to discuss the question of increasing the water flow in the ditches.

Notwithstanding the large fruit crop of Central California, bankers have asserted that sufficient money is in sight to finance its handling.

Four thousand acres of fertile garden land near Antioch, Contra Costa county, were recently greatly damaged by the breaking of the levee.

Big sugar factory at Corcoran burned last week. The management expected to manufacture at least 100,000 sacks of sugar this season.

County Entomologist Morris of Santa Clara county reports satisfactory work with a four-winged fly which is doing good work on the codling moth.

The Department of Agriculture at Washington has assigned an additional expert to assist in devising a method of exterminating pear thrips.

The total shipment of citrus fruits from points north of Tehachapi, mostly in Tulare county, aggregated 3244 cars, with possibly a dozen more yet to go.

At a meeting of the San José Grange last week, the education of farmers for their life work, also the thrips pest, were principal subjects discussed.

The grape growers of the State organized for a campaign of education at San Francisco last week, electing Andrea Sbarboro president and H. F. Stoll secretary.

Tax payers under the Turlock Irrigation District will soon vote upon the question of raising $30,000 for expense and maintenance of the system for the coming year.

Southern California

The Alamitos sugar factory started July 28.

The Southern California tomato crop has been lighter this year than last.

Most of this season's output of grapes has been shipped from Imperial valley.

A Riverside fruit packer has secured a patent on a new orange packing box.

Highlands claims its orange crop to be about the same total as that of last year.

Orange county lima beans are looking exceptionally well and a good crop is assured.

The walnut crop in Southern California will be one of the largest in several years.

Various communities in Ventura are holding meetings to discuss the good roads problem.

Los Alamitos Sugar Factory will consume about 6000 tons of beets in its production this season.

Fully 3000 acres of celery are planted this season. This is not quite so great an acreage as last year.

A Riverside gardener has produced a fruit on a vine, which it is claimed closely resembles in flavor a peach.

Citrus growers of Southern California have held a conference with Senators Flint and Perkins on the subject of tariff on citrus fruits.

A Riverside orange grower has established a nursery at Phoenix for supplying Arizona citrus growers with "home made" citrus trees.

One nursery company at Beaumont has secured a contract to propagate and plant one million eucalyptus trees in Tulare county next spring.

Inspector Starr of the State Dairy Bureau has caused the arrest and fining of dairymen whose cows were too close to the pump at Ventura.

Notwithstanding a slight decrease in the hog market, the Los Angeles packers are planning to handle a greater number of hogs than any other season.

Riverside is contemplating an exhibit at the International Irrigation Congress to be held at Albuquerque. A large irrigation model will be one of the features.

Tomato growers who are planning for a fall crop are preparing for thorough spraying with Bordeaux mixture to save the crop from fungous diseases or blight.

Several sections of Southern California were visited by severe thunder showers last week. In some sections as much as half an inch was precipitated in a few hours.

Early sown grain in Imperial Valley is used to pasture stock after which it is allowed to grow and head out for grain. If planted as early as September it is said that this grain will give three separate pasturings.

The burning of a large packing house at Westminster, Orange county, last week, burned four carloads of onion sets ready for shipping to Texas. It is claimed that this was practically all the Bermuda onion sets in the United States and that it will materially affect the output of early onions next spring.

The Coast

The harvest at Colfax, Washington, is in full blast.

Threshing is in full swing at Garfield, Washington.

Hawaiian potatoes are freer from scab than most seasons.

Oregon State Fair will be held at Salem, Oregon, September 14-19.

Pacific National Show will be held at Portland, Oregon, September 21-26.

Hawaiian farmers use the soy bean in production of hay and green food for stock.

A severe hail storm recently visited Yakima valley, doing much damage to ripening fruit.

The Allen Cannery at Eugene, Oregon, has packed 9000 cases of Royal Anne cherries this season.

Hop growers of British Columbia are having a serious experience with a bettle which is very destructive.

A large woolen mill and warehouse at Marshallfield, Ore., was recently destroyed with a great loss of wool.

The Fruit & Vegetable Association of Eugene, Oregon, is doing excellent work in purchasing supplies for its members.

Palouse, Washington, wheat fields are threatened by the Jim Hill mustard, against which a strong fight is to be made.

The Western Washington Dairy and Fair Association will hold a fair at its new grounds in Seattle September 7-12.

Washington State Fair will be held at North Yakima September 28 to October 2. E. A. Graham of North Yakima, secretary.

Heavy showers recently falling in the neighborhood of Wilson Creek, Washington, have been worth thousands of dollars to ranchers.

The Grange Fair recently held near Pullman, Washington, was so successful that already plans are being laid for a bigger one next July.

The Whitman County Grange, Washington, has given a boost to the county fair, which will be held at Colfax September 28 to October 3.

Prof. E. F. Favor, formerly botanist in the Missouri Experiment Station, has taken a similar position in the Agricultural College of Utah.

Outlying sections around Honolulu have organized public improvement clubs, which are transforming ugly and unhealthful places into garden spots.

The Farmers' Educational and Cooperative Union at Pullman has a membership of more than 5000, all secured since the first organization, June 16.

More than $25,000 in cash premiums is offered for the first Annual Colorado Interstate Fair to be held at Denver September 7-12. G. C. Fuller, Denver, is the secretary.

Exhibits of cherries at the recent Salem fair were larger and showed finer fruit than the preceding fair. Yamhill county carried off the first prize for general exhibit.

A contest is on between white and Japanese labor at Pendleton, Ore., the Japanese contractor offering to supply all the labor necessary and the white laborers protesting that they are sufficient to harvest the crop.

PER 2 BUSHEL SACK **$1.90** PER 2 BUSHEL SACK

Buy the World's Famous Egg Food No. 4

MIDLAND

IF YOU WANT EGGS
YOU WILL FEED NO OTHER.

Used by the largest and best breeders in the country. Thousands of poultrymen are using it, and it is the acknowledged standard of the world. Haphazard feeding is no longer profitable. Try Midland Food and be convinced.

Petaluma Incubators and Brooders

The acknowledged standards of perfection. All poultrymen who have used these machines have supreme confidence in their ability to hatch and breed. Hence their ever increasing popularity. Winners of the Gold Medal at the St. Louis World's Fair for the greatest hatch, with 40 different makes of incubators in competition. How's that?

St. Louis, Mo., Dec. 8th, 1904.—Petaluma Incubator Co., Petaluma, Cal: My dear Sir—The awards have been held up owing to a controversy between the Exposition officials and the national commission, but today I am able to state the award of a gold medal on your Petaluma Incubators has been confirmed. You are at liberty to make use of this in any way you see fit and in due time the diploma will be issued and the medal obtainable. Congratulating you upon this evidence of the merits of your incubators, in which there was very great competition, I beg to remain, yours very truly, J. A. Filcher, Commissioner.

And Now Comes New Reward for Merit

Read the following telegram received from the Lewis & Clark Exposition at Portland:
"Petaluma Incubators and Brooders just awarded Gold Medal at Lewis & Clark Exposition."

WRITE FOR CATALOGUE 47—A BEAUTY

Petaluma Incubator Co.

Main Office and Factory, Petaluma, Cal., Box F.
Los Angeles, 636 South Main Street.
San Francisco Office and Salesroom, 83 Market St.

Coulson's No. 3 Condition Powder

Is just the thing for molting hens. It acts as a tonic and digestive. Keeps the hens laying longer into the molt and quicker after it. Our FREE Booklet, "THE RIGHT WAY" gives full particulars. Manufactured only by

Coulson Poultry and Stock Food Company
Petaluma, California
Germain Seed Co., Los Angeles, Distributing Agents for So. Cal.

Poultry Supplies

Best of All Kinds at Lowest Prices

West Coast Seed Co.

707 So. Spring St., Los Angeles, Cal.

Mammoth Bronze Turkeys---S. C. White Leghorns

From our large, vigorous White Leghorns, the largest eggs produced by any Leghorn breeder in the West. $1.50 for 15, $7.00 for 100 and $60 for 1000.
To make room for young stock we must dispose of a large number of this year's breeding birds. They are two years old and the pick of our flock and must be sold at once. Write us your needs. The price is right.

STUHR-WILLIAMSON POULTRY COMPANY
378 Bandini Ave. Home Phone 1490 Riverside, Cal.

Black Langshans Well, we won again at Los Angeles. Two firsts, one second, one third on five birds shown. Best stock ever in show room in California. Eggs, $2.00 to $5.00 per 13, $10.00 to $20.00 per 100.

White Rocks Large and vigorous. Improve your stock with a setting or get a fine flock with an incubator lot. Eggs, $1.50 to $2.50 per 13, $8.00 to $12.00 per 100.

S. C. White Leghorns Order eggs now, we have plenty of them. Have had all winter, great big white ones. Eggs, $1.00 to $2.00 per 13, $6.00 to $10.00 per 100.

Phone East 915 **Foster's Poultry Yards, 128 W. Avenue 41, Los Angeles**

When writing advertisers, mention Cultivator.

Profit in the Poultry Yard

We solicit short articles of a practical nature from the fancier and utility breeder, giving their experience with poultry. All inquiries pertaining to feed, management, disease and its prevention will be answered through these columns.

OCTOBER EGGS.

CHICKS hatched not later than the first of April should be laying by October first and possibly before if from some of the quick maturing breeds, but in order to do this they must have been hatched from eggs laid by strong, healthy birds, from a strain the tendency of which is to lay eggs. Again they must have been well hatched. If incubators have been neglected, temperatures have run up to 106 degrees several times or got down to 98 degrees during the night and the moisture and ventilation have been neglected, in consequence of which the chicks do not hatch until the 22nd or 23rd day, and show lack of vigor, we have not made a good start for October eggs. But properly hatching these October layers is child's play compared with successfully brooding and rearing. From the time they go into the brooders till the time they are fully matured the chick must never stop growing and developing. During the first week the brooder temperature should not be allowed to drop below 95 under the hover. Later, the temperature may be gradually decreased and at five or six weeks they can get along without artificial heat. If the chick is chilled during the early weeks of its career, the way is paved for a host of evil consequences, among them diarrhoea, roup, stunted growth, etc. Guard against crowding in the brooder. This is the error into which the amateur poultry raiser falls only too frequently. He puts a hundred little chicks into a brooder intended for 50. As a result 50 die during the first three weeks and the other 50 have received a check that handicaps them seriously as October layers. These birds that are to lay in October and continue doing so through the winter must be properly fed and have abundant exercise. Proper feeding implies sufficient food and not too much of a kind calculated to develop bone and muscle. All young animals require a ration containing a large per cent of muscle making food—a ration rich in protein. It must also be well supplied with mineral matter. Such a ration may be prepared by mixing cracked wheat, cracked corn and beef scrap, fine at first, later the coarser forms of beef scrap. Supply them with mineral matter in the form of fine bone and see that grit is accessible. For the first ten days a good chick food may be used if there are only a small number, but the cost where a large number are to be fed makes it advisable to cast about for something cheaper if equally efficient.

Get them to eating whole wheat as early as possible. There is much less danger from bowel troubles where dry foods are fed. In using cracked corn for small chicks the coarser particles must be screened out. Provide green food. See that shade is provided during the hot summer months. Guard against vermin, and October will find you with a bunch of pullets 75 per cent of which will give a good account of themselves. The other 25 per cent will probably never pay for their feed and should be sorted out and sold as soon as possible.

The young hens that are the early layers are apt to be the persistent layers. If a young hen is caught laying three successive days in September the chances are that she will be a heavy layer through the year. The active pullet with bright comb should be watched as a prospective layer. Because the mother of a bird has laid 250 eggs we are not warranted in assuming that the daughter is destined to do as well. The hen that laid the 250 eggs is a "sport" and the type is not well enough established to predict what her descendants will do. This truth is well established, so we must look to the individual rather than the ancestry of a fowl to determine what is to be expected from that individual as a layer.

POULTRY BREVITIES.

When anything goes wrong about the poultry yard find the cause.

* * *

Don't forget that growing chicks need animal food and mineral matter in the food.

* * *

Dairying and poultry farming make a good combination and furnishes a good market for the skim milk.

* * *

Care should be taken that hens are not allowed to become overfat, and at the same time they must be in good condition.

* * *

The two-year-old hen is to be preferred as a breeder to the pullet. Her eggs are more fertile and the chicks are stronger.

* * *

A tonic in the drinking water during the moulting period is advisable. Nothing is better than Douglass mixture for this purpose.

* * *

Many have the idea that pure bred fowls are not as hardy as mongrels, consequently require especial attention. This is not necessarily so.

* * *

"The breed that lays is the breed that pays," but it has been demonstrated that feeding has much to do with the number of eggs produced.

* * *

The grains and mill by-products are not sufficiently rich in protein to meet the demands of the growing or laying hen. Consequently, some concentrated food must be added to the ration. This is one of the reasons for the use of dried blood meat meal, oil cake, etc., in poultry rations.

* * *

Apoplexy.

Can the editor of the Poultry Department tell us what is the cause of the sudden deaths in our flock recently. We keep Barred Plymouth Rocks—some 75. They are liberally fed and lay well. In the last few months we have lost several suddenly. Some have been found under the roost in the morning; these birds were fat. One hen dropped dead as a result of being frightened by the dog. We have never had any disease in the flock and the houses are free from vermin. —E. J. C.

I think your hens have died from apoplexy. This is a trouble resulting from too liberal feeding. It is the fat, well nourished birds that die from it and have seldom known of a case in the Leghorn. The heavier breed are more susceptible. It cannot be cured, but can be prevented.

Feed less liberally, especially of fattening foods. Give the birds sufficient exercise, and if you care to resort to medical treatment, a dose of physic occasionally is indicated by the condition. Half a teaspoonful of castor oil is a sufficient dose for a hen.

* * *

Balanced Ration.

I am told that oil cake meal is a substance rich in egg making material, especially protein matter. Would it be a good substance to use with wheat, barley and Kaffir corn to make a balanced ration.—H. M. P.

While linseed oil meal is rich in protein the price at which it can be bought in California makes it an expensive source from which to get protein material to balance the starchy food found in the substances mentioned, i.e., Kaffir corn, wheat and barley. Retail dealers charge from $2.00 to $2.50 per hundred and there are about 26 pounds of protein in 100 pounds so the cost of protein is 8 to 10 cents. Beef scrap with 56 to 60 pounds of protein to the hundred costs $3.25 to $3.50 per hundred. In this case the protein costs about six cents per pound. Assuming that protein is what we are wanting, it is much cheaper in beef scrap. There is more starchy material in the linseed cake than in the blood.—S. S. T.

* * *

Cheaper Feed.

I have been a reader of your paper for some time, and read the poultry department with especial interest. I have about two hundred pullets, and about seventy-five laying hens. It is a problem with me as to what I should feed them. I have been feeding them on wheat and Coulson's egg food, but find that wheat at two cents a pound, and Coulson's at two dollars and a quarter per one hundred pounds is rather expensive. I have plenty of green feed and skimmed milk and my hens have laid well, but there is very little profit at the prices I have been paying for feed, and eggs selling for twenty cents per dozen. I saw in the Cultivator of July 9th an article advocating the feeding of barley when wheat was dear. I can buy barley for considerable less than wheat. Would it be well to feed it whole or would it be better cracked or rolled? If fed whole would it be better to soak it in water to soften the beards? Would barley and bran, dry in hoppers, and skimmed milk and green feed, make a good ration for chickens?—J. R. K., Gridley.

Wheat and barley have practically the same feeding value and where barley can be bought for less money it is economy to use it. Here is a difficulty; hens that have been used to eating wheat do not take kindly to barley at first. If they will eat it, I would not bother to use it rolled or soaked. If rolled barley is used the rolling costs $2.00 per ton and, in consequence, adds to the cost. I think if you make a dry mash of rolled barley and bran and feed the same in hoppers and then every night give a small feed of whole barley scattered on the ground you will soon have them readily eating the whole grain. With rolled barley and bran in hoppers a feed of whole barley scattered on the ground once a day plenty of skim milk and green food, you ought to be able to produce eggs at a minimum cost for food. Then if the expense for labor can be kept within reasonable bounds by using the hopper method of feeding and other labor saving devices, the cost of a dozen eggs ought to be kept well below the market price.

In your locality it ought to be possible to buy shrunken wheat at a figure well below the price of plump wheat. Shrunken wheat has a feeding value above that of plump wheat and should be used for the same reason that you contemplate using barley, viz., because we can get more food for a dollar out of it.—S. S. T.

MORTALITY OF CHICKS.

We are greatly impressed with the great mortality of baby chicks. Sometimes it amounts to fully one-half of the chicks hatched. This loss cuts out a big slice of the profits; often the season's work is a net loss. The problem of preventing this loss is worth consideration, for prevention is simpler and easier than cure.

Overcrowding, overfeeding and lice are the three chief causes of mortality in chicks. Overcrowding is easily prevented by being watchful and using common sense and so is overfeeding. The lice we should fight with eternal vigilance. It would seem a simpler matter to avoid crowding chicks in a brooder, but the majority of brooder manufacturers overrate the capacity of their brooders and people are deceived into putting a hundred or more in one brooder and do not realize that in two weeks the chicks have doubled in size. I would not put over sixty chicks in a brooder. Nature has her way of evening up things, and when a hundred chicks are crowded into space only sufficient for fifty, is pretty certain to thin them out by the usual methods of indigestion, of colds resulting from being overheated when crowded too much.

When chicks are overcrowded and do survive the perils of infancy, their constitutions are weakened. Some poultry raisers think that all of the loss is in the chickens that die. The lowering of the strength of those that succeed in living is a handicap upon them all through their life, and is visited upon the third and fourth generations.

Overcrowding is frequently due to imperfect heating of the brooder. This evil is not confined to brooders alone; it frequently occurs in the coops and often many dead ones are found. I never could understand why chicks would persist in piling up until dozens were smothered, but we have to be constantly on the lookout for these things that take away so many of our chicks. If everyone looked upon each dead chick as representing so much cash, I think that more poultry raisers would be more careful to reduce the loss, but too often when one hatching and rearing season is over these losses and trials are forgotten and the losses occur as before. A substantial aid would be to give the chicks reasonable room in the coops and to keep them clean. It is cruel to overfeed; the chicks soon get dumpish and then die; feed just a little at a time and often is a wise poultryman's rule; keep the chicks just a little hungry.

Disease and death result from filth and damp quarters. The droppings should be removed each day from the coops. Many diseases are likely to arise in damp weather that would not arise in dry weather.

Everything that I have written has been in reference to deaths and diseases which commonly occur before chicks reach the age of four weeks. After this age they seldom die of infantile woes. While other diseases often attack them, they belong to the contagious class.

Chicks hatched and brooded by hens may have any of the diseases referred to, but if the motherly instincts of the hen are of the best, her chicks are not likely to contract any disease for which best hen cannot, however, overcome disabilities inherited in the eggs she hatches.—St. Jo Fruit Grower.

The Only Prepared Roofing That Will Stand California Climate

The extreme heat at noon with the big drop in temperature at night, which soon puts an end to ordinary prepared roofings, cannot injure J-M ASBESTOS ROOFING, because it is made of asbestos—an indestructible mineral—on which even fire, acids, stable or chemical fumes have no effect.

J-M Asbestos Roofing

lasts indefinitely without repairs or painting in any climate. It keeps buildings cool. Is noiseless when rain falls on it, and does not taint rainwater. Yet it is cheaper than slate, tin or shingles in first cost, and cheaper than all other prepared roofings in the long run.

Comes all ready to lay. Nails and cement included. All you need is a hammer and knife.

Free to You Samples of our Asbestos Roofing and our Book No. 44 giving valuable information about roofing all kinds of buildings. Write for them today. A postal will do. Address,

H. W. Johns-Manville Co. 203 East Fifth Street Los Angeles, California

FEED YOUR PULLETS

As well as your Laying Hens, on

Coulson's Egg Food

It will bring them to maturity in health and vigor and ensure you lots of eggs in the Fall when prices are high. It can be fed moistened as a mash, or dry in hoppers. Manufactured only by

Coulson Poultry and Stock Food Company
Petaluma, Cal.

GERMAIN SEED CO., Los Angeles, Distributing Agents for Southern California

Send for our Free Book, "Poultry Feeding for Profit"

Starbuck's Barred Plymouth Rocks

We trap nest our hens. Why set from poor layers? Bird laying qualities are inherited the same as any other. This year we have discarded all old matings and have gone to the next generation. Cocks have 9 generations of 200 egg mothers. Hens all from 200 egg mothers and from cock with 6 generations of 200 egg mothers, and are layingfine. We have divided into pens according to the way they are showing up in six months laying. $2.50 for 13 eggs from first pen. $1.00 from 2nd. until they have time to make longer records. (Except from our one hest, not for sale.) We claim the world's Barred Rock, 6 months laying record for this one.) Do you wish to hear ahout our prize winning Buff Orpingtons and Silver Wyandottes? We have something to crow ahout. No Sunday sales or visitors. ***Wm. Starbuck & Son. Fullerton***

Trap-Nested White Wyandottes

That won 22 ribbons out of 25 and 6 Silver Cups and a carving set and a cut glass vase. All the National White Wyandotte Club Ribbons. Second on 10 pullet pen, contest open to all breeds. Mammoth Bronze Turkeys, winners of 5 blue ribbons, all at Los Angeles County Poultry Association Show, December 7, 1907. White Wyandottes were judged by H. Berrar of San Jose, Cal., and W. W. Browning of Ogden, Utah. Hens and Pullets, $15, $20 and up.

MISSION VIEW POULTRY RANCH, MRS. C. D. HUBBARD, SAN FERNANDO, CAL.

Home Made Ice Cream and Candy

Appeals to Everyone in the Family

Has been going since the very day of publication. Full of all that is known about Home Made Ice Cream and Candy. Nearly Three Hundred Formulas.

Make 60 cent Chocolates for 15 cents

Taffies Nut Candies Butterscotch Everything

A 50c Book **You Get It Free With the Cultivator** For 1 Year's Subscription

Paid in advance. For old or new names who pay for the coming year. Enclose a $1.00 bill and ask for the "Candy Book." But remember, you will not receive the book unless the remittance pays for at least a whole year from this date. Address

Cultivator Pub. Co., Los Angeles, Cal.

Well Roofed— Well Housed

A building is only as good as its roof. If you would have your buildings storm-tight—protected against wind and rain, and protected to stay, put on a roofing that will give complete and lasting protection.

REX
FLINTKOTE
ROOFING

will not rust or rot; it is durable and permanent.

Everything needed to lay REX Flintkote Roofing comes in the roll. One man and one hammer is all that you have to furnish to put it on.

FREE SAMPLES

Let us send you free samples to test; also valuable roofing booklet.

J. A. & W. BIRD & CO.
89 India Street, Boston, Mass.
Pacific Coast Agents: W. P. FULLER & Co., San Francisco, Sacramento, Oakland, Stockton, Los Angeles, San Diego, Portland, Seattle, Tacoma, Spokane.

California State Fair

Sacramento

August 29th to September 5th, 1908

Big Purses Big Races
Big Premiums

Bear in Mind the Great HEAD-ON RAILROAD COLLISION

A Big Fair with Startling Attractions. Bring the family and enjoy yourselves. Nowhere can you see so much or have such a good time for your money. See the show and be saved; miss it and be miserable. All live people show and all good people go. $20.000 in Premiums, $15,000 in Purses, $5,000 in Amusements, $10,000 for Advertising and Operating. Special Railroad Rates. Address J. A. FILCHER, Sec'y

STROKE SELF FEED HAY PRESS

2 men can run it.
3 tons in one hour.
Easy draft.
Smooth bales.
Will save its cost.
Shipped on trial.
SATISFACTION GUARANTEED.

THE AUTO-FEDAN HAY PRESS CO. 414 E. 10TH ST. TOPEKA, KANS.
BRANCH OFFICE, 1521 W. 12TH ST., KANSAS CITY, MO.
Ask for Catalogue No. 28

1521 West 12th St., Kansas City, Mo.

Agent, John Schilling, Jr., Davies Warehouse 2nd and Central Ave., Los Angeles, Cal.

Black Minorcas
Exclusively
"Birds That Lay and Win"

Winnings at Los Angeles, 1908: Cocks, 1, 2, 4, 5; Cockerels, 1, 2, 4, 5: Hens, 1, 2, 3, 5; Pullets, 1, 2, 3, 4, 5 Pens, 1, 2; Cup for highest scoring Minorca male in show. Stock and eggs for sale. Catalogue free.
H.A. Wheeler, Box 123, Lordsburg

Baldwin's White Leghorns

First prizes San Jose '06, and State Fair '07. Three 1sts and special, San Jose, '07. $50 cup best display Petaluma '07. Send for free '08 Catalogue and price list. Good breeding stock for sale cheap to make room; also young c'k'ls.

Frank E. Baldwin
46 Washington Ave. - San Jose, Cal.

White Wyandottes Exclusively

Good, White, Typical Birds. Stock and Eggs For Sale.
W. A. SEYMOUR
470 No. Beaudry Ave. Los Angeles Cal.

When writing advertisers, mention Cultivator.

DO THE HENS PAY.

VERY few farmers or farmers' wives know whether the poultry pay or not. Eggs are eaten in the family; a few are sold from time to time. Occasionally a fowl is eaten, but if the owner is asked what the eggs produced cost per dozen or the meat per pound, he is at a loss to tell. The Poultry Advocate has the following advice on the subject that is worthy of careful consideration:

"It is always a satisfaction to know whether or not your poultry is on a paying basis. Many people find poultry raising a profitable and pleasureable occupation. Keep a record, an exact record of your receipts and expenditures connected with your poultry, and find out definitely whether they pay; not at certain times of the year, when it would be hard work to make poultry unprofitable, but all the year round. Keep continuous records. Charge up every cent of outlay on the fowls, and credit them with stock and eggs sold at the actual price received.

"And if it should be found at any time that, taken for the year, the proposition is a losing one, it is time for a thorough consideration of all the causes which contributed to that end. The records if carefully kept will show some facts which might not be so apparent otherwise.

"The beginner is advised to watch every detail of the business closely. It may be that the females are not from good egg laying strains and, therefore, the desired success may be impossible with them. It may be that the feed is too costly and not of the right kind to ensure either the proper development of the growing birds, or the greatest possible output of eggs. 'The breed that lays is the breed that pays' is a well-worn axiom in poultry culture. But it has been demonstrated, over and over again, that a strain of any breed may be developed in the egg laying habit to such an extent that were it alone of its breed considered, that breed might be well termed 'The breed that lays.' But in the creating of an egg laying strain, feeding has a great deal to do with the number of eggs produced. For instance, supposing you have purchased birds from a strain noted for its egg laying quality; if you were to starve your birds, or to feed them solely on corn, you would not get a good egg yield, no matter whether their ancestors for twenty generations before them had laid 200 eggs per hen per year. So we see that feeding has a vital influence in the production of eggs.

"If your fowls do not 'pay,' your records will be of great assistance to you in locating the cause, and then it is 'up to you' to reemdy it."

SETTING THE HEN.

Too much care cannot be exercised in the selection of the setter, nor in the manner in which she is set.

In the early spring months we are wont to set the first hen that clucks, regardless of whether she is suitable for the brooding business or not, and this is why we often waste a high priced setting of eggs and place all the blame on the hen. You should first be sure the hen is broody, allowing her to set for at least two or three days; she should then be examined as to lice, canker, roup, scaly legs and, in fact, any contagious disease.

Dust the hen thoroughly with a good louse powder and do not merely shake some of the preparation on her back and trust to luck that this will eliminate the lice. The feathers of the hen should be raised and the powder dusted down to the skin. Each section should be gone over until she is thoroughly dusted.

Scaly legs is a disease that the average poultryman pays no attention to, and there is not a disease among poultry that is so easily transmitted or will spread so thoroughly. If it is not dangerous it is unsightly and degenerates the flock. The setting hen is the fountain head for this disease, and double precaution should be taken, because of this. Under the new standard a specimen with a severe case of this ailment cannot be awarded a first prize, so this must be conclusive evidence as to the virulent nature of the malady.

You should have regular time to feed your hens and keep water before them all the time or it would be much better if you could place them where none of the other fowls could get to them, and keep feed where they would have access to it at all times.

A box of nice, dry earth or road dust will serve the purpose of a dust bath, which is essential. Did you ever notice that a setting hen will indulge in this practice even before she will satisfy her hunger?

We have the past few years made a practice of setting as many hens as possible at one time, and then giving a goodly number of chicks (from 15 to 20, this depends on the breed and the time of year) to a hen; this would create a surplus, and these we would set again, and we have found that their second "session" proved even better than the first. This may seem to some as cruel, but if the hen is given the right kind of care, she will be in better physical condition at the end of six weeks than three. If you do not make an attempt at sanitary conditions you had better never try working the hen "over time," as the vermin will get the better of you.

After the eggs begin to pip it would be well to darken the nest if possible, as biddy will attend to her duty much better.—Poultry Gazette.

GOOD LAYERS.

The Western Farmer has the following regarding the selection of layers:

One great secret of getting a good profit from poultry, as well as cows, is the weeding out of the unprofitable ones, writes one poultryman. A good many recommend the trap nest. Some claim that the trap nest to the average farmer is about as practicable as would be a line of trolley cars to carry him around his farm. In order to trap nest a flock of hens an attendant must be on hand to release the hen after she has laid, and give her credit on the books. A farmer cannot always do this. A set of trap nests is all right in its place, and that place is where hens are kept in sufficient numbers so an attendant is continually about the hen houses up to 3 or 4 o'clock in the afternoon. How then are we to judge which are the layers and which are the drones? My method is to judge by their looks and actions.

There is as much difference in the shape, disposition and appearance of individual hens as there is in individual cows or horses. The difference in characteristics can better be accurately judged in pure bred flocks than in flocks of mongrels, for with the former, when you have studied the breed you have adopted, as everyone should, until you have the shape imaged in your head and can recognize it anywhere, you have more uniform individuals to judge; while with mongrels and crosses, after the first cross especially, you never know what you are going to get either in shape, color, eyes, comb or general characteristic.

A hen that is soonest off the roost in the morning and the last to retire at night is what we call a hustler. She is looking for something to eat from which to produce an egg. A hen to produce eggs in large quantities must have good capacity to take food and good digestive organs to digest and assimilate the food eaten. You naturally, therefore, look for a long keel, apparently lengthened by a full breast filled out square with the keel by a good full crop. In such a hen the abdomen, while not bagging down much, will be well distended, showing egg capacity. You seldom see a hen, narrow between the legs and abdominal lines straight back from the legs, giving her a squeezed-in appearance from behind, that is a heavy producer. She is like a dairy cow built on beef lines. I prefer a hen with legs well apart, full breasted, with well developed abdomen. This indicates stamina and vigor. If she has a bright eye, red, healthy looking comb and head adjuncts, and has that alert carriage, coupled with the other characteristics mentioned, she is pretty surely a profitable hen, and watching will prove her the bird for the breeding pen to increase your egg production, and at the same time a carcass built on these lines is capable of supplying a trade for fancy table food.

We are so accustomed to thinking only of the heavy, very costly Billiard and Pool Tables that require a special room, and which only the very rich can afford, that it is a novelty and a pleasure to become acquainted with the Portable Tables sold by C. Ridderhof, Laughlin Building, Los Angeles.

They are built in all sizes, from a Miniature Pool Table three feet long up to Tourament Tables, and the line comprises Combination Library or Dining and Billiard Tables, as well as many styles for use on top of an ordinary table or on a folding stand.

All light enough to be easily portable, and for use in any room in the house or even on the porch; so reasonable in price as to be within the reach of all and yet rivaling regulation Tables in playing qualities.

Notwithstanding the fact that Billiards and Pool are sometimes played in undesirable places it is manifest to all right-thinking people that that which is undesirable has been in the environment, but not in the games, which are clean, instructive and entertaining in the highest degree.

Henry Ward Beecher said of the game: "I have a Billiard Table in my house, and every Christian family should have one. The game is a noble one; it should be encouraged in all safe ways. It must be regarded as one of the most charming games ever invented."

Other great men have expressed themselves similarly. In the country and in the smaller cities, where it is not so easy as in the large cities to find good entertainment, it is even more desirable to provide the best means of enjoyment at home, and the Portable Billiard Tables seem to solve the problem.

Notice "Shop Talk" this week for $2.00 rate of SUNSET and CULTIVATOR each one year.

Now is the time to hatch **BANTAMS**
Golden Sebright, Buff Cochin, and Light Brahma Eggs, $2 per 15. Prize winners.
M. E. Dillingham Box 67, San Gabriel, Cal.

Small Fruits and Vegetables

THE POTATO-STALK WEEVIL.

THE potato-stalk weevil (Trichobaris trinotata) though unfamiliar to many potato growers, is by no means a new pest. Its presence in this State has been known since the year 1873. Though quite common, there is no record of any extensive or continuous injury sustained from its attacks till the year 1897, when there seems to have been a special onslaught by the insect. In June of that year there were many complaints of serious damage to the potato crops by this insect. During the spring of 1898 the insect was found in large numbers in Riley county. Investigations that were carried on during the same year reveal the fact that the insect is pretty well distributed over the Eastern and East Central parts of the State. It was found as far west as Dickinson and Saline counties.

The attacks of the weevil are not confined to the potato alone, as the insect is to be found in as large if not greater numbers in certain weeds which seem to be the original host-plants of the insect. The horse-nettle, Solanum Carolinense; cocklebur, Xanthium Canadense; stinkweed, Datura Stramonium; bull-nettle, Solinum rostratum; ground cherry, Physalis longifolia; are all subject to more or less attack by this insect. In several of the weeds, particularly in the ground cherry, the insect is more numerous than in the potato. As many as eight adults have been taken from the stalk of one ground cherry, while in the potato vines we have never found them so numerous, but only one specimen in the root and from one to five in the upper parts of the plant. Whenever the above-mentioned weeds are allowed to grow wild in any large numbers they are a constant menace to potato culture, in that they support the insect in large numbers to infest adjoining potato fields in the spring.

The adult is a small snout-beetle about one-fifth of an inch in length. It is an ashy gray color, and marked with three black spots at the base of the wing covers.

The weevil passes the winter in the adult stage, remaining till spring in the same plant in which it has passed through its transformations. About May the weevils emerge from their winter quarters and pass to the young growing potato plants, where they spend some time feeding. By June the female adult commences to deposit eggs. She first makes in the stalk a small slit about one-twelfth of an inch long, in which she deposits one egg. In the same way eggs are deposited in the main and secondary branches. In about a week the larva or grub hatches out and commences to work downward towards the root of the stalk. As it develops in size its channel becomes larger and more conspicuous. After channeling down a distance the larva turns around and commences to enlarge its old channel for at least a part of the way. It is this mining of the pith and the wood by the several larvae in the stalks and branches that impairs the vitality of the plant.

The larva when first hatched is a small, footless and whitish grub. At maturity it averages from six to eight-sixteenths of an inch in length, with a brown head and with dark-colored mouth parts. The body bears a few light colored hairs.

Just before pupating the larva constructs a cocoon of fibers in which it pupates. The pupal stage lasts from eight to 11 days. By July 22 a large number of the larvae have pupated and by August many are complete beetles.

Remedies.

As the adult passes the winter in the same plant in which it has gone through its transformation, the best remedy to use in combating the insect is to destroy the vines as soon as the crop is gathered. It is also a good plan to destroy in the fall all the above-mentioned weeds upon the farm. They should be pulled up with a good portion of their roots and destroyed. If pulling them should be too expensive an operation they should be cut down while young and allowed to dry up. By this means many of the immature larvae will be destroyed for want of proper food.

Promote a vigorous growth in the plants by clean cultivation and fertilizers. A healthy vine does not suffer so severely from the attacks of the pest. The greatest injury is seen in the vines of low vitality, which have suffered from the attacks of other insects, heat and drouth.—Bulletin 86, Kansas Station.

BEANS AND VETCHES.

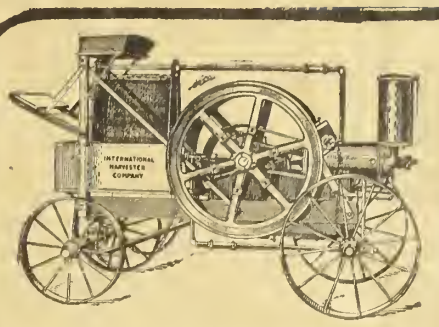
As known today these crops belong to several important genera of legumes, as Phaselous, Vicia, etc. In 1899 nearly 454,00 acres of beans were grown in the United States, producing a crop worth $7,634,262. This income was derived through the cultivation of varieties belonging to but few species of the named genera. However, the vast majority of the beans of the world are wholly unknown to agriculture. The genus Phaseolus contains 164 described species of widely different characteristics, while the genus Vicia contains over 230 known forms, making a total for these two genera of beans and vetches of 400 or more species.

When we consider the great value of these plants not alone as food for man and feed for stock, but their great worth as soil enrichers, the wisdom of bringing together these hundreds of species for study and improvement will be self evident. This work has never been attempted in a comprehensive manner, but if carried out by the United States it would add tens of millions of dollars annually to our wealth.

TOMATOES.

Tomatoes will be at their best in August, and then is the time to lay in a supply for canning and preserving purposes. Such is the adaptability of this vegetable that it can be used as a fruit or vegetable at will. As a healthy vegetable, cooked or raw, it is unsurpassed, and in midsummer, when most of what are summer vegetables in more northern latitudes are more or less out of season, the tomato admirably fills up the gap. For canning to get the full flavor, they should be put up during this month, as the warm summer sunshine gives them their best flavor. As cooler weather comes on they are less highly flavored, but still far ahead of the canned article.

A study of the aphis which has been so disastrous to bean and melon fields this year has been quite extensive and it hoped that this pest may be controlled.



I·H·C GASOLINE ENGINES

Are solving the hired help problem for hundreds of farmers.

Vertical Engines made in 2 and 3-Horse Power.
Horizontal Engines (Portable and Stationary) made in 4, 6, 8, 10, 12, 15 and 20-Horse Power.
Air Cooled Engines, 1-Horse Power.
Traction Engines, 10, 12, 15 and 20-Horse Power.
Also sawing, spraying and pumping outfits.

YOU offer high wages, and still find it difficult to get hired men. Why not do as other progressive farmers are doing—let one of the dependable and ever ready I. H. C. gasoline engines be your hired man?

Suppose you want to grind feed, pump water, operate the churn, grindstone, fanning mill, separator, bone cutter, or saw wood. With an I. H. C. engine you will need no extra help. You can run the engine and attend to the machine yourself.

In the same way it can be used too for irrigating—pumping from wells, lakes, ponds and running streams. The operator can handle the head of water in the field and also attend to the engine.

The engine will work for you indoors or out, in wet or dry, hot or cold weather. You will have no difficulty in operating or controlling it.

Only a few cents per hour is required for fuel. All I. H. C. engines use either gas, gasoline or denatured alcohol.

Please notice in the above list of styles and sizes that there is an I. H. C. gasoline engine adapted to practically every farm requirement.

You can have a small engine which you can easily move from place to place, as your work requires, or you can have a larger engine for stationary use. The efficiency of all I. H. C. engines is well known. You cannot possibly have any better guarantee of a dependable engine than one of these engines affords.

Call on the International local agent for catalogs, and inspect these engines. Write nearest branch house for colored hanger and booklet on "Development of Power."

WESTERN GENERAL AGENCIES: Denver, Colo., Portland, Ore., Salt Lake City, Utah, Helena, Mont., Spokane, Wash., San Francisco, Cal.
INTERNATIONAL HARVESTER COMPANY OF AMERICA, Chicago, U.S.A.
(Incorporated)

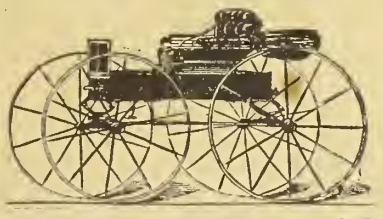
SEEDS and TREES
of

All Leading Varieties **EUCALYPTUS** Send for Special Price List

New Onion Sets, White Bermuda, any quantity.
Peas, Beans, Tomato Seed for late planting.
Tomato and ***Pepper Plants, Rhubarb Roots.*** Send for Catalogue.

Chas. Winsel, Seedsman
251 So. Main St. Los Angeles, Cal.

We Carry the Best Line of
Buggies and Delivery Wagons



in the City. Call and get our prices and examine our goods before you purchase.

No trouble to show goods.

Los Angeles Vehicle and Implement Co. 110 and 112 North Los Angeles Street Los Angeles, California

Crimson Winter Rhubarb and **Berry Plants** Our Specialty

1000 choice Navel Oranges, together with a few other Citrus Trees. April and May are best months to plant Rhubarb for heavy yields next winter. It has never been equalled as a money maker. $1.50 per dozen, $6 per 100, $40 per 1000. Pedigreed plants.

J. B Wagner
The Berry and Rhubarb Specialist Pasadena, California

Mr. Farmer

If You Have
Sunflower Seed
or **Popcorn**
For Sale Write or Call
Excelsior Cereal Milling Co.
242 Central Ave., Los Angeles

When writing advertisers, mention Cultivator.

Burbank Crimson Winter Rhubarb

Plants and Seed for sale in any quantity. Warranted the genuine article. Orders filled promptly

A. L. Fratt, Ventura, Cal.

Mushroom Spawn

Spawn manufactured by a practical grower. Call at my place and see mushrooms growing. Finest varieties grown.

Arndt's Mushroom Farm
3751 So. Normandie St. Los Angeles, Cal.

When writing advertisers, mention Cultivator.

Pacific Seed Co.
C. Bagnall, Prop.
GROWERS AND IMPORTERS OF
Grass, Vegetable and Flower Seeds
All Kinds of Bulbs and Onion Sets
609 J St., Sacramento, Cal.
Send for Catalogue. Please mention Cultivator.

Warranted to Give Satisfaction.

Gombault's

Caustic Balsam

Has Imitators But No Competitors.

A Safe, Speedy and Positive Cure for Curb, Splint, Sweeny, Capped Hock, Strained Tendons, Founder, Wind Puffs, and all lameness from Spavin, Ringbone and other bony tumors. Cures all skin diseases or Parasites, Thrush, Diphtheria. Removes all Bunches from Horses or Cattle.

As a Human Remedy for Rheumatism, Sprains, Sore Throat, etc., it is invaluable. Every bottle of Caustic Balsam sold is Warranted to give satisfaction. Price $1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars, testimonials, etc. Address

The Lawrence-Williams Co., Cleveland, O.

Peckham Says

Increase Your Income $2,000 a Year

I want every man or woman who is interested in his or her future to look into our Corcoran land proposition, the land that you easily make $2000 a year on.

I want you to see this land for yourself, you can go with the next party I take to look at the property, or I will gladly furnish you with names of men who have gone, and you can ask them what conditions they found.

There are many features of this land that make it safe and profitable which I haven't space to touch upon, but any one living in Los Angeles who is interested should call at my office for details; those living outside of the city should send for Profitable Realty, which gives full details.

George C. Peckham & Company

203-4-5-6 Union Trust Bldg., Corner Fourth and Spring Sts.
Phones: Main 3221, F5392.

What a Few of the Best Cooks in the World Say About the

Anchor Egg Separator

Waldorf-Astoria Hotel Chef Says:

"I am using **The Anchor Egg Separator**, it gives perfect satisfaction; no one should be without it where eggs are used."

Delmonico's Chef Says:

"I take pleasure in saying **The Anchor Egg Separator** works perfectly, no well regulated Hotel or household can afford to be without it."

Sherry's Chef Says:

"**The Anchor Egg Separator** fills a long felt want; I would consider it cheap at ten times the cost. I would not be without it at any price."

Send 10 cents, or the names and addresses of ten poultry raisers, and we will send you a Separator, postage prepaid.

West Coast Mill

705-709 Griffin Ave., Los Angeles, Cal.

Good hardwood ashes help grape vines and garden soil. Ever try it?

Queries and Replies

Questions to be answered in this department should be received at this office one week before reply is expected. Write plainly on one side of the paper and sign full name and address. Unsigned communications receive no attention.—Ed.

Apple Cider.

Is there any method of preparing apple cider so it will keep and not turn to vinegar?—E. B. W.

To preserve fruit juices and retain their flavor so they will not have the "boiled" taste, they are usually placed in bottles, which in turn are placed in a boiler or some large vessel, care being taken to have wooden strips underneath the bottles. The water bath is then placed over the fire and heated until the juices are about 160 to 170 degrees. These bottles are then kept in a cool dark place and allowed to settle for a few days. Then filter and again heat in the water bath, and while they are hot insert stoppers which have been soaked in boiling paraffine. If care has been exercised to thoroughly sterilize the bottles and the stoppers and everything connected, fruit juice put up in this way will keep for years.

Making Vinegar.

Can I use peelings and small fruits such as pears and cling peaches with pits and all and make vinegar? How long would the vinegar have to stand before it could be used?—A. R., Geyserville.

Vinegar is often made in the manner of which you speak, the small fruit being crushed so as to liberate the juice as much as possible. Place in barrel with open head and cover with cloth. A little yeast may be added as a starter and after two or three weeks the juice may be racked or filtered off from the pummace. When it can be secured, "mother" may be added from the old vinegar barrel. Standing a few weeks after this with the bung of the barrel open usually succeeds in making a good quality of vinegar. As to market quotations on such a grade of vinegar we are not informed. The yeast is not essential, but hastens the work.

Weevil.

Please give remedy for the bug which destroys seed beans.—Subscriber, Santa Ana.

Usual remedy for the weevil, which we presume this is, is carbon bisulphide. The beans are placed in a strictly air tight box, or bin or room, and the bisulphide placed in such a way that the fumes as it evaporates will thoroughly penetrate the entire mass. This insures death to the weevil which may be in the beans, but is not preventive, as they may be infested again if they are not placed in a room which is free from weevil.

Red Spider.

I have sprayed with Bordeaux mixture with Paris green added, but it does not seem to kill the spiders.—C. W. J., Laton.

Your spraying with Bordeaux mixture and Paris green was of no value whatever for the red spider. The usual treatment is simply dry sulphur, applied by use of bellows, or even by scattering by hand over the trees or vines; but to be of much value this treatment must be applied before there is any material manifestation of the insect. For after its work is apparent it is probable the insect has finished its life work and disappeared, leaving only the result of its depredations.

Drying Off the Cow.

The article in Cultivator of July 16 in regard to continuous milking was very interesting to me. I have two Jersey cows, one two years old last September, was fresh in October; one six years old, fresh in September. They will each be fresh again in the same months. Each gave 22 lbs. a day when fresh. Now the heifer gives 17 lbs. and the cow 19 lbs. I feed alfalfa hay, sweet cornstalks and a little green alfalfa, 4 lbs. shorts, 3 lbs. bran and 1 tablespoon of West Coast stock food. Now I know by experience that the only way to dry this cow off is to stop all this feed and feed straw. Then it is a hard job. I supposed she should have a few weeks' rest. If I continue to milk these cows should I continue the same amount of feed? And when should they be bred again? Am interested reader of Cultivator.—C. J. S., Rialto.

Neither of these cows is a heavy milker. They should not be hard to dry off if you watch for the natural pause in the milk flow that comes eight or ten weeks before calving. When it is found there is a slight decrease in the milk at this time, follow it up by leaving a little milk in the udder at each milking, and as it decreases further milk once a day, then every other day. At the same time the succulency of the ration may be decreased by changing green corn and alfalfa for alfalfa hay and gradually decreasing the grain ration. If, however, it is thought desirable to continue milking these cows, feed until ten days before calving, then drop out the grain, except a quart of bran for laxative effect, and give alfalfa hay. After the cow has been fresh six days, begin to gradually bring her up on her feed by adding each day a little extra until she is again on full rations.

Abnormal Appetite.

What causes my cows to eat fence boards, old rags, bones, etc., when they are on good pasture and have salt and ashes before them?—Subscriber, Arcata.

Want of rough food and lime is usually given as the cause of cows having depraved appetites. Add a little straw or rough hay, as barley hay, to the rations, and bone meal will stop them eating trash. We buy fresh butcher bones and run them through a poultry bone cutter. Give half a tablespoonful to each cow in her feed. Rags and bones, outside of the fact that they are not clean foods, may become dangerous to the cows by choking them.

Bananas.

Why does the fruit on banana trees only set one or two rows of bananas and the rest of the blossoms drop off? Has the watering anything to do with it?—P. J. G., San Diego.

The watering may possibly affect the setting of fruit on bananas, but think the climate is the principal cause of the trouble common all over California. The banana is a purely tropical plant. It will exist in California and is a beautiful ornament in the yard, but the arid condition is not to its liking, so will not bear to any extent. If you will remove your plant to some moist, humid section of Central America, where the big lusty mosquitos will bore you full of malaria and yellow fever germs, where it is as hot at midnight as it is at noonday, you will get much better results with the banana. Personally, we prefer to pay two bits a dozen for ours.

Anthrax Cure, Milk Fever Outfits. See O. J. Weber Co., 555-557 S. Los Angeles street, Los Angeles.

Veterinary

Dr. R. T. Whittiesey, veterinarian, of 714 East Seventh street, Los Angeles, will answer questions in this department. In writing of sickness or injury to any animal be explicit in giving symptoms and particulars. Always enclose full name and address, but if assumed name or initials are preferred they will be used.

If an immediate mail reply is wished enclose $1.00 for such service, but for replies in paper only, no charge is made if the answer will be of general interest.

Please address all questions that are to receive gratuitous replies through these columns to California Cultivator, 115½ N. Broadway.

All communications to Dr. Whittiesey direct should contain a great big dollar.

Running Sore.

Yesterday my cow did not seem at all well in the forenoon, but in the afternoon she became apparently all right. Last night we discovered a swelling near the milk gland in front of the bag; now it is a huge running sore. She has a good appetite and seems to feel well this morning. Several times she has seemed bloated, although she had no food liable to bloat her. Please tell me what treatment to follow, probable cause, and how soon the milk will be fit for use. We noticed for about two weeks that the milk not only soured quickly but became musty in odor, although we have a good place to keep it. Was that due to her condition? Her food is dry alfalfa, with bran twice a day. She has good water and a clean, cool stable and corral.—Mrs. L.

Wash the sore thoroughly with hose twice daily and follow with dry zinc oxide powder. If she bloats on alfalfa hay change to dry oat hay; give plenty of salt and drench with one-half ounce of eucamphol in one quart of water twice daily.

Milk is good at any time if there is no fever; this you will have to learn from the use of a clinical thermometer.

Refuses Hay.

My mare slobbers and will not eat hay of any kind. I took her twice to the veterinary and he cleaned her mouth and said her mouth was tender, but it did no good. She does not work; in fact, is not used at all. I feed her rolled barley and bran, and have plenty of hay always in the rack, but she grows thinner all the time.—S. D., San Martin.

Horses very frequently slobber from the irritation of the bit or from the salivary glands being in a diseased condition. Your mare may get low in flesh even when her teeth are all right. Worms, a diseased liver or a dyspeptic condition of the stomach and intestines. This would take a thorough examination by a veterinarian, and might take a day or two to make a thorough examination. You are not very far from San Jose and Drs. Spencer and Healy of that city will probably be able to help you out.

Galled Shoulders.

Will you kindly inform me through the columns of the California Cultivator of a good preparation that may be made at home for sore shoulders on horses and mules. We have to pay such a high price here for gall cure that we are obliged to resort to something that will be less expensive. We work about thirty head constantly; wash their shoulders every night, and use pads on the collars and try to make the collars fit as near right as possible, yet we have considerable trouble from their sore shoulders.

A preparation of one tablespoonful of turpentine to a cup of unsalted hog grease mixed with enough sulphur to form a paste, was recommended by a neighbor and tried. It was not satisfactory because the sulphur formed a hard, dry crust over the sore and when the horse was worked the next

day only served as an irritant. The rubbing of the collar had the same effect on the turpentine. If you can tell me of some preparation that will be softening and healing, something that can be put on in the night and when they are going to work, also, I will be very much indebted to you.—F. N., Holtville.

Use no salve or ointments on sore shoulders that are to wear collars, as it will gather dirt and make good shoulders sore.

Why any one will use turpentine on sores on a horse is beyond my comprehension, as there are few things that will blister more severely. Wash the shoulders thoroughly with the following:

Formaline one and one-half ounce to one gallon of water; no stronger.

See that the pads are dry and clean. In the morning dust the sore shoulders and pad where it touches the sore with dry graphite.

Bone Spavin.

Be so kind as to inform me as to the treatment for bone spavin on horse and oblige.—A Subscriber, Hemet.

Thorough firing with pointed "thermocautery" is about the only successful treatment; this in most cases will effect a cure.

CULTIVATOR and SUNSET together for one year, $2.00. Order through Cultivator. See notice under "Shop Talk."

EUCALYPTUS SEED

Eucalyptus rostrata, the Red Gum
E. corynocalyx, the Sugar Gum
E. tereticornis, the Forest Red Gum
E. globulus, the Blue Gum
E. citriodora, Lemon-Scented Gum
E. cornuta, the Yate Tree
E. polyanthema, the Red Box
E. leucoxylon, Victorian Iron Bark
and Many Other Valuable Sorts

I shall be pleased to correspond with prospective buyers, and give particulars as to prices on the seeds I am offering. Trial packets of any variety 15c each, 2 for 25c, or twelve for $1.25. Also young trees of many varieties for sale. Send for circular and cultural directions.

THEODORE PAYNE
NURSERYMAN AND SEEDSMAN
Home Phone A2480
345 S. MAIN ST., LOS ANGELES

Eucalyptus Seed

We are headquarters on all varieties of this seed. Be sure and get our prices on high quality stock. 80 varieties, your selection, 15c per pkt. Or we will mail postpaid, 1 pkt. each, E. Rostrata, Globulus, Tereticornis, Rudis, Corynocalyx, Leucoxylon for 50c with Cultural Directions.

MORRIS & SNOW
555 South Main Los Angeles

Eucalyptus

We have made a specialty of eucalyptus for the past ten years. We are no mushroom concern. We are prepared to accept contracts for raising eucalyptus for next season's planting. Take advantage of our **Low Prices on Contracts. Do It Now.** Twenty of the leading varieties to be seen at our nursery.

Saint & Warner
Sycamore Grove Nurseries
4584 PASADENA AVE., LOS ANGELES

The Ornamental Garden

SUMMER CARE OF THE LAWN.

THE suroundings of the home generally indicate the artistic ability, or lack of it, of the dweller. The picture of the home is spread upon the canvas of the lawn, and we unconsciously size up the dweller by his success in presenting this picture to us. In this endeavor the care of the lawn plays an important part.

Leaving, at present, the question of planting the lawn for consideration at another time, the following hints regarding care of lawns may be helpful:

Lawns are best watered with the hose if water supply of that character is available. One of the many styles of sprinklers attached to the end of the hose is desirable as a time saver. If there is no hydrant, the lawn should be flooded every ten days or two weeks. The water in this case should not be allowed to stay on for a great while, especially if there is much shade, or the grass roots will be destroyed wholly or in part and yellow spots will appear here and there in the sward. Of whatever character it is, thorough watering best follows immediately after mowing.

Ordinarily the lawn should be gone over every week or ten days with the lawn mower, the snorter period being better where the water supply is constant. The appearance of the sward is greatly improved by observing the following points: First, the use of the "grass-catcher" attachment to the machine for the removal of the cut grass; second, mowing in straight lines, and so far as possible in the same direction; third, lapping the machine only one-half the width of the swath; fourth, trimming out with sickle and sheep-shears all the grass which cannot be reached with the mower.

The following comments may be made upon the preceding statements. In the use of the apron or "catcher," it should be remembered that the removal of the grass at every mowing means the removal of fertility which should be restored by manuring, but the velvety appearance which we so much admire is secured better than by letting the grass lie where it falls. From a new lawn, however, i.e., one planted in the current season, the grass should not be removed, but allowed to lie where it falls for its value as a mulch. The direction of the mowing should be alternated in successive mowing, preferably at right angles to the previous mowing. Trees, buildings, etc., are left by the machine with an unsightly fringe of tall grass, which a little extra care with sickle and scissors will vastly improve. The sward about a bed or border should end in an abrupt edge and this edge trimmed with the shears. Pushing the soil back towards the middle of the bed gives the edge its desirable abruptness. Walks should be similarly edged.

While mowing high and low places and holes should be noted for subsequent correction. The man with the mower learns one reason why terraces and abrupt banks are undesirable. When these are run over by the mower the knives bite so deeply that these high points become "sore spots," due to the killing out of the too closely shorn grass. Holes may be filled with prepared soil (garden loam and sand in equal parts) and the grass will shortly come up through it. Such corrections involve the lifting of the sod and the addition or removal of soil. Occasionally high places may be corrected by the use of a heavy roller.

Attention to such minute details as above described insures that well-groomed appearance in lawns which everyone admires.—Leslie F. Paul, Colorado Agricultural College.

LIPPIA REPENS.

Lippia Repens is a creeping lawn plant, slightly resembling clover in appearance, remarkable for its power of flourishing with little water, through the long, dry California summer. It covers the ground with a thick smooth mat of green quite as handsome as ordinary lawn grass, while, unlike grass, it requires very little water, weeding or mowing.

Lippia comes from the dry regions of Northern Africa, and is extensively used in Southern Europe for lawns, garden walks and tennis courts. Recently introduced into Southern California, its use has become general there as a substitute for lawn grass. Summer resorts throughout that section have made extensive use of Lippia in their grounds.

Clinging closely to the ground, Lippia roots at every joint and spreads out rapidly from the center plant. The roots penetrate deep into the ground, drawing up moisture from a great depth. Lippia requires water only during the dryest summer months, and then only at intervals of two weeks or more. It will even go through the summer with no water without material damage, though without any water it suffers somewhat in appearance.

Never rising from the ground more than three inches, Lippia requires little mowing, and may be left entirely without it, though an occasional application of the lawn mower improves its appearance and stimulates its growth. The little pink flowers which rise from it in great profusion in midsummer should be mowed off as soon as they begin to fade.

In winter weeds occasionally come up through the Lippia turf, as it is then partially dormant, but as soon as hot weather comes on the weeds, being less hardy, are choked out and disappear. Even morning glory will be choked out by Lippia in this manner. Notwithstanding its great hardiness, Lippia cannot become a pest, as it does not seed, and when cut off below ground cannot sprout up from the roots.

As Lippia does not grow from seed, it is propagated by planting little squares of the turf, with roots and soil adhering. These little squares, an inch or so across, are planted a foot apart each way, and in a few months' time spread over the entire surface of the ground. The lawn thus established is permanent in character and does not have to be replanted.

To start a Lippia lawn cultivate the ground thoroughly, leaving a surface flat, smooth and free from clods. Cut the turf for planting into squares an inch and a half across. Plant these a foot apart and keep ground between moist and soft. It is surprising how soon the little runners will fill all the space and a soil mat of green begin.

It will stand tramping and wear, but, of course, in such a situation does not make the luxuriant growth which it does if left unmolested.

Classified Liners

Rates 1½ cents per word per issue. No ad accepted for less than 25 cents. Our classified columns are the clearing house for the readers of the Cultivator. Here you can insert an ad for the small sum of 1½ cents per word per issue, and be sure that it will be read by thousands.

MACHINERY.

WE CARRY A GENERAL LINE OF MAchinery, gas engines, air compressors, boilers, engines and pumps. 40 car loads of screw pipe and casing can be cut to lengths, also all kinds and sizes of fittings. Several hundred iron fence posts. H. KELLY MACHINERY CO., corner of Mission road and Macy street, Los Angeles, Cal.

FOR SALE—SECONDHAND PIPE AND oil well casing, all sizes, any amount; boilers and engines; gas and distillate engines; pumps, etc. Get our prices before you buy. A. CANNADY & CO., 1629 N. Alameda St., Los Angeles, Cal.

MACHINERY OF ALL KINDS BOUGHT, sold and exchanged; complete pumping plants installed. See us before buying. Can save you money. BAILIE & BRANDT CO., 943 N. Main St., Los Angeles.

FOR SALE—JUST OVERHAULED IN LOcal machine shop. 25-H. P. White and Middleton gasoline engine guaranteed like new. Will sell cheap. 117 BRUNO ST., Los Angeles.

FOR SALE—MEHRING MILKING MAchine with extra parts and covered pail, all in good order. WM. H. BIRD, Box 6, Compton, Cal.

FOR SALE—50-H. P. FAIRBANKS-MORSE distillate engine guaranteed the equal of new at an exceptionally low price. BAILIE & BRANDT CO., 943 N. Main St., Los Angeles.

FOR SALE—SMALL GASOLINE ENGINE and centrifugal pump never been used. A rare bargain. N. W. cor. MAIN and BRUNO STS., Los Angeles.

FARM LANDS FOR SALE.

RANCH FOR SALE—105 ACRES AT $40 AN acre; 85 acres in cultivation; nearly all of remainder can easily be put in cultivation; 45 acres level land; 800 full bearing apricot trees; 5-room dwelling; good large barn; fruit drying plant; 5 miles north west from Moorpark; half mile of school; land suited to beans, hay and corn. For further information apply to WM. ROBINSON, Moorpark, Ventura county, California.

FOR SALE—1 TO 10-ACRE TRACTS ON CAR line, between Riverside and new cement works; good for chicken ranches, alfalfa or gardening; will sell on easy terms; plenty of water on each tract. C. C. POND & N. R. BELL, Riverside, Cal.

EGGS FOR HATCHING.

EGGS FROM MY PRIZE WINNING BARred Rocks; won all firsts, all seconds but one, and all specials on Barred Rocks at L. A. C. P. A. Show, 1907. Eggs from best pens, $3 per 15; $12.50 per 100. Stock for sale. CHAS. E. SMITH, Gardena, Cal. San Pedro Interurban car to Smith's Crossing.

POULTRY

KILLAMITE KILLS THEM—BEST INSECT powder made for fowls or plants. 50c for 2½ lb. sifting can, express prepaid by us if your dealer hasn't it. Regular 10c can free, postage paid, for 10 addresses of poultry keepers. WEST COAST MILL, 705 Griffin Ave., Los Angeles Cal.

BUFF ORPINGTONS—WOULD YOU LIKE the very best at the price of common stock? Sullivan's COMMONWEALTH STRAIN you may have at HALF PRICE FOR THE BALANCE OF THE SEASON. Write us and learn the reason; get record and illustrated catalogue FREE.—MR. & MRS. W. S. SULLIVAN, Agnew, Santa Clara Co., Cal.

FOR SALE—STOCK AND EGGS OF THE following standard bred poultry: Black and White Orpingtons, Brown and White Leghorns. J. J. Verkouteren, Route 3, Hanford, California.

WANTED—MALE HELP.

NINETEEN JOBS GOING AT PRESENT—Electricity, plumbing, bricklaying taught in few months; tuition back after two months; advanced students paid wages. Free catalogue. UNION TRADE SCHOOL & CONTRACTING CO., 120-126 E 9th St., Los Angeles, Cal.

CATTLE.

FOR SALE—FINE THOROUGHBRED JERsey bull, a direct descendant of Bessie. Call or write, M. GRONER, 320 Railroad St., South Pasadena, Cal.

DOGS.

SABLE AND WHITE COLLIE PUPPIES—Sires, Brandane Wishaw Squire and Glen Fana Bounder, litter brother to Aufield Model. Dams, Ormskirk Gloriana and Presidio Nellie. $10 to $25; 2 to 8 months. GLENALPINE KENNELS, Grandville, Cal.

FOR SALE—COCKER SPANIEL PUPS, 8 weeks old; blacks, $10 each. MINNEWAWA VINEYARD, Fresno, Cal.

TREES.

FOR SALE—1,500 EUREKA LEMON TREES and 1,000 Washington navel orange trees, true to name. Also street and ornamental trees. Clean, healthy stock only offered. GEO. B. WARNER, SANTA ANA, CAL.

SEED.

FOR SALE—EUCALYPTUS RUDIS SEED, fresh, by pound or ounce. MINNEWAWA VINEYARD, Fresno, Cal.

PARTNER WANTED.

WANTED—A PARTY TO TAKE AN INterest in my seed and poultry supply business, who has a good nursery and can furnish plenty of nursery stock. Have a fine store; grand location and splendid opportunity. Address or call, S. H. CHURCH, 636 S. Main St., Los Angeles.

NURSERY FOR SALE.

OLD ESTABLISHED NURSERY BUSINESS for sale. Good stock. Good location. Good reasons for selling. Address THE AUBURN NURSERIES, East Auburn, Cal.

RANCHES WANTED.

WANTED—A SMALL IMPROVED IRRIGAble alfalfa farm. Trees, good water.—G. BOZARTH, Northern Road, San Jose, Cal.

What MORE Could You Desire In A Savings Bank?

20,000 Depositors
Strong Directorate
Capital and Surplus Over
$900,000
Resources
$10,000,000

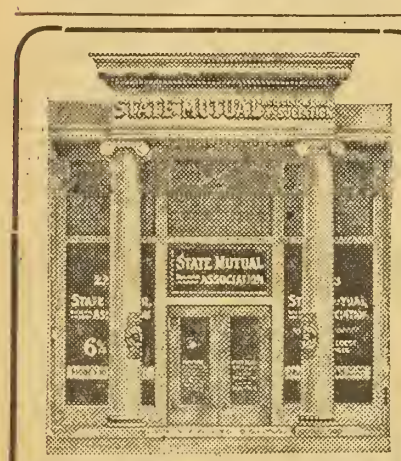
GERMAN AMERICAN SAVINGS BANK

Tallest Building in Los Angeles

SPRING & FOURTH STS.

Heart of the Business Center

Model Banking Facilities



6% INTEREST PAID
STATE MUTUAL
BUILDING & LOAN ASSN.
223 S. SPRING ST., LOS ANGELES, CAL.

ESTABLISHED 1889
Largest Association in California
Assets [Jan 1, 1908] $2,002,111
No Admission or Withdrawal Fee
Only 30 Days' Withdrawal Notice
Money to Loan for Building
OFFICERS AND DIRECTORS
DR. W. G. COCHRAN, President
A. E. POMEROY, Vice President
J. M. ELLIOTT, Vice President
W. D. WOOLWINE, Vice President
C. J. WADE, Secretary

D. M. CUTHBERT, Loan Inspector.
Send for Booklet and Statement
Mention This Paper

Everybody Can Play Billiards and Pool at Home

on my Portable Tables. Used in any room on your own table. Also Combination Dining and Billiard Tables. All sizes. Low priced. Not but fit for experts. Catalog? Write today
C. Ridderhof, Laughlin Bldg., Los Angeles

KELLOGG'S ANT PASTE

The original ant paste. Absolutely guaranteed to rid your house of ants. If your druggist can't supply it write to factory, enclosing 40c for package prepaid.

KELLOGG'S ANT PASTE CO.
1010 East Ninth Street Los Angeles, Cal.

EDISON PHONOGRAPHS, VICTORS, ZONOPHONES
Records and Supplies, delivered at your nearest railroad station upon receipt of full retail price. Write for particulars and ask for catalogue. Peter Bacigalupi & Sons, 1113-15 Fillmore St. San Francisco

HARD OF HEARING.

A gentleman undertook to purchase a waist for his wife.

"What bust?" inquired the saleswoman.

"Why, I didn't hear anything."

Household Department

UNDISMAYED.

He came up smilin'—used to say
He made his fortune that-a-way;
He had hard luck a-plenty, too,
But settled down an' fought her through;
An' every time he's got a jolt
He jist took on a tighter holt,
Slipped back some when he tried to climb,
But came up smilin' every time.

He came up smilin'—used to git
His shar o' knocks, but he had grit,
An' if they hurt he didn't set
Around th groc'ry store an' fret,
He jist grabbed Fortune by th' hair
An' hung on till he got his share,
He had th' grit in him to stay
An' come up smilin' every day.

He jist gripped hard an' all alone
Like a set bull-pup with a bone.
An' if he got shook loose, why then
He got up an' grabbed holt again;
He didn't have no time, he'd say.
To bother about yesterday,
An' when there was a prize to win
He came up smilin' an' pitched in.
He came up smilin'—good fer him!
He had th' grit, pluck an' vim.
So he's on Easy street, an' durned
If I don't think his luck is earned!
No matter if he lost sometimes,
He's got th' stuff in him that climbs,
An' when his chance was mighty slim,
He came up smilin'—good fer him!

—New York Times.

IN THE LAST ACT.

"YOU'RE cross and hateful, and I never want to see you again," declared Molly, as she flung herself away.

"I'm not cross and hateful," declared Beverly Gideon. "If you insist upon going on the stage you are at liberty to do so. But you cannot blame me for wanting my wife to be something more to me than a name on the billboards and in the dramatic papers."

"You want a household drudge," she proclaimed. "That is all you want. I want to let the fires of my genius burn brightly, not smolder, a sacrifice on the household altar."

Gideon shrugged his shoulders.

"I suppose you will not mind playing tonight," he said. "It's part of the dramatic drudgery to make love to some one you hate, you know. It will be good practice."

"I shall not let your hatefulness spoil my chances," she said. "You know what it means to me tonight. I think you are trying to make me break down on purpose."

"Not at all," he said. "If you will trace this conversation back, you will find that it was yourself who started it."

"Then I shall be the first to stop," she declared, as she turned and left him.

Molly Waterbury was at once most delightful and most irritating.

She had been the leading woman of the Carston Dramatic Club ever since she was old enough to wear long dresses. Gideon, who liked acting as an amusement, had played opposite to her for so long that it had seemed only natural that he should play the part of lover when there was no rehearsal, and so they had become engaged.

He had always regarded her chatter of the time when they should go upon the stage together as the dreams of an ambitious girl, but this morning she had told him that Denslow, the manager, had promised to attend the performance and if he found her capable he would give her a chance in one of his companies.

Instead of rejoicing over her good fortune Gideon had objected to having her adopt a stage career, and words had followed that had resulted in the return of the engagement ring.

The little stage of the Carston Lyceum buzzed like a beehive that night. Distressed young women ran about declaring that they never could act with the great Denslow sitting out in front.

The stage manager hurriedly sent out to borrow ornaments for the stage, determined that the celebrated producer should compliment his setting.

Gideon sat gloomily in one corner, while through all the din passed Molly, calming the hysterical girls, conferring with the stage manager and utterly oblivious of Gideon's presence.

Every little while she ran to the peep hole in the curtain, and when at last Denslow entered with her parents the entire company lined up to get a glimpse of the celebrated man.

In the first two acts Molly played the part of the capricious young girl so fearful of being wooed for her money that she scorned all suitors. Gideon gave her perfect support, suppressing himself in his endeavor to give her the attention of the audience, yet always giving the assistance she needed.

In the third act, tired of her caprice, he is about to leave the country, and she, for the first time, realizes that she really loves him and pleads with him to stay, while he, thinking that she is merely seeking to torment him, fights off his yearning to take her in his arms.

If Molly's work in the earlier acts had been capital, now she surpassed herself. Somehow the lines seemed to fit into the real situation. The feeling that Gideon's lovemaking in the earlier scenes had been perfunctory made her aware of what she had given up, and she threw into her lines a passion and feeling that caused Denslow to turn to her father and say: "I'll make a star of her."

At last, with a final sweep of passion, she worked up to the climax and the curtain fell as she threw herself into Gideon's arms.

Twice the curtain rose, but instead of the bowing stars it showed only a continuation of the picture with Gideon still holding her in his arms and whispering to her.

Then the light went out and Denslow came hurrying back on the stage.

"My dear Miss Waterbury," he cried, "I am delighted with your performance. We shall have you a star in a few years."

"I don't think I want to go on the stage," she said.

"But to hide such talent under a bushel. It is an artistic crime. I never saw better acting than in that last scene."

"That's just it," said Molly frankly. "You see, it wasn't acting at all."

Denslow caught the glint of Gideons' eyes. "I see," he agreed, though he comprehended only dimly. "Let me congratulate Mr. Gideon upon his acting and his success."

PA WOULD DO IT.

"Hang it," growled young Lovett to the girl of his heart, "it makes me mad every time I think of that $10 I lost today. I certainly feel as if I'd like to have somebody kick me."

"By the way, Jack," said the dear girl, dreamily, "don't you think you'd better speak to father this evening?"

—Philadelphia Press.

HOMELY HINTS.

A scorch mark on linen, if not too brown, may be removed by moistening with water and laying in the sun. Repeat the moistening two or three times, and the mark will disappear.

Before using a new broom, steep it in hot water for a few moments, and it will last much longer.

For Washing Heavy Overalls.

For the benefit of women who have men's heavy overalls and shirts to wash: Instead of rubbing on the washboard, the usual way, spread them on the board and brush with a scrubbrush and plenty of soap. It will save the wear of both hands and garment.

A box of thin wood is handier than a bag to hold strings because a glance into the open box enables one to select a string of the right strength and proper color. If each string taken from a bundle is wound over the fingers and the end is wound a few times around the coil the different strings in the box will not become entangled. This method is better than winding different strings into one ball.

New bread is generally very hard to cut neatly. If you will dip the knife into hot water first, you will be surprised how easily and neatly the bread will cut.

To clean draperies, use sawdust and ammonia. Put the sawdust into a tub and pour in enough household ammonia to soak it to the bottom. Beat the draperies or rugs free of dust. Put them into the sawdust and, with a small whisk broom, rub the mixture well into the article to be cleaned. The dirt will disappear at once. Hang out of doors to dry and air.

The Useful Oyster Shell.

A common oyster shell is a durable pot and pan cleaner. Drill a hole in the center of one and put a lid knob in it. One may buy one knob at a hardware store for 3 cents, or two for 5 cents.

Care of Shoes.

If a pair of shoes have become stiffened with walking in the wet they should first be washed with warm water and then have oil well rubbed into them.

Cleaning Brushes.

Valuable brushes, such as those with ivory or tortoise-shell backs, may be thoroughly cleaned by using bran instead of soap and water. The brush is dipped into bran, which must be rubbed into the bristles as one would do soap, and the particles may afterward be removed by tapping the brush, bristles downward, on the table. The process is somewhat lengthy, but it prevents the bristles from becoming softened, as they inevitably must be if wetted. When every trace of bran has been removed, the brush will be found to be perfectly clean and may then be wiped with a soft silk handkerchief.

About Floors.

Many old floors are being stained about the sides of the room, so as to admit of a rug in the center. One difficulty in this work is the wide cracks often yawning between the boards. But heated paraffin can be poured from a narrow spout into these cracks, filling them rapidly and easily.

DOUBLE VALUE.

Courtesy has a cash as well as an ethical value.

The Personal Neatness Club

WASHING SUMMER DRESSES.

In making up a summer dress one should choose a style that lends itself readily to washing and ironing. There are now, fortunately, always sufficiently varied up-to-date fashions to admit of a wide range in selection, unlike the days when our grandmothers were young and there was but one fashionable style and one fashionable color which every one wore, irrespective of its adaptability to their individual style. The trimming of a washing dress should, obviously, consist rather in rows of lace inserting, tucks or fancy braids than in a multiplicity of frills or plaitings, both of the latter, especially when small, being difficult to launder nicely. One deep flounce on the skirt, either shaped, straight or scalloped, seems to be a model well adapted for washing skirts, very much more so than several narrow flounces. Gathers, in the back of the skirt and elsewhere, are always preferable to folds and plaits in anything to be washed.

The more expensive weaves of gingham and other wash fabrics would seem to have a greater tendency to shrink in washing than the cheaper ten-cent pieces; oddly enough, five-cent calico seems to wash better and more easily than anything, even the dyes very seldom fading when left to the family wash without special injunctions, unless they be of a color exceptionally liable to fade, such as green or pale blue. In making up the skirt of a twenty-five or forty-cent gingham, one should calculate on a shrinkage of quite an inch and a half, for which reason it is advisable to allow a generous hem round the bottom, and, if possible, blind-stitch it by hand so as to rip the more easily for subsequent lengthening to remedy the shrinkage. It is better to rip the bottom hem before sending to the wash, since if one postpones it until afterward the original crease may be visible until it is washed a second time. For this reason the sleeves should also be made long. Some old-fashioned people will to this day counsel shrinking every wash material before making it up, but few of us could reconcile ourselves to treating pretty new goods in that way, even if we might subsequently regret not having done so. Many weaves of cotton, moreover, do not shrink appreciably in the washing.

In making selections, it is well to remember that, other things being equal, white washes best, being free from the danger of fading and requiring no special attention beyond the rest of the weekly wash. Pinks and reds are also, as a rule, easily washed, needing very little special care. Delicate greens and pale blues are, perhaps, the most apt to fade. It is a good plan to take a small sample of any chosen piece of goods and see how it stands washing before buying the dress length. Wash silks, as a rule, are surprisingly serviceable and satisfactory; indeed, there seems no end to the wear of some of them, and they wash more easily than anything; though much less expensive than taffeta, they wear three times as long. They should, of course, never be boiled, but treated much as muslins or fine prints.

Tinted or patterned wash goods, such as muslins, dimities, French calicoes, ginghams, etc., should, of course, never be boiled or even put in boiling water, as heat has always a fading tendency. If very much soiled, they may need a little borax. Reds, pinks and yellows do not fade so easily as greens and light blues, for which reason patterns containing the two latter colors require especial care. They should not be rubbed in washing—nor indeed should any muslin or patterned goods, as it spoils the surface; simply squeezing with the hands, more as one would treat soft woolen goods, will be found sufficient. For this reason soap paste should be used instead of soap. This can be made with any of the standard soap powders. Enough should be poured into the water to make a nice lather, and the dresses washed, one piece in the water at the time, as quickly as possible. This will be found an excellent method.

The dress should be rinsed in two or three waters, and either salt or vinegar put in the last rinsing water to prevent the colors from running; they will do more than that, however, apparently having the further power of increasing, or rather restoring, the brilliance of the colors. If the ground of the pattern is white or pale blue, a little bluing should also be added to the last rinsing water. Salt is generally used for the more delicate shades, in the proportion of a tablespoonful to a gallon of water; vinegar for the darker colors, such as blacks and purples. With helitrope or purple, vinegar will work wonders, not merely in keeping the color from fading, but in some cases restoring the pristine brilliance to fabrics already faded. In goods which have a pattern of varied colors, where one hardly knows whether to put salt or vinegar in the last rinsing water, it is a good plan to be on the safe side and use them both, in the proportion of a tablespoonful of each to a gallon of water.

Hot water starch is made in the proportion of one tablespoonful of starch dissolved in a little cold water, to as much borax as will lie on a ten-cent piece, dissolved in a tablespoonful of boiling water (it will not melt in cold water,) and a quarter of an inch of tallow candle. Pour on boiling water until it reaches the desired consistency. The dresses, if colored or patterned, should not be dipped in the starch while it is very hot. If they are wanted very stiff, the starch should not be squeezed out of them too much. In any case, they must not be wrung at all, but squeezed. Muslins esepciallly, though, should be shaken out gently before hanging up to dry, as they are liable to tear if they become clotted together too much when they are dry.

Anything that has been in hot water starch should be sprinkled before folding ready to iron, with hot water instead of cold, as the latter is liable to leave starch spots on material. After being thoroughly sprinkled, the garment should be folded with as few creases as possible and rolled up tightly, that it may be of the same dampness all over when it comes to be ironed. It is much better, though, to iron muslins and prints before they are quite dry, so that they do not need to be sprinkled; indeed, in the case of muslins with a delicate pattern this is necessary.

Unless a dress is wanted very limp, it should be dried before starching. Muslins, prints and other colored or patterned wash goods should never be dried in the sun, as everything fades much worse when it is wet. They should, however, be dried as quickly as possible, a breeze being nice for this. Closely woven goods require less starch than materials that are loosely woven.

* * *

A valued subscriber sends in the following along the same line:

Washing White Goods.

There is no color that is so becoming and certainly none that proves so economical as pure white, and the white dresses can often be worn one season without washing if they are dampened on the wrong side with thin starch water and pressed as fast as dampened, and this should be done before they become very wrinkled.

Fruit stains and mildew will often appear on white garments and table linen through carelessness, and to prevent mildew do not put anything away damp. An old stain is hard to efface, but a fresh stain may be removed by rubbing with lard and placing in the sun for several days, being careful to bring it in at night as the garment should not be allowed to get wet until the stain disappears.

If any of your white goods get yellow use two tablespoons of coal oil to a boiler of clothes, then in the last rinsing water add a spoonful of borax dissolved in hot water. Nice white goods will be improved if a little borax is put in each of the waters used, as it not only softens the water, but helps to whiten the fabric, and for very sheer materials a little borax dissolved in the last rinsing water gives them just the right degree of stiffness, and it is especially nice for fine handkerchiefs.

A white linen dress skirt is often stretched out of shape and proper length by careless ironing, and this may be prevented by ironing one way of the goods either lengthwise or across and using a tape measure while pressing to be sure that all the widths will be ironed the same length. To iron the skirt lengthwise makes it longer, and across will make it shorter.

If a garment is lace trimmed, it is best to iron all the rest of the garment first; then dampen the lace and press on the wrong side and as soon as you have finished pressing the lace pull it out to its fullest width and press again and the lace will look almost like new.—A. H.

The Oldest Savings Bank in California

FOUNDED IN 1857

The Savings and Loan Society

101 Montgomery St., Cor. Sutter St., San Francisco

CAPITAL FULLY PAID $1,000,000.00

Exclusively a Savings Bank whose policy is for ***Conservatism*** and ***Safety,*** the result of ***50 years experience.***

Deposits may be made and withdrawn by mail.

San Francisco Savings Union

Founded June 18, 1862 Northwest Cor. California and Montgomery Sts., San Francisco

Conducts a Savings Bank Business Exclusively

Capital Paid Up, $1,000,000.00. Surplus, $1,183,632.00.

Total Assets, $27,508,850.00.

E. B. POND, President.

W. C. B. de FREMERY AND C. O. G. MILLER, ... Vice-Presidents.

LOVELL WHITE, Cashier. . . . . R. M. WELCH, Asst. Cashier.

DIRECTORS: John F. Merrill, Wm. A. Magee, W. C. B. de Fremery, H. C. Breeden Jacob Barth, Fred H. Beaver, Wakefield Baker, C. O. G. Miller, E. B. Pond.

Every facility afforded for opening accounts and making deposits and withdrawals by mail. Correspondence invited.

Paid Semi-Annually

7%

Assured Profit

We offer you Cane Sugar Lands in Mexico. Perfect title. Give 50-year contract to cultivate for you, guaranteeing 7%, paid semi-annually, until crop profit exceeds this amount. Offer these lands for cash or on easy terms.

A Life Income from Land

Sugar Plantations produce the greatest continuous yield of any known crop. Tropical Mexico stands today unmatched in soil, climate, water. We own over 9000 acres in the heart of the best section—near Tampico. You become a land-owning profit-sharer in this project. We do all the work for you.

Sugar Plantations the Most Profitable Crop in All the World

One Acre Should Produce $203.52 Annually
Five Acres Should Produce $1017.60 Annually
Ten Acres Should Produce $2035.20 Annually

GOOD LIVE AGENTS WANTED

Free Trip to Property Communities or syndicates buying 50 acres or more, may send representative to property at our expense

Tampico Sugar Company

Los Angeles California

References: Citizen National Bank

501 Union Trust Building

The Produce Markets

Los Angeles Markets

LOS ANGELES, Aug. 12, 1908.

Butter.

Dairy products are showing little of an interesting nature. Quotations are the same as last week on butter. Actual selling prices are 2½c in advance of following quotations.

Wholesale quotations now are:

Creamery ex per roll..........55
Firsts..........52½
Dairy..........25
Cooking..........22
"Butterine"..........15@20

Cheese.

Cheese is still weak though an effort is made to strengthen it by holders of large stock.

Southern California..........14½@17
Northern fresh..........14
Longhorn..........17@18
Eastern singles..........17
Cheddars..........17
Imported Swiss..........27@28
Swiss..........17½
Oregon..........15
Limburger..........18

Eggs and Poultry.

Eggs have advanced another cent, though the market persists in remaining rather weak.

Eggs local candled..........31
Eggs case count..........26@28
Firsts fresh..........30
Eastern fresh..........25@26
Eastern fresh jobbing price....21½@22
Storage..........23@25

Wholesale prices..

Hens per lb..........10@12
Young roosters per lb..........17
Fryers..........15@17
Broilers per lb..........15@17
Roasters..........16
Old Roosters..........7
Turkeys..........16@18
Geese..........11@13
Ducks..........10
Squabs..........1.25@1.50

Live Stock.

The following quotations are f. o. b., Los Angeles, on all stock.

Hogs from 175 to 200 pounds..........6
Prime steers..........4¼
Heifers..........3½@3¾
Calves per lb..........4½
Sheep ewes per head..........3.75@4.00
Lambs per head..........3.00@3.25
Wethers..........4.00@4.50

Potatoes.

Potatoes remain at practically the same quotations as last week, with market featureless.

Wholesale prices are:

Sweet potatoes per lb..........3½@3¾
New potatoes per lb.......... 1.15
New potatoes choice..........25@75
Northern Burbanks fy.......... 1.25

Onions.

Onions are still very weak and the reports of the immense crop of the entire country tend to bear the market.

Wholesale quotations are:

Bermudas per 100..........1.00
Silverskin new..........1.00@1.25
Crystal wax per crate..........1.00@1.25
Northern Red..........90@1.00
Australian Browns..........90@1.15
Danvers..........1.00
Garlic..........7@8

Vegetables.

The following are commission house prices; deduct freight and commission to secure farm prices.

Artichokes per doz..........40
Beets per doz..........25@30
Bell peppers per lb large..........3@5
Bell peppers box..........30
Beans limas per lb..........2@2½
Beans string..........2½@3
Cabbage sack..........50@60
Cabbage red per lb..........2
Celery per doz green hothouse..1.25
Corn per box..........30@35
Chili peppers per lb..........2@2½
Cucumbers per box..........20@25
Cauliflower per doz..........1.40
Carrots per doz..........25@30
Egg plant per box..........20
Green onions doz bunches..........20@30
Horseradish..........12½
Lettuce per crate..........60@75
Mint per box..........40
Okra..........6
Peas sugar per lb..........4@5
Parsley..........30
Parsnips..........35@40
Rhubarb per box..........1.25
Radishes per doz..........15@20
New summer squash per box..........15
Summer squash per box..........10@25
Salsify..........15@20
Spinach per doz..........15@17
Turnips dozen bunches..........25@30
Tomatoes lug box..........20@30

Citrus Fruits.

Valencias..........3.25@3.35
Grapefruit seedless..........3.00
Grapefruit seedlings.......... 1.75@2.00
Lemons fancy..........2.25
Lemons choice..........1.75
Limes 15-lb box..........75

Fresh Fruits.

Wholesale prices on the market are:

Red Astrachans new..........75
Astrachans packed box..........1.35@1.50
Bellefleurs..........1.25@1.50
Alexandria 4-tier..........1.50
Gravenstein 4½-tier..........1.50
Crab apples..........1.10
Apricots per lug box..........75@1.00
Cantaloupe st..........90@1.00
Cantaloupe locals large crate.... 2.25
Figs per box..........60
Grapes Thompson seedless..........90
Grapes seedless Sultanas..........85
Grapes Concord per crate..........1.00@1.50
Muscats per lug box..........1.35@1.50
Grapes Malaga..........50@75
Rose of Peru..........75@1.00
Grapes Black Hamburgs..........90@1.00
Nectarines..........1.00
Pears per box..........1.25
Plums Burbanks per box..........75
Plums Sonoma..........60
Plums Satsumas..........90@1.00
Plums Kelsey..........75
Plums egg..........50@60
Plums Tragedy..........75
Silver prunes..........75
Hungarian prunes..........85
Peaches per lug box..........40@60
Pineapples per lb..........7
Raspberries per box..........5@6
Strawberries per box..........2@4
Extra fancy..........10
Blackberries per box..........6
Loganberries per box..........3@4
Watermelons per lb..........1½

Dried Fruits.

Wholesale prices are:

Apricots..........7@9
Evap. apples fy per lb..........7½@8
Figs loose white..........6
Figs blk..........4
Peaches..........9@10
Pears..........11½@12½
Nectarines..........14
Prunes..........4@4½

Beans Dried.

Wholesale prices:

Limas per ctl..........5.50
Pink No 1..........3.75
Lady Washington..........5.00
Small white..........4.75
Black eyes..........3.80
Garvanzas..........4.80@5.00
Lentils..........9@10
Bayou..........3.80

Nuts.

Almonds per lb..........15@16
Pecans polished..........12@15
Peanuts Virginia..........7½
Peanuts California..........7
Walnuts No 1 SS..........14

Honey.

Wholesale quotations:

Extracted Water White..........7
Comb W W..........16
Comb white..........15

Hay.

Price paid to producers f. o. b. Los Angeles are as follows:

Barley No 1..........13.00@15.00
Barley No 2..........10.00@13.00
Alfalfa northern per ton..........11.00@12.50
Alfalfa local..........12.50@14.00
Plain oat No 1..........15.00@17.00
Wheat No 1..........13.00@16.00
Wheat No 2..........12.00@14.50

Grain.

Wholesale selling price f. o. b., Los Angeles.

Wheat new per ctl..........1.85
Wheat in 100-lb sacks..........1.90
Kaffir corn..........1.80
Barley..........1.55
Corn Eastern sacked..........2.00
White oats..........1.90

Feed Stuff.

Selling price F. O. B. Los Angeles as follows:

Cracked corn..........2.05
Shorts..........1.80
Bran..........1.65
Oil cake meal..........2.50
Feed meal..........2.10
Rolled barley..........1.55

Some surprising figures were tabulated at the recent nut growers' meeting at Monticello, as to the acreage of commercial pecan orchards. In four Georgia and five Florida counties the area reported amounts to 6885 acres or about 140,000 trees. In this tabulation none of the seedling orchards were counted.

San Francisco Markets

SAN FRANCISC, Aug. 11, 1908.

Butter.

Butter is commanding 2½ cents advance over last week. The demand is good and while buyers are endeavoring to bear the market, it is remaining firm at the advance.

California extras per lb..........25½
California firsts..........24
California seconds..........22
California thirds..........20
Fresh packing stock..........19½
Packing stock No. 2..........18½

Cheese.

Cheese is exactly as last week with light demand.

California young American fy..........13
Firsts..........12½
California flats fy..........11½
Firsts..........10½
Young America fy..........14½
Eastern fy..........16
Oregon fy..........13

Eggs and Poultry.

Eggs are in good demand with a firm condition prevailing. Receipts are still light. A four cent advance has been made on fresh ranch.

Official quotations of the S. F. Wholesale Dairy & Produce Ex. are:

Fresh ranch eggs..........34½
Eggs firsts per doz..........29
Eggs seconds..........24
Eggs thirds..........22
Eastern selected..........25
Eastern firsts..........22
Eastern seconds..........20

Hens per doz..........3.50@5.50
Hens extra..........6.50@7.50
Young roosters..........5.00@6.00
Old roosters..........3.50@4.50
Fryers per doz..........4.50@5.00
Broilers per doz..........3.00@4.00
Geese per pair..........1.50@2.00
Goslings per pair..........2.00
Ducks young..........5.00@6.00
Hen turkeys per lb..........20@21
Gobblers live..........19@20
Spring turkeys..........24@26
Pigeons young..........1.25@1.50

Live Stock.

San Francisco prices gross weight:

Steers No 1..........3¾@4
Do second quality..........3¼@3½
No 1 cows and heifers..........2¾@3
Second quality..........2¾
Hogs 100 to 225..........6½
Hogs 225 to 300 lbs..........6
Calves per lb..........3½@4½
Lambs spring..........4½@4¾
Wethers No 1..........4
Ewes No 1..........3½

Potatoes.

Potatoes maintain a weak tone and the same quotations as last week.

Wholesale market quotations:

River Whites fy..........70@1.00
River Whites poor..........50@65
New potatoes per ctl..........75@90
do per box..........1.00@1.15
Early Rose new..........75@85
Sweets per lb..........2½@3½

Vegetables.

Wholesale quotations:

Asparagus per lb..........7@8
Asparagus No 2..........3@4
Bell peppers per box..........50@85
Celery per doz..........35@50
Cucumbers per box..........25@50
Chili peppers per box..........40@60
Corn per sk..........75@1.75
Egg plant per box..........40@1.00
Green peas per lb..........2@2½
Lima beans..........3@4
Squash per box..........35@50
Onions green per box..........70@75
Okra per box..........50@75
Rhubarb per box..........50@65
Tomatoes per box..........25@40
Tomatoes River large box..........75@1.50
String beans..........2½@4
Wax beans..........2½@4
Garlic new..........4@6

Onions.

Onions red per sk..........60@75
Onions yellow per sk..........70@75

Citrus Fruits.

Valencias facy..........2.50@4.00
Grapefruit seedless..........2.00@3.50
Grapefruit seedlings..........1.75@2.25
Lemons ch..........3.00@3.75
Lemons fy..........4.00@5.00
Limes..........4.00@5.00

Fresh Fruits.

Apples green per box..........25@50
Apples fy Gravenstines..........75@90
Apples Astrachans..........50@75
Crabapples..........50@60
Apricots per box..........60@75
Blackberries per chest..........2.00@3.50
Cherries white per drawer..........35@60
Cherries Royal Annes..........3@6
Cherries Black..........3½@6
Currants per chest..........5.00@7.00
Figs per crate one layer..........90@1.00
Grapes per crate seedless..........50@90
Grapes sweetwater..........50@75
Grapes Muscats..........50@90
Grapes Rose of Peru..........50@65
Grapes Tokays..........75@90
Gooseberries per chest..........1.00
Gooseberries per lb..........3@7
Huckleberries per lb..........10@12½
Loganberries..........4.00@6.00
Cantaloupes Turlock..........1.50@1.75
Cantaloupes River..........1.00@1.25
Nectarines..........60@85
Nectarines white..........60@75
Pears Bartlett per box..........30@85
Pears other varieties..........40@50
Plums lug box..........30@40
Plums boxes crate..........25@50
Plums per ton..........10.00@15.00
Peaches lug box..........40@75
Peaches per box..........30@50
Peaches baskets..........20@35
Aligator pears per doz..........7.00@9.00
Raspberries per crate..........1.50@1.75
Raspberries per chest..........4.00@6.00
Strawberries per chest..........3.50@5.00
Longworths per chest..........4.00@6.00
Watermelons per doz..........1.25@2.25

Dried Fruits.

1908 prunes being contracted for at 4½ cents for Santa Claras at 4¼ for outsides.

Apricots show remarkable firmness and have advanced materially. In fact all dried fruits are showing much interest.

New crop contracts, 25-lb. lots—Apricots per lb.: Choice, 5@6; fancy, 6½@7½.

PEACHES—Choice 5@5½; extra fancy 6@7.

Apples (evap.)..........4½@6
Apricots per lb st..........6@6¼
Apricots choice..........6¼@6½
Apricots fy..........7½@8
Figs white..........2¼@3½
Nectarines..........10@13
Plums pitted..........12@15
Peaches st..........5@5¼
Peaches ch..........5¼@5½
Peaches fy..........6@6½
Pears..........5½@7
Prunes 4-size bag basis..........3½@3¾

Raisins—1907 crop, f. o. b.: Clusters and Layers, 20-lb. bxs—Imperial Clusters, 6-crown, $2; Dehesa Clusters, 5-crown, $1.75; Fancy Clusters, 4-crown, $1.40; London Layers, 3-crown, $1.10; do, 2-crown, $1.05. Seeded, 25-lb. bxs—Fancy bulk, per lb., 5½@6c; Choice bulk, 5½@6c. Loose Muscatels, 50-lb. bxs—Standard, 4-crown, 4c; do, 3-crown, 3¾c; do, 2-crown, 3½c; Seedless. 3¾c. Seedless Sultanas—Unbleached, 4¼@4½c. Thompson Seedless—Unbleached, 4½@4¾c. Dried grapes, 3c.

Nuts.

Walnuts S S No 1 new crop..........12½@13
Walnuts No 2..........10@10½
Almonds nonp..........11@12
Almonds IXL..........10@10½
Ne Plus Ultra..........10

Beans Dried.

Limas..........4.90@5.00
Pink..........3.25@3.40
Small white..........4.60@4.75
Large white..........4.60@4.75
Lady Washington..........3.45@3.50
Black eyes..........3.40@3.60
Red kidneys..........2.75@3.00
Garvanzas..........3.50@3.75
Bayo..........3.10@3.25
Horse beans..........2.25@2.40

Hops.

Hops per lb..........3½@6½
Hops old fancy..........2@4
Hops 1908 contracts..........9@10

Honey.

Clear white comb..........15½@16
Amber..........12@14
Extracted w c..........7@8
Extract light amber..........6½@7
Beeswax No 1 per lb..........28@30
Beeswax No 2 per lb..........25@27

Hay.

Somers & Co. say:

Owing to the car scarcity which is now becoming quite apparent, shipments of hay to market have been somewhat reduced during the week ending today, the total showing 3740 tons in comparison with 4510 for last week. Although it is a fact that very few consumers are storing away a winter's supply, yet it is undeniably true that the consumption of hay on the San Francisco market is materially less than it was a year ago.

The bulk of the crop that is put up for the San Francisco market has changed hands at rather high prices which will probably mean that no decline will be in evidence until late in the spring, if at all. The great decrease in consumption, however, will probably insure the market against any radical advance over the present range.

We can give no change in today's prices from the list given during the past two weeks which we give today as follows:

Choice wheat hay..........16.00@17.00
Good wheat hay..........14.00@15.50
Other grades same..........11.00@13.00
Wheat and Oat..........11.00@15.50
Tame oat..........11.00@15.50
Wild oat..........10.00@13.50
Stock hay.......... 8.00 to 10.00
Alfalfa..........9.00@13.00
Straw, per bale..........45@75

Grain.

Wheat No. 1	1.62½@1.67½
Barley new	1.35@1.40
Corn small yellow	1.72½@1.77½
Oats white	1.45@1.55
Oats gray	1.40@1.55
—Rye new crop	1.45@1.52½

Feed Stuff.

Bran per ton	29.50@31.00
Feed cornmeal per ton	39.00@40.00
Cracked corn per ton	40.00@41.00
Rolled barley per ton	29.00@30.00
Oil cake meal per ton	36.75@37.25
Cocoanut cake per ton	25.00@26.00
Middlings	32.00@35.00

Citrus Market

Valencias are selling satisfactorily, though no fancy prices are being received. The top notch in most Eastern markets is in the neighborhoor of $4.00, while $3.00 to $3.50 is closer to the general run.

Shipments.

Shipments of citrus fruits to date aggregate 27,614, of which 4159 were lemons. To same date last year 26,529, of which 3099 were lemons.

NEW YORK, Aug. 10.—Eight cars Valencias and two mixed cars of citrus fruit sold. The market is firm on Valencias, with prices generally higher. Grapefruit very strong on good grades. Weather clear and hot.

VALENCIAS—	Avg.
Swastika L V W Brown	$3.60
Brown Box L V W Brown	2.70
Aurora E Peyvke Co	3.60
Titus Ranch E Peycke Co	3.75
El Toreador San Mar Assn	3.40
Stag A C G Ft Ex	4.10
Pointer A C G Ft Ex	3.80
Parrot S A Ft Ex	3.00
Flamingo Cal Cit U	3.50
Orchard Nat Or Co	4.30
Standard Nat Or Co	3.75
Lion Head I L Lyon Sons	3.40
Tiger Head I L Lyon Sons	2.80
Rossmoyne E M Ross	3.70
Rossmoyne E M Ross	3.35
Standard E M Ross	3.25
Blossom M O G Assn	3.20
Choice M O G Assn	3.20
GRAPEFRUIT—Halves	
Cerrito L V W Brown	3.30
Orchard Nat Or Co	3.05

BOSTON, Aug. 10.—Two cars sold. Seven on track. The weather is hot. Market steady.

VALENCIAS—	
Pine Cone S B FtExHigh	3.85
CaliforniaBeauty	3.80
SWEETS—	
California Beauty	3.20
GRAPEFRUIT—	
California Beauty	3.15

CLEVELAND, Aug. 10.—Two cars sold. Weather cool, raining. Market is firm on good stock. Two cars on track.

VALENCIAS—	
La Mesa Riv Ft Ex	4.05
LEMONS—	
Palm Tree A H Ft Ex Pren	3.05
Commercial A H Ft Ex Prenda	2.60

PITTSBURG, Aug. 10th.—Two cars sold. Eight on track. The weather is favorable. Market is unchanged.

VALENCIAS—	
Coyote O K Ft Ex	3.45
Defender Altland Ft Co	4.10
Buscada Altland Ft Co	3.85

ST. LOUIS, Aug. 10.—Weather warm. Market is firm on good stock. Four cars sold. Six on track.

VALENCIAS—	
Royal Knight R H Ft Ex Red	3.95
Newsboy R H Ft Ex Red	3.65
Palm Tree A H Ft Ex Pren	3.75
LEMONS—	
Whittier S T Ft Ex Whit	4.15
Pico S T Ft Ex Whit	3.85
Commercial A H Ft Ex Pren	2.45
Bridal Veil Pink McKevitt	3.95
White Cross Pink McKevitt	3.65

PHILADELPHIA, Aug. 10.—Two cars Valencias sold. The market is steady. Weather fair. Three cars on track.

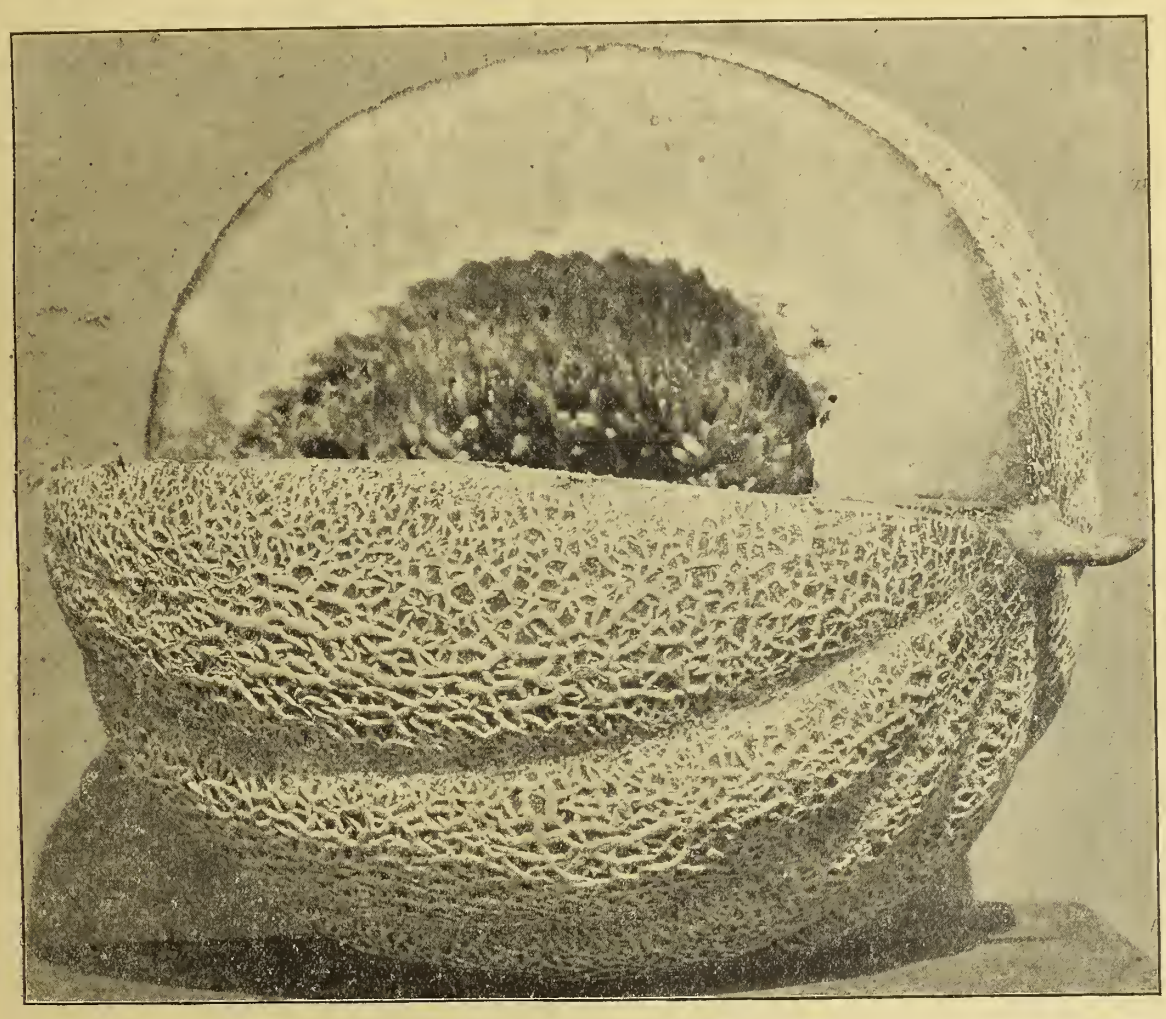
VALENCIAS—	
Stag A C G Ft Ex Glendora	4.33
Pointer A C G Ft Ex Glen	4.13
Aurora E Peycke Co	4.31

CINCINNATI, Aug. 10.—Weather warm. Market is steady. Two cars sold.

VALENCIAS—	
Hawk S A Ft Ex Pom	2.90
LEMONS—	
Arab S A Ft Ex San Di	3.65
Duck S A Ft Ex San Di	3.05

NEW YORK, Aug. 11.—Two mixed cars of California citrus fruit and a part car constituted the offering today. The market remains unchanged. Weather clear and hot.

For Mehring Foot-Power Milking Machines see O. J. Weber Co., 555-557 S. Los Angeles St., Los Angeles, Cal.



LOS ANGELES MARKET MUSKMELON. Courtesy Johnson & Musser Seed Co.

VALENCIAS—	Avg.
Purity fy Tustin Pack Co	3.65
Lucky st Tustin Pack Co	1.75
Old Oak ch Tustin Pack Co	2.90
Irls DM Ft Ex	4.05
Blue Globe Riv Ft Ex	3.95
Red Globe Riv Ft Ex	2.65

BEAUTIFUL ROOF EFFECT OF OLD MOORISH TILES.

A material which seems certain to entirely take the place of shingles is the latest product of American inventiveness.

It is a sheet substance composed of long tough fibres which are matted together with heavy gums having the property of never drying out nor losing their weather resisting qualities. Both surfaces of the sheet are tempered or hardened into an impervious skin that gradually oxidizes on the roof, assuming a wearing surface similar to slate. The color is a warm Indian red.

Although laid in long strips, the effect of the finished roof is that of individual, diamond-shaped tiles. This result is accomplished by an ingenious method of lapping one saw tooth edged sheet over another, the points of the upper sheet just touching the upper angles of the lower sheet. This produces a series of tiles.

An important quality of this new material, which is called Zolium, is that it will not catch fire from sparks, thus eliminating one of the greatest dangers resulting from closely built-up residential sections.

Ful linformation regarding this important invention can be obtained of J. A. & W. Bird & Co., Boston, Mass., who are the patentees and makers.

NOT EVERY ONE CAN LIVE IN CALIFORNIA.

But you can bring the finest California products direct to your door with a two-cent stamp. All this is due to the progressive spirit of the California Fruit Products Co., of Colton, California, who, after a careful investigation convinced themselves that there are thousands of families in the rural districts of the United States who use little or no California fruit because they cannot secure it readily —or what they can buy is high priced —often unclean and last year's crop.

This season they put up their dried fruit in 2-lb. cartons, 25 cartons or 50 lbs. to the case, assorted, so as to make it more convenient for a few families to club together. They have also added canned apricots, peaches, pears, plums; two dozen cans to the case, assorted. Pure extracted honey made from the blossom of the orange and sage, the finest flavor in the world; also soft shelled walnuts and almonds. They pay the freight.

Few realize the immensity of the fruit industry and other products of the soil of California, and many will be surprised to learn that last season's products amounted to 5,560,000 cases or 133,440,000 cans of fruit, valued at ten million dollars; raisins, 140,000,000 pounds; dried fruits, 254,375,000 pounds; figs, 6,000,000 pounds; prunes, 180,000,000 pounds; oranges, 30,000 cars, $20,000,000; olives, 750,000 gals., $425,000.00; olive oil, 200,000 gals., $500,000.00; wanuts, 14,000,000 pounds, $1,750,000.00; celery, 3,000 cars; cabbage, 500 cars; cauliflower, 350 cars; beet sugar, 163,800,000 pounds; butter, 5,000,000 lbs.; grain yield, $50,000,000.00. The bulk of the mustard is raised in California. In Santa Barbara county 3000 acres are devoted to it.

The California Fruit Products Company of Colton, California, will mail three colored Souvenir Post Cards free to anyone who will write them, and also to any friends whose name and address you may enclose.

POULTRY SHOW.

A poultry show will be held in connection with the Long Beach Festival of the Sea, from September 1st to 6th. Cash prizes and ribbons will be given. Entry, 25c, single birds; $1, breeding pens. Competent judges will be chosen and a competent superintendent will be in charge.

Entries close August 29th. Birds received August 31st and returned September 7th. The management promises a splendid chance to advertise stock. Let the people see what you grow, and take orders for eggs. This is going to stimulate the business. No one can afford to miss it.

J. W. Whitney, Long Beach, care of the Long Beach Chamber of Commerce, will give information.

Boyle Heights Livery.
2024 East First Street,
A. J. Howland, Prop.

Los Angeles, Cal., Feb. 11, 1908. Tuttle's Elixir Co. Gentlemen: I am using your remedies for general stable purposes with entire satisfaction. I have never seen or used anything to compare with it. The hardest cases of colic will yield to Elixir at once. You can reckon on me as a permanent customer. Yours truly, A. J. Howland.

LOS ANGELES PACIFIC CO. BALLOON ROUTE ELECTRIC RAILWAY

Los Angeles Pacific Co

Electric Lines

The Shortest, Quickest and Best Line

LOS ANGELES to the OCEAN

VISIT
VENICE, OCEAN PARK
REDONDO, SANTA MONICA
PLAYA DEL REY

Fish at Long Wharf, Port Los Angeles

Try a Trip on the BALLOON ROUTE DAILY EXCURSION. One Whole Day for ONE DOLLAR. Car leaves at 9:40 A. M.

Los Angeles Stations:

Hill Street Between 4th and 5th — Fourth Street Bet. Hill and Broadway

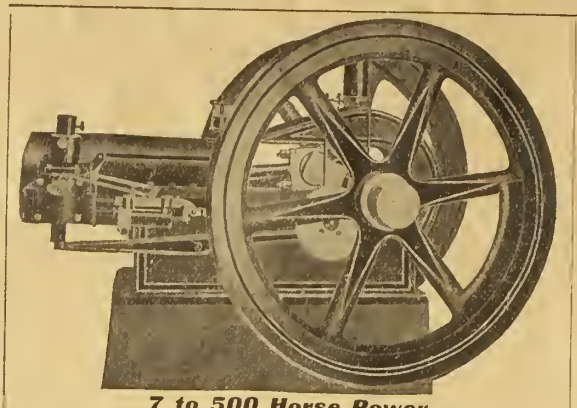
The Popular

Western

Built In the West **Best** For the West

FACTORY AT YOUR DOOR

LONGEST LIFE LEAST FUEL FEWEST PARTS ALWAYS GOES



7 to 500 Horse Power

Irrigation Plants Designed Constructed Installed

U. S. GOVERNMENT TEST

35 H. P. Western Engine Been Run 2 Years

RAN 87 DAYS DAY AND NIGHT

With One 20-Minute Stop to Lace a Belt

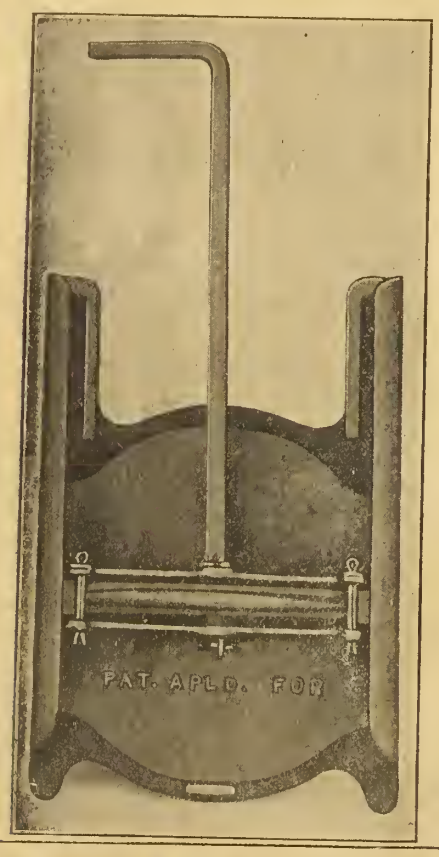
Send for the Copy of Test

Western Gas Engine Co.

Works and Office:

908 to 932 No. Main St. Los Angeles, Cal.

Send for Catalogue.



Pomona Pressure Gates

A Great Aid in Irrigation

These gates are made similar to the ordinary slide gates except that there is a locking device interposed to lock the cover in any desired position or to press the two faces together to make a WATER TIGHT joint, from either direction when closed. The parts are very simple, only a tapering screw with a split tapering nut socket. By turning the handle to the right tightens, and to the left loosens the cover or it may be removed entirely.

Pomona Mfg. Co.

Pomona, Cal.

THE

Latest Deep Well Turbine Pump

Guaranteed to deliver from 100 gallons per minute upwards, depending on the diameter and capacity of well, from a depth of 50 to 300 feet below the surface. Can be either belt driven or direct connected to electric motor as occasion requires.

Write for Catalogue 46B.

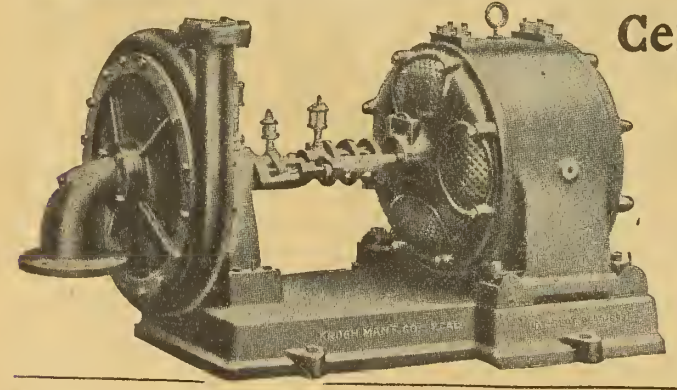
A deep well pump that has no valves or plungers to wear or get out of order, no gears, consequently no noise or breaking of teeth.

Compact, durable, always primed and ready to operate, constant flow, hence increased capacity of well.

This type of pump is fast taking the place of Vertical Steam, Deep well Plunger and Propeller Pumps.

Byron Jackson Iron Works

Main Office and Works:
Carlton Station
West Berkeley, Cal.



Centrifugal Pumps

For high or low heads

Direct Connected or Belt Driven

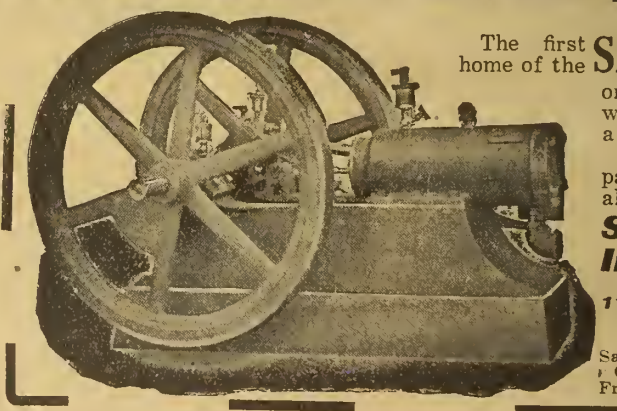
Highest obtainable efficiency

Krogh Man'f'g. Co.

127 10 133 Beale Street
SAN F RANCISCO, CAL.

Send for New Catalogue No. 50 just issued.

Samson Gasoline and Distillate **Engines**



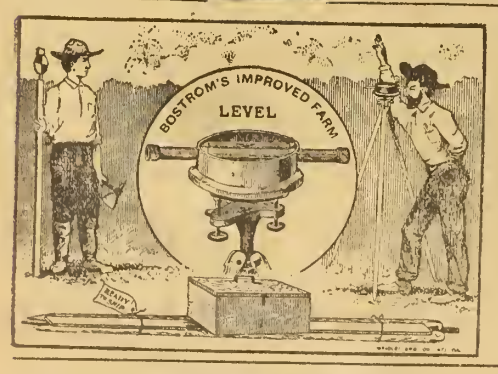
The first home of the **SAMSON** engine is a large one. It's second home, which is everlasting, is a happy one.

They may be compared with the sea—always ready to roll.

Samson Iron Works

Office and Factory:
1100 to 1198 Aurora St.
Stockton, Cal.

BRANCHES:
San Francisco,
Cor. Market and First Sts.
Fresno, 920 J St.

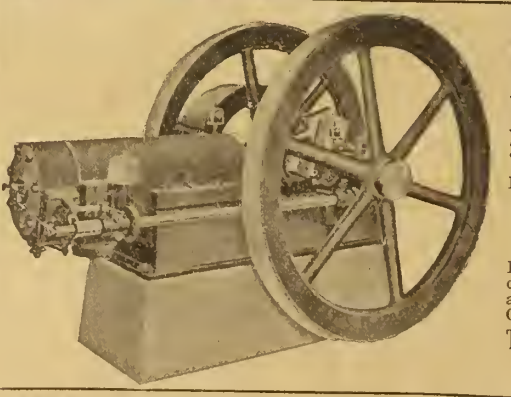


BOSTROM'S IMPROVED FARM LEVEL

Used for irrigation and drainage work. Cheapest and best level yet invented for farm use. Has the latest patented improvements in simplicity and usefulness. Can be operated by any one. Price including telescope tripod and target rod $15.00.

PALACE HARDWARE COMPANY
581 Market Street, San Francisco.

Coast Agents. Send for Circular.



HERCULES DISTILLATE ENGINE

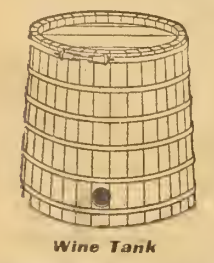
Heavy, Strong and Simple in Construction

The Right Engine at the Right Price

Horizontal and Vertical; All Sizes. Buy direct from the manufacturer and save agent's commission. Send for our new Catalogue C.

The Hercules Gas Engine Works

Alameda, Cal.



Tanks Tanks

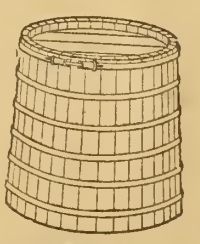
WINDELER'S PLANING MILL AND COOPERAGE

GEO. WINDELER, Prop

Water Tanks, Wine Tanks made from carefully selected stock by careful and experienced workmen. "Tanks that are well made last a long time." It will pay you to get my prices before buying.

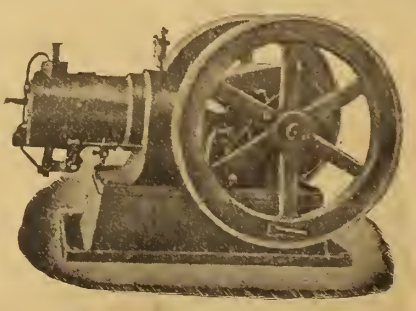
Geo. Windeler

144-154 Berry St. San Francisco, Cal.



Wine Tank *Water Tank*

Olds Gasoline Distillate Engines



For all purposes, Stationary, Portable and Spraying. All sizes from 2 to 100 H. P. Simple, durable, warranted, are giving fine satisfaction to purchasers on the Coast. Prices and circulars mailed on application to

The Compressed Air Machinery Company

Dealers in all kinds of machinery

34 to 40 Jessie St., San Francisco, Cal.

SEND FOR BULLETIN NO. 15

ARNOTT HARNESS $10.00 to $80.00

Everything guaranteed. Money back if not satisfactory. Factory in Los Angeles. California leather for all uses. Send for No. 10, eighty page FREE Catalogue.

ARNOTT & COMPANY 112–118 So. Los Angeles St. Los Angeles, Calif.

When writing advertisers, mention Cultivator.

When writing advertisers, mention Cultivator.

630.5
C A

California Cultivator

Published Weekly — One Dollar a Year

Los Angeles — August 20, 1908 — San Francisco

San Gabriel River Near Whittier

Whittier, the Quaker Colony of Los Angeles County, Secures Its Irrigation Water From This River. The Water Is Carried by Cement Ditches and Gives Abundant Supply for the Orange and Walnut Orchards for Which She Is Famous

Alamo Gas and Oil Hoisting and Stationary Engines

Best in price, appearance and quality. Self-starting and small operating cost. A complete line of repair parts and accessories always on hand. Complete pumping plants installed and we are prepared to construct all kinds of mining machinery on contract. Write for catalog and prices.

Harrison Machine Works

719-721 N. Main Street Los Angeles, California

From photograph showing amount of

Ten-Inch Pipe

made by four men from 10 bbls. of cement in 9 hours — 280 two-foot joints, or 560 feet. This pipe was made with the

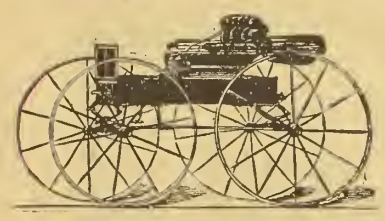
"K T" Moulds

An equal amount can not be made with any other tools in the same period of time. Write for "Brown Book" and price list.

THE KELLAR-THOMASON MFG. CO., Covina, Cal.

We Carry the Best Line of

Buggies and Delivery Wagons



in the City. Call and get our prices and examine our goods before you purchase.

No trouble to show goods.

Los Angeles Vehicle and Implement Co. 110 and 112 North Los Angeles Street Los Angeles, California

500,000 Feet of

Water Pipe and Well Casing

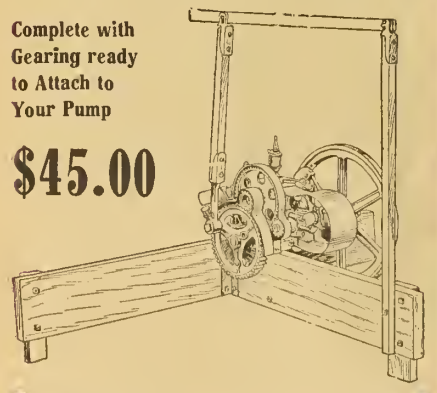
All sizes, any amount. Special Prices while it lasts. Write or Phone for Prices.

Adams Pipe Works 2025 Bay Street, Los Angeles, California Phones: F1917; Broadway 1264

Aermotor Gasoline Engine

Complete with Gearing ready to Attach to Your Pump

$45.00



Will pump all the time, wind or no wind, and deliver as much water as an 8 ft. Aermotor in a good wind.

From 225 to 1600 gallons per hour, depending on height water is to be raised.

Air cooled, uses Gasoline or Distillate.

A reliable, durable engine at a very low price. Can You Attord to be without one.

Send for Special Circular.

Tanks Towers Pumps Distillate Engines

Smith-Booth-Usher Co

Machinery and Supplies

Successors to
S. J. Smith Machinery Co. and L. Booth & Sons
212-214 S. Los Angeles St., Los Angeles
Home, Ex. 1090—Sunset, Main 1090

STROKE SELF FEED HAY PRESS

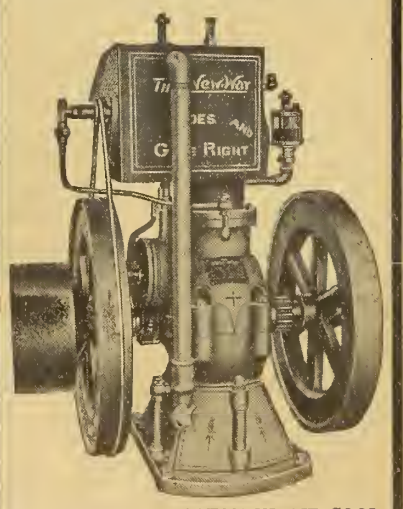
2 men can run it.
3 tons in one hour.
Easy draft.
Smooth bales.
Will save its cost.
Shipped on trial.
SATISFACTION GUARANTEED.

THE AUTO-FEDAN HAY PRESS CO. 414 E. 10TH ST. TOPEKA, KANS.
BRANCH OFFICE, 1521 W. 12TH ST., KANSAS CITY, MO.
Ask for Catalogue No. 28

1521 West 12th St., Kansas City, Mo.

Agent, John Schilling, Jr., Davies Warehouse 2nd and Central Ave., Los Angeles, Cal.

THE NEW WAY AIR COOLED ENGINES



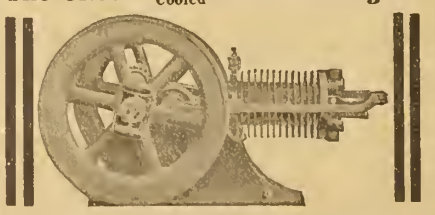
The first and only SUCCESSFUL AIR COOLED Gasoline engine manufactured

HENSHAW-BULKLEY & CO.

Distributers for California Nevada and Arizona

San Francisco 19-21 Fremont St. *Los Angeles 335-337 E. Third*

The Gilson Air Cooled Gasoline Engine



Wonderfully Simple, Reliable and Convenient. Light and Compact. Any Size from 1 H. P. to 15 H. P. Write for large catalogue. Sold by

I. O. FOWLER, Box 43, Palermo, Cal.

JAMES R. TOWNSEND

Solicitor of American and Foreign **Patents** Copyrights, Trademarks and Labels Registered. Rooms 428-433 Bradbury Blk. Los Angeles, Cal. Phones: Home, A4619; Sunset, Main 347

WOOD PIPE

Made from California Redwood or Selected Washington Douglas Fir

NATIONAL WOOD PIPE CO.

Stave Pipe 2 inches to 10 feet Diameter up to 400 feet Head

SAN FRANCISCO OFFICE. 318 MARKET ST.
LOS ANGELES OFFICE, 404 EQUITABLE BANK BUILDING
OLYMPIA, WASH. SALT LAKE CITY, UTAH

Prices, specifications, hydraulic data, and general information furnished upon request,

A Railway on the Ranch

Saves Much of the Hard Labor

The equipping of the ranch with a ***Portable Railway*** is a very ***Profitable Investment*** and ***not*** very expensive.

Our booklet S. F. 60 gives several suggestions for applying it to the Dairy and Ranch.

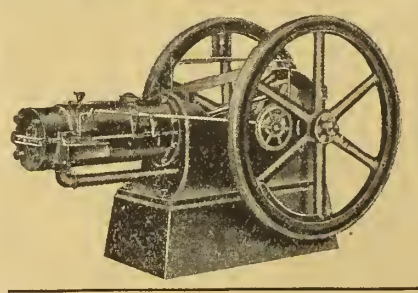
Works at Koppel, Penn.

ARTHUR KOPPEL CO.

Eastern Offices: Pittsburg, New York, Chicago, Boston

212 So. Los Angeles St. Los Angeles, Cal. *Chronicle Building San Francisco, Cal*

Commercial Gas Engines



Pump More Water

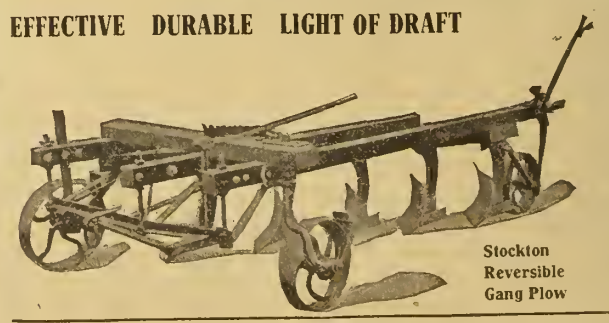
a given height with one gallon of No. 2 distillate than our competitors. Send for Bulletin No. 11 and see how we do it.

Commercial Engine Co.

953-955 No. Main St. Los Angeles, Cal.

The Cheapest Way

EFFECTIVE DURABLE LIGHT OF DRAFT

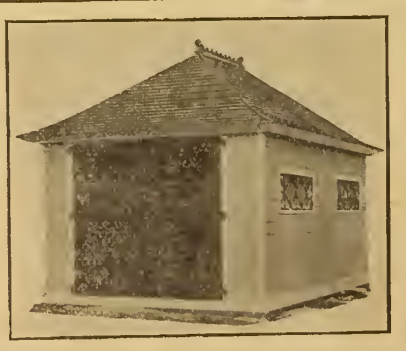


Stockton Reversible Gang Plow

This is our regular Plow with Land Shifter and Rear Lever. Land Shifter simple and durable. It is in easy reach of operator and there is no danger of wheel running over foot.

Houser & Haines Mfg. Co

Stockton, Cal.

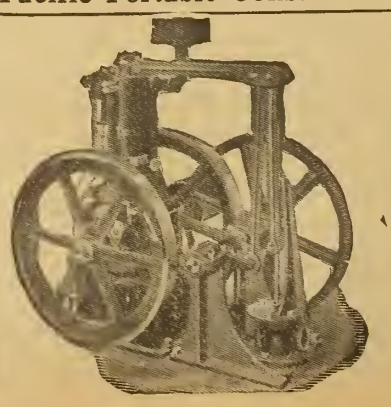


The

Barker Portable Cottages, Bungalows, Garages, Tent and Poultry Houses

These houses are correctly built of selected material and are so different from the ordinary portable houses as the aim has been to make them look like a permanent structure built on the ground. They have stood the test of years and are conceded by experts to be the best, cheapest and most practicable portable house made. Please investigate before purchasing or building. We also manufacture sanitary poultry houses of our own designs. Write or call at office and factory, corner of Topeka and Alameda Streets, Long Beach car line.

Pacific Portable Construction Company **Los Angeles, Cal.**



A Handy Little Engine

Just the thing to run the feed cutter, the pump, the churn, the grinder, or anything on the ranch. It's well named

The Little Wonder

Write or call on

Wm. Gregory

602 No. Main St. Los Angeles, Cal.

California Cultivator

Vol. XXXI—No. 8 Los Angeles, California, Thursday, August 20, 1908 Subscription $1 a Year

Fumigation According to Latest Methods

Investigations by R. S. Woglum and Frederick Maskew of the Department of Agriculture Are Leading to Much Information as to Better Processes

FOR the past 20 years the use of hydrocyanic acid gas for ridding citrus trees of scale insects has been general in Southern California and during the past few years its use has become somewhat general in the northern part of the State. Florida seemed backward in taking up the process, preferring to trust to the spray pump or to nature through beneficial insects or otherwise, to balance up her own acount and correct conditions without expense on the part of the fruit grower.

The Southern California fruit grower is too impatient for these slower methods and has gone on using and perfecting the fumigation process. From the first there has been at times almost perfect work accomplished, practically every bug on the tree being killed. On other trees in the same orchard the failure would be complete. The reason for this has perplexed the most practical.

How It's Done.

The fumigation process consists in covering the tree to be treated with a tent of ordinary 6 or 8 ounce duck, which has sometimes been made more or less gas tight by steeping in a tanin solution, cactus solution or something similar, though some use tents without treatment. This tent was formerly a dome-shaped affair with gas pipe hoop about the bottom. Lately the tent with hoop has given way to the octagonal sheet, which is thrown over the tree and gathered in at the bottom.

When the tent is placed over the tree its cubic contents are estimated by the foreman and with this estimate as a basis the dosage or amount of the three ingredients to manufacture the gas is computed. The ingredients for manufacturing the gas are one part cyanide of potassium, one part sulphuric acid and three parts water. These are thrown together in a vessel underneath the tent after it is placed over the tree. If the estimator erred and figured the contents much greater than existed, then he caused injury to foliage and possibly loss of fruit. If, on the other hand, his estimate was too small then no bugs or but few were killed and that tree supplied enough insects to restock the orchard. The margin between burning of tree and not killing the scale is not great.

In fact, the orchardist will usually refuse to accept a job of fumigation from the contractor unless the tender growth of the tree is at least slightly "burned" in proof of thorough work.

Experts Sent.

The uncertainty of this estimating the size of the tree, together with more severe burning under certain weather conditions and many other points, more or less perplexing, impelled the orchardists to insist on some more exact knowledge of the process. The matter was taken up with the Los Angeles County Horticultural Commission nearly two years since when J. W. Jeffrey, now State Horticultural Commisioner, was at the head of the commission. The County Commission appealed to the United States Department of Agriculture asking that competent investigators be sent to study into present methods and suggest a way of securing more uniform results.

The department heeded the request, appropriating $10,000 for the work and sent from Washington Mr. R. S. Woglum of the Bureau of Entomology. Mr. Frederick Maskew, formerly inspector for the County Commission and later for the State Commission, was chosen to assist Mr. Woglum. Those two have now been engaged in the investigation for nearly a year.

Some Points Studied.

The chemistry of the manufacture of the gas, weather conditions, most economical form and material of tents, dosage and many other questions have been studied. The studies and experiments have been largely in the field with the tents and gangs doing regular orchard work; also, with special tents under control of the investigators.

One of the first points developed was that the dosage tables and the manner of determining the amount of gas required were most faulty. Several tables, to insure accuracy, had been advised, but the first step depended upon the judgment of the foreman in charge in judging of the height and diameter of the tree.

All fumigation, owing to injury to the tree where work is done by sunlight, is practiced at night. This night work makes more uncertain the estimate or "guess" of the best of men.

To eliminate this guessing and reduce this feature of the work to as near an exact science as possible, has been the effort of Messrs. Woglum and Maskew. In a large measure they have succeeded and the horticultural inspectors of Los Angeles county and many other orchardists and fumigators, listened to Mr. Woglum's address at the Courthouse last Saturday. Mr. Woglum also spoke before the Whittier Farmers' Club last Wednesday.

The Plan.

In a few words the dosage is determined as follows: The sheet or tent is graduated with painted figures on a line running over the center of the tree. The figures begin at 5 feet from the center and are graduated down each side, say, as high as 20 or 25 feet. When the tent is thrown over the trees and the figure 15 just touches the

Continued on page 191.

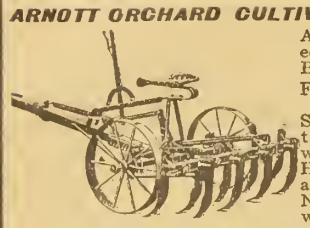
	16	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48	50	52	54	56	58	60	62	64	66	68	70	72	74	76	78	
10	1	1	1	1½	1½																												10
12	1½	1½	1½	1½	2	2	2½																										12
14	1½	2	2	2½	2½	2½	3	3	3½	4	4½	5																					14
16	2	2½	2½	3	3	3	3½	3½	4	4½	5	5½	6	7																			16
18			3	3	3½	3½	4	4½	4½	5½	5½	6	7	7½	8																		18
			20	22	24	26	28	30	32	34	36	38	40	42	44	46	48	50	52	54	56	58	60	62	64	66	68	70	72	74	76	78	
20				3	4	4½	5	5½	5½	6	6½	7	7	8	8½	9	9½																20
22					4½	5	5½	6	6½	7	7½	7½	8	8½	8½	9½	10	10½															22
24						5½	6½	7	7½	8	8½	9½	9½	9½	10	10½	11	11½	12														24
26							7	8	8½	9	9½	10	10½	10½	11	11	11½	12	13	14	14	15											26
28								8½	9½	10	10½	11	11½	11½	12½	12½	13	13½	14	14½	15½	16											28
								30	32	34	36	38	40	42	44	46	48	50	52	54	56	58	60	62	64	66	68	70	72	74	76	78	
30									10	11	11½	12	12½	13	13½	14	14½	14½	15	15½	16½	17	18	19	20	20½	21½						30
32											12	12½	13	14	15	15½	16	16½	17	17½	18	18½	19	19½	20	21	22						32
34												13	14	15	16	17	17½	18	18½	19	19½	20	20	21	21½	22	23						34
36												14	15	16	17	17½	18	19	20	20½	21	21½	22	22½	23	23½	25						36
38													16	16½	17½	18	19	20	21	21½	22	23	23	24	24	25	25½						38
													40	42	44	46	48	50	52	54	56	58	60	62	64	66	68	70	72	74	76	78	
40														17	18	19	20	21	22	22½	23	24	24	25	25½	26	26½	27	27½	28			40
41														18	19	20	21	22	22½	23	24	24½	25	25½	26	26½	27	27	28	28½	29		41
42															20	20½	22	22½	23	24	25	25½	26	26½	27	27½	28	28	29	29½	30	30½	42
43																21½	22	23	23½	25	25½	26	26	27	27½	28	28½	29	29½	30	30½	31	43
44																	23	23½	24	25	26	26½	27	27½	28	28½	29	29½	30	31	31½	32	44
																		50	52	54	56	58	60	62	64	66	68	70	72	74	76	78	
45																		24½	25	26	26½	27	27½	28	29	29½	30	30½	31	31½	32	33	45
46																		24½	25½	26	27	27½	28	28½	29	30	30½	31	31½	32	33	34	46
47																		25	26	27	27½	28	28½	29	30	30½	31½	32	32½	33	34	35	47
48																		25½	26½	27½	28	28½	29	29½	30	31	32	32½	33	34	35	36	48
49																		26	27	28	28½	29	29½	30	31	31½	32	33	34	35	36	37	49
																							60	62	64	66	68	70	72	74	76	78	
50																							30½	31	31½	32	33	33½	35	36	37	38	50
51																							31½	31½	32	33	33½	34	36	37	38	39	51
52																							31½	32	33	33½	34	35	37	38	39	41	52
53																							32	32½	33	34	35	36	38	39	40	41	53
54																							32½	33	34	35	36	37	39	40	41	42	54
																							60	62	64	66	68	70	72	74	76	78	
55																							33½	34	35	36	37	37½	40	41	42	43	55
56																							34½	35	36	37	37½	38	40	42	43	44	56
57																							34½	35½	36	37	38	39	41	42	43	45	57
58																							35½	36	37	38	39	40	42	43	44	46	58
59																							36	36½	38	39	40	40½	42	43	45	47	59

TABLE SHOWING DOSAGE OF CYANIDE FOR PURPLE SCALE.

This table, arranged by Prof. Woglum, should be of inestimable value to fumigators. Having ascertained distance over the tree by use of tape line or marked tent as explained on next page, find the figure representing this distance in the left hand column of the chart. Then determine the distance around the tree or circumference and find its number at the top of the chart. Follow these lines down and across till they intersect. The figure there indicates the number of ounces of cyanide.

EVERYTHING FOR THE FARMER

ARNOTT ORCHARD CULTIVATOR

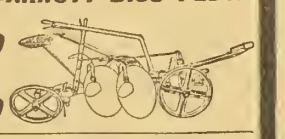


Acknowledged the BEST Five feet wide. Spring teeth if wanted. Horizontal lift, No neck weight.

Steel and Malleable Iron. Dust proof wheels..... **$45.00**

SANDERS-ARNOTT DISC PLOW

SINGLE **$60.00**

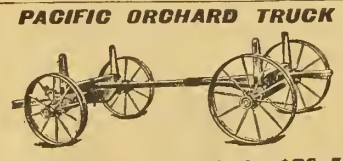


DOUBLE **$80.00**

COLUMBUS WAGONS

Three inch Skein. Four inch Tire. Brake and Pole. **$80.00**

PACIFIC ORCHARD TRUCK



3¼x10 Skeins. 28x30 in. wheels.. **$32.50**

LEATHER TRIMMED

Guaranteed Twelve Months

$65.00

MONITOR WINDMILL

8 ft.....$30.00
10 ft..... $45.00

The New 8 and 10 Foot MONITOR

MONITOR ENGINE

Simple Economical

2 H. P....$130
4 H. P. $250
6 H. P. $350

Catalogue No. 9 Sent Free on Application
Address Department G.

ARNOTT & COMPANY Inc.

112-118 South Los Angeles Street — QUALITY ARNOTT GUARANTEED — Los Angeles California.

Fumigation Investigations

Preliminary report made by Prof. R. S. Woglum of the Department of Agriculture before the Whittier Farmers' Club at Whittier Aug. 12 and the Los Angeles County Horticultural Commission Saturday, Aug. 15, regarding the investigations of fumigation methods in California.

AT THE commencement of our investigations into this question, it was soon seen that there were several loop-holes in the present system, readily affording opportunity for error. In the first place, the dosage-scheduling is a system of guesswork. Measurements of the tree are made by the eye, consequently successful results depend largely upon the uniformity of the estimator's eyesight. Guess work is sometimes quite accurate, still we cannot always depend on such without sooner or later getting into trouble. Although many fumigators accomplish most excellent work there are others whose work is much less satisfactory. And I would venture to say that there are none of you fumigators present, who, although your work is held to be of a high character, have not treated some orchards in which you have done a less satisfactory job that you would have desired, and also the growers themselves would have desired. From observations which we have made we have found out that the most careful of men frequently vary as much as 50 per cent in their estimation of dosage for trees which contain practically the same cubical space when covered with a tent. This variation may appear somewhat large. We have found, however, from keeping check on our own work in the field that the eye is much less accurate in judging the size of trees than we would be normally inclined to believe.

After it once became apparent that uniformity in dosage could be secured only through determining the contents or space in a tree after being covered with a tent, and dosing the tree in proportion to this content, I worked out a scheme in which by knowing the distance around the bottom of the tent and over the top of the tent, it is possible to find almost immediately the cubical contents of any tree.

In our work in the field we first obtained the measurements around and over the tent by the use of a tape line. The determination of the distance over the top of the tent by this method is much too slow for practical use. Our energies, to a large extent, have since been bent to enlarging on and modifying this scheme, that it might be utilized in a practical way in the field. As a result, we have now come to a point where we can secure the measurements of tents entirely without the use of an instrument other than the tent and a man.

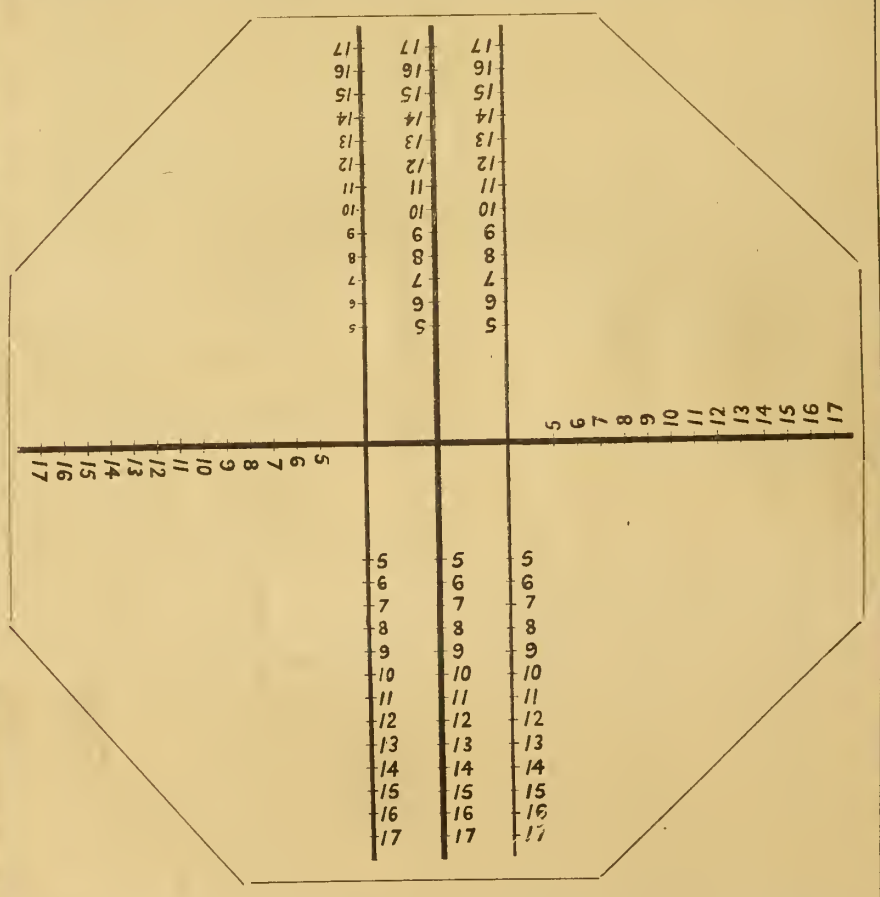
While doing fumigation work in Florida last winter I became acquainted with a system of marking tents whereby the distance over the top of the tree could be easily secured.

For obtaining the distance around the tented tree our work has shown to us that this can be done with much accuracy by pacing. The man who is to obtain the dimensions of the trees on a regular outfit should make several practice trials beforehand around tented trees in order to determine what his length of pace is, and to regulate it, if necessary. In pacing around a tree it is well to be far enough distant so that his body will not rub against the tent, say about 6 inches to a foot from the tent. The pace should be regulated to the equivalent of 2½ or 3 feet of the actual distance around the tent—preferably 3 feet if the pacer can step that distance without much exertion. In reality the pacer will be stepping slightly more than 2½ or 3 feet as he makes a circle slightly larger than that of the edge of the tent. After a half-dozen to a dozen trials most men can so regulate their stepping that they will seldom vary more than a foot from the distance as measured with a tape.

In pacing around the tent the man should also notice the reading of the

MANNER OF MARKING TENTS TO DETERMINE DOSAGE.

Each tent is in the form of an octagonal sheet. Measuring from the center and to the margin of the tent, there are graduatel dines 12 inches apart. Only one line one way will be necessary, but in ordinary work the center of the sheet may not strike the exact center of the tree, so parallel duplicate lines are placed on either side of the center. The cross line is the same and only to aid in securing exact measurement.



THE "BOSS" Tree Protecter

Made of Yucca Palm

Is cheap, durable and quickly put on the tree. It prevents Rabbits from destroying your trees. A sure protection against frost, sun-burn, grasshoppers or dry winds. Can be easily removed; will last for years.

Send for samples.

Prices

12 inch long,	$ 9.00	per 1000
14 inch long,	10.00	per 1000
16 inch long,	11.50	per 1000
18 inch long,	12.50	per 1000
24 inch long,	15.00	per 1000
30 inch long,	17.00	per 1000

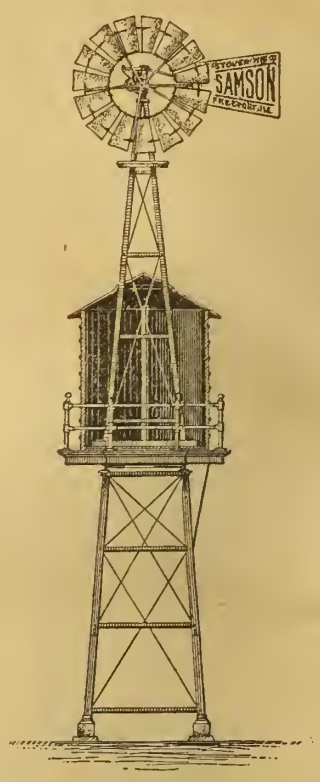
Agents Wanted Everywhere

YUCCA MANUFACTURING COMPANY
1380 Willow Street Los Angeles, Cal.

When writing advertisers, mention Cultivator.

SAMSON WIND MILLS

Have double gears, removable bearings and center lift, which double the life of the mill. They will last longer, pump more water and give better satisfaction than any other WIND MILL.



This is an up-to-date Sub-structure, Tank and Wind Mill outfit complete; substantial, economical and attractive. We build all kinds. Write us or our general agents for full information and prices, description &c., before purchasing.

The STOVER MFG. CO.
FREEPORT - ILLINOIS
30 California Avenue
CRANE CO., LOS ANGELES and SAN FRANCISCO
General Agents for California

ALL ABOUT THE
Orange and Lemon

Is told in our new book on Citrus Culture, embracing every phase of the subject from the seedling bud to the final disposition of the fruit in the Eastern market. The largest and best book on the subject ever printed — 50,000 words, 100 illustrations. You will want a copy, which we will send you for the small sum of 25 cents. Remember we are the largest growers of orange and lemon trees in the world.

The San Dimas Citrus Nurseries
R. M. Teague, Prop., San Dimas, Cal.

California State Fair

Sacramento

August 29th to September 5th, 1908

Big Purses Big Races
Big Premiums

Bear in Mind the Great HEAD-ON RAILROAD COLLISION

A Big Fair with Startling Attractions. Bring the family and enjoy yourselves. Nowhere can you see so much or have such a good time for your money. See the show and be saved; miss it and be miserable. All live people show and all good people go. $20,000 in Premiums, $15,000 in Purses, $5,000 in Amusements, $10,000 for Advertising and Operating. Special Railroad Rates. Address J. A. FILCHER, Sect'y

EDISON PHONOGRAPHS, VICTORS, ZONOPHONES
Records and Supplies, delivered at your nearest railroad station upon receipt of full retail price. Write for particulars and ask for catalogue. Peter Bacigalupi & Sons, 1113-15 Fillmore St. San Francisco

When writing advertisers, mention Cultivator.

line running over the tent and thus secure both dimensions at once.

The Whittier Citrus Association commenced using this system with one of its outfits last month. A second outfit was put in the field about a week ago.

With this new system it can be seen that there must be some changes in the character of commissary from that now in general use in this county, inasmuch as the chemicals must be measured out at the tree. For this purpose two-wheel go-carts have been rigged up in which to carry the cyanide, acid and water.

Five men are used on an outfit—two tent pullers, one man to estimate the trees, the other two to measure the chemicals and dose the tree.

After the throw has been made the generating cart is brought to one end of the row to be dosed. The estimator paces around the tent obtaining its dimensions. A dosage-schedule, which is carried on the cart, is then examined and the dosage noted. One of the men on the commissary or cart measures the cyanide, the other the acid and water. When this is done the man measuring the cyanide holds up an edge of the tent while the acid man places the dose beneath the tree. The cart is then moved on to the next tree. Meanwhile, the scheduler has obtained the measurements of the second tree so that the dosage can be measured out as soon as the cart is hauled there without any delay. The scheduler also empties the generating pot and has it in readiness. In such a manner the work is outlined until the entire set of trees is dosed.

These two outfits using this system have been averaging a complete set of 32 tents in from 40 to 45 minutes. This would appear to demonstrate the system entirely practical from the standpoint of time, as tents are required to be left on the trees an hour. Five men are required for an outfit, instead of four as common in this section under the old system. There are, however, advantages in this new method which easily offset the cost of the extra man. The trees are being dosed with a uniform strength so that a practically uniform percentage of insects should be destroyed on all the trees in an orchard. If a dosage of sufficient strength to destroy 90 per cent of the purple scale is used, practically 90 per cent of the purple scale should be destroyed throughout the orchard; not 90 per cent on some tree and 50 per cent more or less on others, as occurs at times under the old system of guess work.

This new system practically eliminates many errors which occur under the old system; first, the guess element in scheduling; the element of variation from not measuring the water; the mixing of the dosage weighed out for the next throw of tents.

Dosage Schedule.

Having the contents of the tent, the next requirement is the dosage to be employed. For about a year now we have been experimenting almost constantly on a broad scale with problems of fumigation relating to dosage. Our work has demonstrated to us that young fruit is very susceptible to injury from fumigation until about the size of a walnut or larger. During the early part of July when the fruit had become quite that size in some orchards, experiments were carried on with a view to determining how great a strength of gas the fruit would stand at that time without injury. We found that on trees from about 10 to 15 feet in height a strength of about one ounce of cyanide to the hundred cubic feet could be used, where smaller trees would stand a slightly greater strength with impunity.

[At this point Prof. Woglum explained by use of charts and computations that the greater proportional leakage of the smaller tent is the reason for this greater strength of gas required for the smaller tent. For instance, a 20x12 tent contains 99 cubic feet or 85 square feet of tent surface which would give a ratio of leakage surface to volume of .86. A 40x28 tent would have 1040 cubic feet, 420 square feet and ratio of .40. While a 70x54 would contain 6605 cubic feet, 1445 square feet or a leakage of .22.

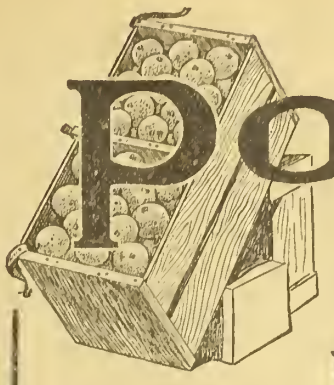
This larger tent would thus have about one-fourth of the leakage ratio of the smallest, hence would require a comparatively smaller dose than the smaller tree.—Ed.]

As this was the limit of dosage which could be used at that time without injury to the fruit, I prepared a schedule based on these data. In this schedule, trees from about 40 feet around by 38 feet over, to trees about 52 feet around by 34 over received one ounce of cyanide for each hundred cubic feet of enclosed space. Smaller trees received a greater and larger trees a smaller strength of dosage quite in proportion to the leakage of the tent.

Hence it can be readily seen that in order to secure uniformity of results, this leakage must be taken into consideration, and smaller trees receive more cyanide to the hundred cubic feet than the larger trees. This state of affairs has been frequently demonstrated to us in the field. When we would use on small trees a certain dosage strength with which we were able to secure splendid killing against the purple scale on large trees, the result would always be much less satisfactory on the former.

This first table which I have prepared and which is called Dosage-schedule 1, is shown on first page. It is a table of uniformity so far as I am able to prepare one at the present time, being based directly on the cubical contents of the trees, and also considering the difference in leakage in different sized trees. I do not contend that this table is accurate to the thousandth part of an ounce for every dosage, but I am inclined to believe that variation, such as there may be, is so small that in practical work in the field we will find the killing equally satisfactory in any part of the table which may be put in use. The dosage given in each one of these squares, which represents a tree of

Continued on page 191.



POTASH

Few fruits better repay the proper use of fertilizers than the Orange; and few make heavier demands on the soil which grows it.

POTASH

brings the tree more quickly into bearing and produces heavier yields. It also imparts a solidity, flavor and sweetness to the fruit which more than repay the cost of the Potash in the prices realized.

Our free booklet, "Orange Culture," is full of information about fertilizing and every fruit grower should have it. Send for it to-day.

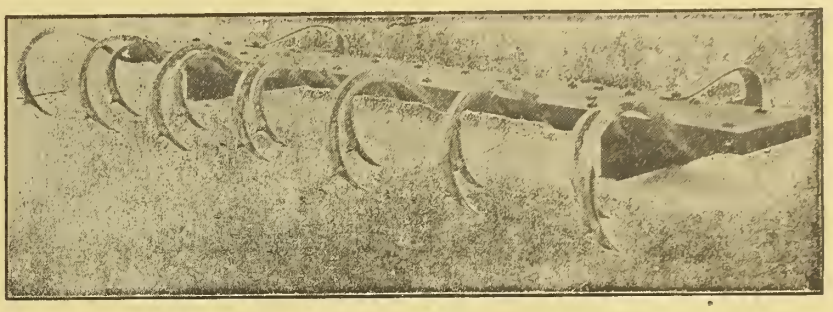
GERMAN KALI WORKS

New York—93 Nassau Street Chicago—Monadnock Building

Atlanta, Ga.—1224 Candler Building

Meyer, Wilson & Co., San Francisco, Cal., are Sole Agents for the Pacific Coast

WILLIAMS' GOOSE-NECK CULTIVATOR



Especially adapted for citrus orchards. Sizes 8 to 14 feet. Lightest draft. Free trial to responsible parties. No agents. You pay only one profit. Write today

WILLIAMS & SON, Manufacturers

Orange, California

TREE TANGLEFOOT

A Sticky Preparation Applied Directly to the Bark of the Trees

Will not injure trees. A band 5 inches wide and 1-16-inch thick cannot be crossed by any climbing insect pest. Remains sticky five to ten times as long as any other known substance. You can test it at slight expense, as no apparatus is required. Used by the carload in New England against the Gypsy and Brown-Tail Moths. In California it preserves prune orchards from the Canker Worm Wherever the Gypsy or Brown-tail Moths, Tussock Moths fall or Spring Canker Worm or Web Worm appear TREE TANGLEFOOT is of great value, and should be used when the caterpillars begin to crawl while they are very young.

Price 25c per lb. Liberal discount on quantities. The only safe and effective banding preparation. Send for testimonials.

THE O. & W. THUM COMPANY

Manufacturers of Tanglefoot Fly Paper Grand Rapids, Michigan

TENTS

Fumigating and Lemon Curing Tents our Specialties

Irrigating Hose, all sizes. Prices and Samples quoted upon application. Write your wants

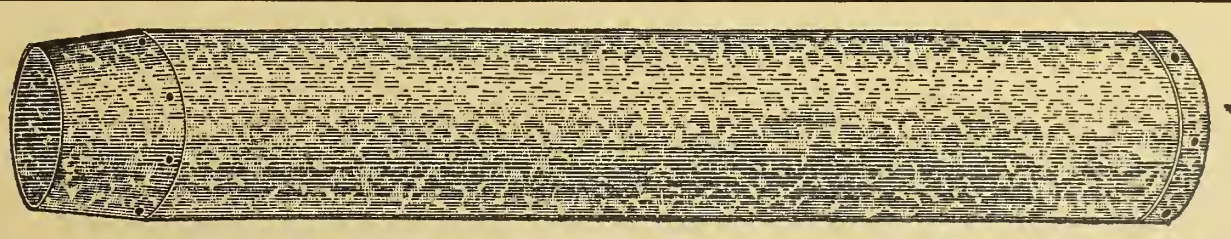
Wagon Covers, Hay Covers, and Canvas Covers of Every Description.

Mellus Bros. & Co

Phones—Home, F 4871; S. S., Main 8500

250 East Fifth St., Los Angeles, Cal.

When writing advertisers, mention Cultivator.



AMERICAN SURFACE IRRIGATION PIPE

SAVES WATER, GRADING AND TIME

The **only** way to **irrigate Alfalfa. Cheaper** than **Flumes.** This is only **one** of our **specialties.** We make **Riveted Water Pipe** in lengths of **ten feet** from **single sheets.** Let us **prove** to you that we make **Pipe** and **Tanks right.** WRITE FOR CATALOGUE.

AMERICAN STEEL PIPE & TANK COMPANY

FORMERLY TALLERDAY MANUFACTURING COMPANY

636-7 Pacific Electric Building Los Angeles, Cal

Deciduous Fruit Culture

THE COMING WALNUT CROP.

THAT the coming walnut crop will be a fine one is now assured. That is, fine as to quality and fair as to quantity. Some reports have gone out which have exaggerated as to quantity, which have been corrected by more careful canvass of the situation.

The crop will probably be five or possibly 10 per cent larger than last year. There will be probably but a very few No. 2s, as the nuts are well separated and will be large and well formed.

Wm. Crowther, of Placentia, president of the local Walnut Association, reports trees and nuts of that section now in best of condition. He handed us the following, which appeared in San Francisco Daily Commercial News recently:

Captain G. F. Smith, president of the Santa Barbara Walnut Growers' Association of Santa Barbara, is stopping in town for a few days, and in the course of conversation gave his views of the walnut situation in the South. While it is true that the acreage planted to new trees has been quite largely increased within the past few years, it must not be forgotten that it takes a walnut tree ten or twelve years to produce a crop of any amount, and the recent planting will have no effect on the output for several years. The crop this year promises to be a good one, but not so big as some of the trade perhaps have stated. It will not vary very much from that of last year, although the quality, based upon the outlook today, will be the best ever harvested in California. The nuts are scattered uniformly over the trees; there are but very few clusters, and there will be very few No. 2's, a smaller percentage than for many years past. Weather conditions have been ideal and the quality will probably be the best for years.

Captain Smith declines to discuss prices, but believes that at the proper time the association will name figures that will be attractive to the trade and at the same time move the entire crop. He realizes that conditions do not warrant as high prices as prevailed last year, neither does he believe that the low prices talked by some of the shippers interested who are anxious to depress values will rule; in other words, an average between the price of two years ago and that of last year will probably rule, but at the proper time to name prices the associations will be found in line with conditions as they exist in this country and in Europe.

When each association is ready to name prices Captain Smith states that while they welcome all the information they can get from their brokers, they are not in sympathy with advice which is solely interested and given them with a view to depressing prices in order that agents may have an easier task in moving the crop, as the associations are in close touch with European correspondents, so that they are abundantly capable of naming a price that will be right and just and that will move the crop.

Speaking of associations, Captain Smith calls attention to the fact that the walnut associations of California are the only co-operative organizations of growers that have ever held together in this state for any length of time. The associations have been handling walnuts in Southern California for the past fifteen years, and during that time their main effort has been to improve the quality of the stock shipped and enable the growers to obtain a fair return for their investment.

Exaggerated reports have been spread from time to time throughout the Eastern and Coast papers as to the profits of the walnut growing in this state; when, as a matter of fact, the net returns to the growers have not been as great as those of the deciduous fruit growers in the same district. One reason for the success of the associations is the fact that they have been conducted at a minimum expense, and the members have received the maximum benefit. The officers and directors are all large growers, many of them either active or retired business or professional men, and they realize the necessity of not only maintaining the high standard of grade established, but also naming prices from year to year warranted by market conditions.

Captain Smith is very optimistic regarding the future of walnut growing in this state, and believes that the associations will continue in their present policy of considering both the grower and the jobber when naming prices.

THE GYPSY MOTH.

The gypsy moth (Porthetria dispar,) brought by accident into the United States nearly forty years ago at a point near Boston, has spread throughout Eastern Massachusetts into Southern New Hampshire and Southwestern Maine, and has also made its appearance at isolated points in Rhode Island and Eastern Conneticut. Its damage to the large forests in this portion of the country has been very great, and its threatened spread into the timber forests northward has been for years the cause of much alarm. It appears in countless numbers, and the defoliation of the trees two years in succession frequently brings about their death. This is especially true of conifers. The loss it has occasioned by the actual destruction of forests, shade trees, fruit trees and other vegetation is very great and must run into the millions of dollars. It has caused a great loss in the reduced value of real estate in the portions of the country infested. It has brought about an enormous pecuniary loss to holders of property from the expense of the war that has been waged against it. The State of Massachusetts alone has spent over $2,000,000 in efforts to control the pest. When the insect was first discovered it is safe to say an immediate expenditure of less than $100,000 would have stamped it out.—Yearbook of the Department of Agriculture, 1907.

Table Grapes in Transit and Storage

Report by A. V. Stubenrauch of the Department of Agriculture and now investigating the grape shipping conditions at Lodi.

DURING the past seven years the Bureau of Plant Industry of the United States Department of Agriculture has conducted investigations to determine the factors that govern the successful shipment and storage of fruits. There has been included in these investigations apples, pears, peaches, plums, oranges, grapes, and small fruits.

It has been shown that the different kinds of molds which cause the most common forms of decay in these fruits while in transit and in storage are unable to penetrate the sound, normal skin of the fruit. These molds generally gain entrance through mechanical abrasions produced in the preparation of the fruit for market. It is not unusual to find 10 per cent. of apples showing cuts or abrasions in the skin. Small fruits are more commonly injured, while oranges frequently show from 10 to 50 per cent. of the fruit with the skin cut by the clippers in severing it from the trees or by rough handling of the fruit in the packing houses. It has been demonstrated that by careful handling in the picking and packing of oranges under commercial conditions the injuries can be overcome and the decay can be almost wholly eliminated.

Investigations With Table Grapes.

During the past two years the storage investigations have been extended to the table grape industry of California. The investigations were started with two objects in view: A study of the factors which may affect the keeping quality of the grape in transit and in storage on the one hand and, on the other, the possibility of extending the marketing season of California grapes by cold or common storage with a view to the possible replacing with the California product of the $1,500,000 annual importation of fresh Spanish grapes.

The preliminary investigations have shown that most of the injuries to grapes in handling occur at the point where the berry joins the stem—the pedicel. Other forms of injury are broken and cracked berries produced by rough handling or excessive squeezing in packing. The pedicel breaks are perhaps the most difficult to control, especially in tender varieties. The simple bending of a berry to one side may cause a break at the pedicel, frequently so slight as to be nearly invisible but sufficient to allow the entrance of the mold. These broken berries under proper conditions of heat and moisture will show mold in a few days. After the mold has started it will continue to develop and spread in the ordinary grape package even at a temperature near the freezing point.

Cold Storage Experiments.

A few examples will suffice to show how great an influence careful handling and packing may exert on the keeping qualities of table grapes. Sixteen of the leading varieties of table grapes, some of which are grown commercially in California, were used in cold storage experiments. All the grapes were handled with the greatest possible care and were packed in different ways, after which the fruit was held in cold storage. The varieties studied are the Flame Tokay, Muscat, Thompson Seedless, Ferrara, Emperor, Verdal, Black Prince, Malaga, Cornichon, Huasco, Bowood, Pizzutella (Lady Finger,) Perruno, Chasselas de Fontainebleau, Zabalkanski and Almeria.

Table 1 shows some of the results obtained in the cold storage experiments in 1906 and 1907. The open crates were firmly packed, but not high enough to necessitate squeezing. The table also shows results with the same varieties packed in tight boxes with fillings of ground cork and redwood sawdust, and, for comparison, the Flame Tokay and Emperor varieties packed for commercial shipment without extra precaution in handling.

TABLE.—Length of time table grapes were held in sound condition in cold storage in 1906 and 1907.

Variety.	Packed in ordinary open crate.	Packed with cork filling.	Packed with redwood sawdust filling.
	Days	Days	Days
Flame Tokay	40 to 60	65 to 100	.....
Muscat	30 to 40	90 to 100	110
Malaga	30 to 35	90 to 115	120
Black Prince	20 to 30	70	.....
Black Ferrara	40 to 60	90	.....
Purple Cornichon	45 to 60	80 to 140	150
Verdal	20 to 25	100 to 110	130
Pizzutella	20 to 35	70 to 90	110
Almeria	80 to 100	95 to 150	170
Flame Tokay, commercial pack	*10 to 20	.....	.....
Emperor, commercial pack	**30 to 40	.....	.....

*Contained 25 to 40 per cent of injured berries. Delay of four days between picking and storing.

**Contained 10 to 12 per cent of injured berries.

The commercial packs of Flame Tokay and Emperor were the usual high pack. The grapes were subjected to quite severe squeezing, although both lots were extra cleated. The percentages of injured berries were too high to make long keeping possible.

The length of time given in the table refers to the limit of first-class condition as indicated by freedom from mold, decay and dropping from the stems.

All varieties shown in the table with the exception of the commercially packed Flame Tokay and Emperor were packed soon after picking and were shipped immediately. Not more than thirty-six hours elapsed between

Crimson Winter Rhubarb and **Berry Plants** Our Specialty

1000 choice Navel Oranges, together with a few other Citrus Trees. April and May are best months to plant Rhubarb for heavy Crops next winter. It has never been equalled as a money maker. $1.50 per dozen, $6 per 100, $40 per 1000. Pedigreed plants.

J. B Wagner

The Berry and Rhubarb Specialist Pasadena, California

Rid your premises of Gophers and Ground Squirrels by using **Gopher Dope**

Gophers and Ground Squirrels will not live where Gopher Dope is used. Absolutely harmless to other animals or fowls. DIRECTIONS—Put one ounce in the holes and run ways and in a short time Gophers will disappear from your premises. Absolutely guaranteed or money refunded. 2-Pound Can, $1.00; 6 2-Pound Cans, $5.00, f. o. b. Los Angeles. For Sale only by

Live Agents Wanted in Every County

B. & G. Disinfecting Co., Phone Home A 9089 417 Laughlin Building, Los Angeles, Cal.

picking and placing the fruit in cold storage.

It has been shown in the investigations with other fruit that one of the most important factors in the successful handling of fruits either in storage or in transit is quick shipment or quick cooling after the fruit is harvested. The sooner the fruit can be cooled after it leaves the tree or vine the longer time it will continue in first class condition. This is especially true where there are any appreciable mechanical injuries in handling. It has been shown with oranges, for example, that after a delay in shipping or cooling of two to four days, the decay in transit may be from two to five times greater than under immediate shipment or cooling, depending upon the amount of mechanical injury in the fruit. These factors of quick shipment and quick cooling are likely to be as important and perhaps more important with grapes than they are with oranges, for the reason that the ordinary grape package offers ideal moisture conditions for the development of molds and if the proper heat conditions are present molds are almost sure to occur. In the case of the commercial pack of Tokays shown in the table, mold had already made its appearance on the arrival of the fruit at the storage house four days after picking. These crates were shipped by express and consequently had no cooling in transit.

The data presented have an important bearing on the problems dealing with the safe handling and transportation of table grapes. They show that under proper conditions of handling and packing the more tender varieties may be held in sound condition beyond the time required to reach distant markets.—A. V. Stubenrauch, Expert in Fruit Transportation.

A Flea Beetle Injuring Hops in British Columbia

Written for California Cultivator.
BY PROF. H. J. QUAYLE, WHITTIER.

A flea beetle (known to science as Psylliodes punctulata,) widely distributed over the northern part of the United States, and hitherto little known as a pest of cultivated crops, has been seriously menacing the hop industry of British Columbia during the past year or two.

The E. C. Horst Company has 520 acres of hops at Sardis and Agassiz, B. C., from which they normally obtain a crop of nearly 500 tons. This year, on account of the ravages of the flea beetle, the total crop is estimated at about seventy-five tons, a loss of 425 tons, or 85 per cent. Figuring the price of hops at 20 cents a pound, this loss to this one company will aggregate $178,000. Another yard of 96 acres in the same section will suffer a proportionate loss. A third yard of 45 acres will yield a full crop, due to the persistent efforts of the owner in fighting the beetle, and this will represent an outlay of from $10 to $15 an acre. The above yards represent the total acreage planted to hops in the Chilliwack and Agassiz valleys of British Columbia, and while not large, the industry is an important one to the few engaged in it.

The beetle, which is very small, not measuring more than one-tenth of an inch, appears in the early spring and begins its attacks on the hop vines just as they are bursting through the ground. This early attack of the beetles before any appreciable amount of foliage appears, is one of the points that make any control work difficult. The injury is due to small circular holes being eaten out in the leaf or cavities gouged out of the tender growing tips. The leaves are completely riddled with these holes and in severe cases only the large ribs of the leaf are left. Vines that got a start in the spring and grew to a height of three or four feet were seen to be completely stripped of foliage and killed to the ground.

Nothing was known of the younger stages of this insect, and during the writer's visit to the section it was his chief mission to discover these if possible. The eggs, larvae and pupae were consequently found in the ground at a depth of from 3 to 6 inches, the larvae feeding upon the roots of the hop, and undoubtedly other plants growing in the yard.

As for control measures, nothing practical and efficient has yet been found. There are two chief points that militate seriously against an effective remedy. One is the continual emergence of the beetles from the ground, making their capture by jarring or other mechanical means of but little temporary value; and the other is the rapid growth of the hop vines that makes it necessary to frequently repeat a poison spray. Either of these remedies would be fairly effective with a similar insect under ordinary circumstances, and they are effective with this one, but only temporarily, and the frequent repetitions necessary make its control too laborious and costly. An entomologist of the Oregon Experiment Station is at present engaged in an investigation of this flea beetle, and with a more complete knowledge of its life history, a vulnerable point of attack may yet be found. H. J. QUAYLE.

Apricot pits commanded about $15 per ton this year.

To San Jose for a Business Training

It is a city of progress; of pure air and water; of moral and intellectual environment; a city of great opportunity for the young man and woman with a practical training.

We Prepare for Success by teaching thoroughly the following business subjects:

BOOKKEEPING, COMMERCIAL ARITHMETIC, PENMANSHIP, WRITING, GRAMMAR, CORRESPONDENCE, SHORTHAND, TYPEWRITING, AND GIVE ACTUAL BUSINESS PRACTICE IN OUR MODERN OFFICES.

You Need These to Win Life's Battle

They are worth any sacrifice, but our prices are so reasonable that all may enter our school.

A complete catalogue and accurate brass edge ruler sent free to all who are interested in a business training and who mention the Cultivator.

Pacific Coast Business College
San Jose, California

Placer Nurseries

We have now growing for next season's delivery a large stock of all leading varietles of trees and vines. We propagate only the best commercial sorts. Our trees and vines are the best that good care can produce and in their selection, propagation and growing we spare no labor or expense; and they are true to name. That is what you want.

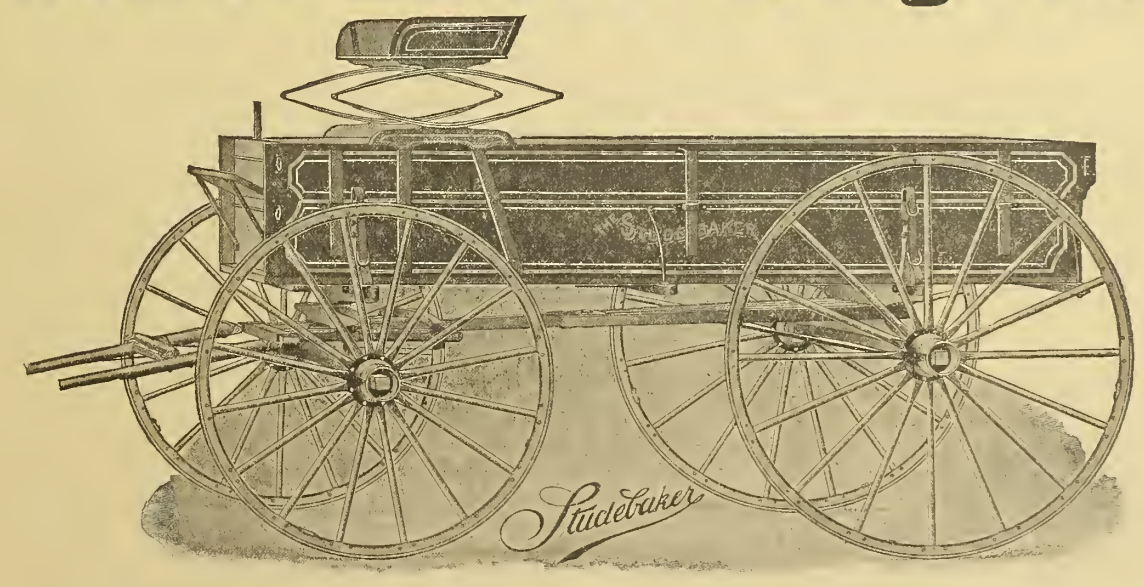
Contract now the trees and vines you will want for next season's planting.

Write us.

Silva & Bergtholdt Company
Newcastle, California

When writing advertisers, mention Cultivator.

Studebaker Wagons



You are now marketiug your crops of hay, grain, fruit or vegetables. You need a wagon. Get the best.

We can furnish the exact wagon needed for every condition. Write for catalogue or call at our store and learn about the best wagons made.

Newell Mathews Co.
Wagons, Carriages & Implements
200 North Los Angeles Street
Los Angeles, California

EUCALYPTUS SEED

Eucalyptus rostrata, the Red Gum
E. corynocalyx, the Sugar Gum
E. tereticornis, the Forest Red Gum
E. globulus, the Blue Gum
E. citriodora, Lemon-Scented Gum
E. cornuta, the Yate Tree
E. polyanthema, the Red Box
E. leucoxylon, Victorian Iron Bark
and Many Other Valuable Sorts

I shall be pleased to correspond with prospective buyers and give particulars as to prices on the seeds I am offering. Trial packets of any variety 15c each, 2 for 25c, or twelve for $1.25. Also young trees of many varieties for sale. Send for circular and cultural directions.

THEODORE PAYNE
NURSERYMAN AND SEEDSMAN
Home Phone A2480
345 S. MAIN ST., LOS ANGELES

Eucalyptus Seed

We are headquarters on all varieties of this seed. Be sure and get our prices on high quality stock. 80 varieties, your selection, 15c per pkt. Or we will mail postpaid, 1 pkt. each, E. Rostrata, Globulus, Tereticornis, Rudis, Corynocalyx, Leucoxylon for 50c with Cultural Directions.

MORRIS & SNOW
555 South Main Los Angeles

Eucalyptus

We have made a specialty of eucalyptus for the past ten years. We are no mushroom concern. We are prepared to accept contracts for raising eucalyptus for next season's planting. Take advantage of our **Low Prices on Contracts. Do It Now.** Twenty of the leading varieties to be seen at our nursery.

Saint & Warner
Sycamore Grove Nurseries
4584 PASADENA AVE., LOS ANGELES

GERMAIN SEED CO.
326-330 So. Main St.
Los Angeles, Cal.

Headquarters for Eucalyptus, all varieties, both in seed and plants. Write for catalogue and cultural directions. They are FREE.

For the Season of 1908-09
We Shall Have to Offer
Pedigreed Fruit Trees
SEVERAL NEW FRUITS AND NUTS OF IMMENSE VALUE TO CALIFORNIA
Eucalyptus Trees
BY THE 1000 OR 100,000
NO BETTER STOCK GROWN
Please send us your name and address, and you will get all particulrrs. We are now taking contracts for ***Eucalyptus Trees*** in large quantities.
Leonard Coates Nursery Co. Inc.
Morganhill, Santa Clara Co., Cal.

Balfour, Guthrie & Co.
IMPORTERS OF
THOMAS PHOSPHATE POWDER
AND
NITRATE OF SODA
SAN FRANCISCO FRESNO LOS ANGELES
WRITE FOR PAMPHLET A D PRICES

When writing advertisers, mention Cultivator.

California Horticulturally

THE EUCALYPTUS IN NORTHERN CALIFORNIA.

THE eucalyptus is having a boom that is not confined to the Southern end of the State, but reaches its entire length. More inquiries are now being made about the culture and care of eucalyptus than about anything else, and several big projects are now under way to plant out large areas in these trees. There is no question but that the industry is one that will pay, with the present and prospective shortage of hardwood timbers in the East, and the constantly advancing price thereof.

The eucalypts offer all that is required to fill the demand, and California will practically have a monopply of these growths. Yet there is a prospect of a good deal of wild cat speculation connected with it, and it has been announced that these trees will do well on poor soil, where nothing else will grow, and without water. The fact is that the eucalypts require good soil and abundant moisture if they do well, although their roots penetrate down great depths to moisture. Eucalyptus growing will pay, but no business on earth will pay without care and without proper conditions.

THE STATE FAIR.

Filcher, the great show man, declares that the State Fair to be held at Sacramento this year will be the greatest ever, and whoever has seen the preparations being made will believe him. There have been a greater number of applications for space in the Pavilion this year than ever before and a larger number of counties will be represented. The State Fair had, before Filcher's administration, degenerated into a poor "hoss show," but it is once again becoming the "State Fair," truly representative of the agricultural and material interests of the whole commonwealth, and this will be more so this year than ever. The stock exhibit on the new agricultural grounds will be the greatest ever made in the State.

This will be the last exhibit to be made in the old Pavilion on the Capitol grounds, as that building is doomed, and will be torn down immediately after the ending of the fair this year.

GYPSUM ON HARDPAN.

A practical farmer in Kern county has been experimenting with hardpan for some years past, and now comes out with a statement that he can dissolve it with a liberal application of gypsum. It is stated that the pulverized gypsum has a chemical affinity for the hardpan and acts as a solvent. If this statement is true, the discovery is a valuable one, for there are thousands of acres of land in this State whose productive qualities are lessened or destroyed by the presence of hardpan near the surface, and which could be made exceedingly fertile were it possible to overcome it at any reasonable cost. Gypsum or land plaster has been recognized for ages as a most valuable fertilizer under certain conditions. If it will now dissolve our hardpan it will be doubly valuable.

FRESH FRUIT SHIPMENTS.

So far shipments of fresh fruits, the greater portion of which go from Sacramento, have greatly exceeded those of any previous season, and in all probability the end of the season will see them nearly double those of last year. Table grapes now form the bulk of the shipments, and owing to the heavy crop and the large new acreage coming in, these will be unusually large. Shipments of grapes will continue until the middle of November, or until heavy rains come. Prices have not been so good as they were last year, but at the same time have averaged fair for the season.

A GROWING INDUSTRY.

There is no branch of agricultural industry that has made more rapid strides in the past decade than has the dairy industry. This is largely due to improved methods and the bringing of grazing sections of the State within easy reach of trade centers by the building of steam and electric roads. The present valuation of the annual output of the dairies of the State is $26,000,000 and this is increasing every year. The principal dairy sections now are in the mountain valleys and the coast counties. In these sections there is a greater certainty of green feed at all seasons than in the interior valleys. Mendocino, Humboldt, Lassen, Sierra, Napa, Sonoma and San Mateo are at present the chief dairy counties of the State. It is pleasant to note that the olden style of preparing and shipping milk to market has given way to modern methods. In the past the milking yard or corral was too filthy for description, but when it was discovered that milk was one of the great sources and distributors of disease, sanitary methods came into vogue, and the milk offered in the markets today is comparatively free from dirt and disease germs, although, in many cases there is still room for improvement.

A FAIRLY GOOD SEASON.

Owing to the very heavy shortage in the rainfall last winter there was much fear early in the season that crops would be a total failure in Central and Northern California. Late spring rains, however, did much to relieve the situation, and now at the end of the season we find that matters might have been worse. The grain crop, of course, is very light, hay has turned out fair, and most other crops fair to good. So, after all, it may be called a fairly good season.

General Agriculture

AGRICULTURAL RESEARCH.

DIRECTOR E. J. Wickson of the University of California Agricultural Experiment Station has prepared an outline of "original researches and experiments" as required by Act of Congress of March 16, 1906, which will be pursued with the special appropriation made by Congress for that purpose. The outline has been approved by President Wheeler and the work will be immediately entered upon by the members of the station staff mentioned in connection with each undertaking.

By E. W. Hilgard and R. H. Loughridge: Continuation of an investigation of the occurence of chlorosis on citrus trees in the Porterville region and its relation to marly subsoils, with extension of study to adjacent districts in which it is found to occur, including also effects upon deciduous trees and experiments to prevent injury due to excess of lime.

By H. M. Hall: Completion of study of ornamental and economic plants in the Santa Barbara district, to determine their characteristics, climatic requirements, uses, etc.

By R. E. Smith, B. H. Smith and F. L. Yeaw: Continuation of investigation into the occurence of the "California peach blight," including identification and nature of fungi causing shot-hole blights of peach, apricot and almond, and the relations of these diseases.

By A. R. Ward and C. M. Haring: Continuation of studies in the artificial immunization of cattle against tuberculosis, based upon history of 36 calves already purchased and vaccinated, as compared with an equal number of uninoculated calves to be kept with them as a check, under same exposure, etc.

By M. E. Jaffa: Continuation of metabolism experiments with poultry, income and outgo of nitrogen and determination of heats of combustion of feeds and excretory products to ascertain the availability of different highly nitrogenous foods.

By G. W. Shaw and Rachael Corr: Continuation of laboratory and field study of cereals from the points of view of the influence of environment upon gluten content of grains; the cultural cost of material being met by provision for maintenance of cultural stations by State appropriation in cooperation with the United States Department of Agriculture.

By R. E. Smith, E. H. Smith and F. L. Yeaw: Continuation of study of methods of infection and spread of pear blight bacillus; life history of the causative organism is to be more closely studied under local conditions from a bacteriological point of view, because under local conditions it departs from its behavior elsewhere; also with reference to more effective treatment.

By R. H. Loughridge: Continuation of study of tolerance of plants for alkali soils. Observations of plant growth and determination of nature and amounts of alkali, with discussion of relations.

By C. W. Woodworth: Study of life history of the Argentine ant, particularly those features that have a bearing on the extension of the infested areas and on the use of ant remedies. A laboratory is now being equipped in the East Oakland infested area.

By E. W. Hilgard and Charles H. Lipman: A study of soil bacteria under arid conditions and the relation of irrigation thereto.

By R. E. Simth and O. Butler: An investigation into the nature of certain "physiological" plant diseases like the various forms of gum disease of citrus trees, etc. This work will be done at the Southern California Plant Disease Laboratory at Whittier.

By W. T. Clarke: Determination of causes of sterility of almond trees and relation thereto of cross-pollination, weather conditions, etc. Field and laboratory studies.

By H. J. Quayle: Detailed study of red and yellow scale of citrus trees, including breeding and environment experiments to determine factors responsible for two forms and their geographical distribution. This study will be made at the Whittier Laboratory and in Southern California orchards.

By E. B. Babcock: Investigation of nature and origin of "walnut-oak" hybrids with hybridizing experiments, as a basis for study of physiological principles involved.

Live Stock and Dairy

BREEDERS' ASSOCIATIONS.

THE United States government has organized the different draft horse associations that conform to rules by giving them charters. This is bringing them into order. Some of the States of the Middle West have rules governing stallions that stand for the public service. Everywhere the grade stallions are being weeded out and it is a needed reform, for the photographs show spavined, curbed and ringboned stallions that have been used in public service. It seems strange that a man would think of raising a colt from one of the many animals that are shown in bulletins A California farmer would hardly tolerate them on his farm as work animals and never think of propagating anything so worthless.

Mixed Breeds.

There are many stallions of mixed breeding in the United States that are causing some trouble at this time. A case at hand is as follows: A fine draft mare, from imported sire and dam, registered as a Percheron in America with both sire and dam registered in France and in the United States, was bred to a fine looking horse that had a name and number and also was called a Percheron on his printed card. The owner, looking at his papers, knew they were not from the association in which his mare was registered, but the mare was the offspring of imported stock and, therefore, was eligible to any Percheron society. Now comes in the need for clearing up the associations. This stallion was not a Percheron at all but a French Draft. The colt could not be registered. The parties owning the French Draft horse used the word Percheron as a catch for breeders, probably, as the neighborhood had many Percheron mares. The French Draft breed is a good one and it is strange that anyone owning a good French Draft stallion should care to assert he was a Percheron. It is very hard to beat the top line of a good French Draft animal. Then they are bay in color and many prefer that color in horses.

Gray.

There are a few old fashioned people who prefer a gray draft animal. There is a club formed to breed an American gray draft horse. They are crossing with care the breeds to try to catch the perfect points of each, the disposition of the Percheron and his willing gentleness with the better back of the German and French animal. Then the longer pastern joint, particularly in the hind feet, is a point in which the American Gray draft is hoped to excel other animals. The many changes that have come in the breeders associations should make any one breeding their full blood mares ask for the name of the association or society that issued the papers; then he should write to that society to know if the animal in question is still on their lists. He may find that the papers have been cancelled.

Frauds.

Scandal has come to one great breed of cattle by the fraululent methods of a man who stood high as a scientific agriculturist. This man, supposed to be without guile, belongs to the class of people who are unmoral rather than immoral, for they do not seem to have any sense of right.

I cannot imagine doing anyone a greater evil than selling them cattle of falsified pedigrees. It simply brings all one's careful study of mating to naught. The result will not follow true if the blood lines are not true. All sorts of wild freaks will crop out if the persistent breeder pushes the breeding along. Whenever there come a few freaks from any mating, the wise breeder regards the mating as wrong and cuts out that particular sire. Then forever afterwards there lingers a suspicion of the blood. I personally do not like the Netherlands in the Holstein. I would not buy an animal having any of the crosses very close in, all because I had a sire, Netherland Clothile, all of whose heifers I discarded as not being what I was desirous of having in the herd.

Results of Frauds.

In the case before cited, the association affected promptly cancelled every one of the cows and all the offspring to the remotest degree. Now what a loss. Many purchased a calf with, perhaps, only an eighth of this tainted blood, and yet all their cattle lost at once whatever good blood they had because of the small per cent of base mixture. Do not become a breeder of registered stock unless you know you are strict enough never to register any animal of whose breeding you are not absolutely sure. If the heifers are not all marked at birth while at their dam's side, use them as milkers, but do not register them. If it is a male make it into beef and no one is any the worse off. Think of the queer position in which many of the men today find themselves, who have innocently bought and sold cattle now thrown out of the herd books.

Orders of Merit.

It is proposed to have a National Order of Merit for cows. These records will be founded on the performance for a year, a full three hundred and sixty-five days. The tests are to be made under the State Agricultural College or the experiment stations two days in each month by an official and then the owners' weights to be accepted for the intermediate milkings. The proposed entrance test to the Order of Merit will require that a two-year-old cow produce in the year 6500 pounds of milk or make 250 pounds of butter fat. The increasing requirements would be found by adding one-tenth of a pound each day to the 250 pounds of butter fat, until at five years of age the maximum requirement for entrance is 360 pounds of butter fat or 10,000 pounds of milk. These tests are for all pure breed dairy cows. The Association of Breeders is made responsible that the cattle are pure breed. When the government finally does issue the certificate to the cow, her photograph is attached to it. This is a further guard against fraud, a la Chinese certificate plan. I hope the photographs of the cows will look more like them than the picture on the Chinese certificate resembles the Celestial who delightedly shows it as "Me picture, all samee American."—M. E. Sherman.

Well prepared country boys are wanted by the great business houses of San Francisco. Write us for information. San Francisco Business College, 733 Fillmore St., S. F.

Hemet has dried about 1000 tons of apricots this year.

FLYFOE

That is just what it is. Sprayed on stock it kills or keeps off all those awful pests, flies, mosquitoes, gnats, etc. Do you realize what that means? Use it and note how much easier it is to keep your stock in condition and how comfortable they are. Sprayed on your cows the increased milk yield will many times pay for its cost. You should use something of the kind and

FLYFOE

will be found the most effective "fly bouncer" on the market.

If your dealer does not keep it, we will ship a 1-gallon can at $1.25 or a 5-gallon can for $5.00, and will prepay the freight. If not fully satisfied with it money refunded. Made by the

West Coast Mill

Los Angeles, California

Sugar-Beet-Pulp (Kow Breakfast Food) For Sale

At fifty cents per ton F. O. B. cars or wagon, fresh from factory. Conceded to be the cheapest and best Dairy Food in California. Write for freight rate if too far to haul.

Also **MOLASSES** at $1.50 per barrel.

Los Alamitos Sugar Company **Los Alamitos, Cal.**

Clubbing Order Blank

_____ 1908

CULTIVATOR PUBLISHING CO.,
115½ No. Broadway, Los Angeles

Gentlemen—Enclosed find $2.00 for which please credit my **Cultivator** subscription one year from _____ 190__ to _____, 190__, and also send **Sunset Magazine** one year to the following address :

NAME P. O. ADDRESS

SIGNED _____

ADDRESS _____

CORN CUTTER.

I would like to tell Mrs. Sherman and your subscribers how to make an inexpensive corn cutter.

My father made one which we used successfully in Iowa some years ago, two men cutting two rows as fast as horse can walk.

Take a wheel 16 or 18 inches high (we used one made like a roller, 20 inches broad;) to this attach two 2x-8x6 feet long 20 or 24 inches apart. Back ends serving as runners; front ends attached to wheel; cover with one inch boards. Then take a piece of iron 30x36 inches, (we used old scraper bottom) cut into diagonally; attach to sides of sled, wide ends back. To this bolt knives made of old crosscut saw having back sharpened. Make sled wide enough so corn rows will strike knife near front end. Put seat lengthwise on sled, one man sitting on each side; gather and hold corn and as horse walks it will be cut off.—O. C. Woodward, Chico.

SALE OF SHORTHORNS.

A rare opportunity to purchase high bred shorthorns is offered this year in the combination sale of the famous Roselawn herd and the Eakle herd, both at Woodlawn, Yolo county. More properly, instead of a combination sale, each is an independent sale, but arranged to follow each other.

The Roselawn herd owned by Mrs. W. B. and T. B. Gibson will hold its third annual sale on Sept. 11, beginning at 12:30 at the ranch 1 mile south of Woodland. There are 70 head of shorthorns in this bunch.

H. P. Eakle and R. M. Dunlop will sell 66 head the following day, Sept. 12 at 12:30. Busses will meet all trains at Woodland. Lunch will be served.

Geo. Bellows will auction both herds.

Catalogues may be had by addressing either Mr. Gibson or Mr. Eakle.

PASPALUM DILATATUM

King of dairying and fattening grasses. The great Australian drouth resister. Primest heavy seed direct from the grower, 4 lbs. (ample for trial) post free, $2.00. Full information.

C. F. JULIUS

Central Bucca, Coffs Harbor, New South Wales

Berkshires--Shorthorns

My Berkshires took every blue ribbon and Gold and Silver Medal in the female classes. Choice pigs at low prices. G. A. Murphy, Perkins, Cal.

A good many farmers object to raising hand-fed calves because it is such a bother to teach them to drink. The secret of the whole matter is in letting the calf become hungry before attempting to give it milk. It is a good plan not to give the calves anything until they have been away from the cow twenty-four hours and sometimes longer. It is then an easy matter to teach a calf to drink. If it is a little obstinate at first let it suck the fingers a time or two, gradually taking the fingers away, but in most cases this will not be necessary. Under all circumstances deal gently with the calf.

The collars and saddle pads should be cleaned every day, to remove the filth. If they are left all gummed up they soon gall and make mean sores. Dust and sweat will ruin a horse's shoulder in two or three days.

Creamery Supplies

Cream Separators — Milk Cans
Combined Churns — Milk Bottles
Babcock Testers — Brushes
Butter Moulds — Wrappers
Engines and Boilers — Milk Coolers
Pasteurizers
Milking Machines
Creamery and Dairy Supplies and Machinery of all Styles and Sizes
Send List of Goods Wanted and we will Quote Prices

O. J. WEBER COMPANY
555-57 S. Los Angeles St.
LOS ANGELES, . . CALIFORNIA

Shorthorn Sale

At Woodland, Cal.
Saturday, Sept. 12th

66 Head Registered Shorthorns at Public Sale
23 Head of Cows and Heifers, 43 Head of Bulls

Busses will meet all trains. Lunch served. Sale to begin 12:30 P. M. Write for descriptive catalogue. Catalogue ready August 20th.

AUCTIONEER: GEO. P. BELLOWS, Maryville, Mo.
H. P. EAKLE, JR.
R. M. DUNLAP.

T. B. Gibson, Woodland, Cal., will sell on the preceeding day, Sept. 11th. Parties wishing can attend both sales.

Third Annual Sale
—OF—
SHORTHORN CATTLE

For Sale—70 Head of Shorthorn Cattle of the

Roselawn Herd

On Sept. 11, '08, at 12:30 o'Clock

At the Old Home, one mile south of Woodland, Yolo County, California. Write for Catalogue. Free Buss.

Mrs. W. B. and T. B. Gibson

Geo. P. Bellows, Auctioneer
Maryville, Mo.

H. P. Eakle sells 66 head the following day.

Live Oaks Farm

Frank A. Meacham, Proprietor.
Importer and breeder of RED POLLED CATTLE, SHROPSHIRE SHEEP, RAMBOUILLET SHEEP, HORNLESS AMERICAN MERINO SHEEP. Both sexes for sale. Take electric car at Petaluma or Santa Rosa for LIVE OAKS STATION. Address all mail to
Petaluma, Sonoma Co., Cal.

John Lynch Breeder of Registered Shorthorns
MILK STRAIN
Box 321 Petaluma, Cal.

PURE BRED BERKSHIRES
Young Stock For Sale
Wm. H. Bird Box 6, Compton Cal.

The Whiting Jersey Stock Farm Company
Is making the very best strains of blood fresh from the island of Jersey a specialty.
Whiting Jersey Stock Farm Co. Heber, Imperial Co., Ca

Geo. C. Roeding, Fresno, Cal., breeder of
Thoroughbred Holstein Bulls and Heifers
Thoroughbred Berkshire Boars and Sows

When writing advertisers, mention Cultivator.

Milch Goats in California

Written for California Cultivator.
BY MISS B. A. R. STOCKER OF ARROYO GRANDE.

FOR many years I had hankered to have a goat, but was much in the dark about the whole question, and never saw one offering itself for sale. Like a great many other folks in a small way I used canned milk or went without.

Sometimes in talking with Swiss or German people I got a little light. They had only praise for the useful little animal; all about it was so easy and so good.

At length one September day a German came and offered me a nanny kid for a trifling outlay; took me over to his place to see it. It was six months old; red and white like a toy cow, entirely irresistible and I succumbed on the spot. I put her in the hen yard and she used to race around there and dance on the roofs of the houses to the admiration of the neighborhood.

But it would still be a long time before my toy cow gave any milk. And soon we heard of another German family who had two for sale, one of them coming fresh in December. They would not part them; and finally I took the two. The second one was hornless, of Togenburg blood (which none of us then knew anything about) trained to go in harness and drag a little cart. She also would have kids in spring. This one (the least valued, most valuable as appeared later) I gave to some boys who wanted a driving goat. And when the kids came and were partly grown they were given away to lead a band of sheep, for folks around there had no use for goats. Later when we got the government bulletin, Bulletin of Bureau of Animal Industry No. 68 on the subject, it dawned upon us that we had been throwing out silver spoons in the dishwater, and there was hasty hunting for the lost treasure. Happily they were all recovered and reinstated where they should be as founders of a flock of milkers. One of those first kids would pass for a Togenburger, exactly like the pictures of some of the best typical milk goats of Switzerland.

Meanwhile my other goats had been an unfailing source of comfort and delight. They proved to be excellent stock, giving plenty of beautiful milk; and the kids were most entertaining.

Anyone that keeps a few goats is apt to become very much attached to them, and the goats reciprocate it. They have feelings more deep and tender than anything else I have noticed, unless it might be a woman.

There is a great deal to learn in this industry, and we are lucky if there is any one around of whom we can ask questions at time of need. If you want to know whether keeping a goat proves a satisfactory venture as a rule, try to buy one when she is in profit, and see how tight her owners hold on, and how kindly they express their wish that you may find one elsewhere.

BONE SPAVIN.

From the Report on Diseases of the Horse issued by the Department of Agriculture we quote: We are fully persuaded that but for the loss of the time wasted in the treatment of purely imaginary ailments, very many cases of bone spavin might be arrested in their incipiency and their victims preserved for years of comfort for themselves and valuable labor to their owners.

To consider a hypothetical case: An early discovery of lameness has been made; that is, the existence of an acute inflammation—of periostitis—has been detected. The increased temperature of the parts has been observed, with the stiffened gait and the charateristic pose of the limb, and the question is proposed for soluttion, "What is to be done?" Even with only these comparatively doubtful symptoms—doubtful with the non-expert—we should direct our treatment to the hock in preference to any other joint, since of all the joints of the hind leg it is this which is most liable to be attacked, a natural result from its peculiarities of structure and function. And in answer to the query "What is the first need?" we should answer rest, emphatically, and as an essential condition, rest. Whether only threatened, suspected or positively diseased, the animal must be wholly released from labor, and it must be no partial or temporary quiet of a few days. In all stages and conditions of the disease, whether the spavin is nothing more than a simple exotosis, or whether accompanied by the complication of arthritis, there must be a total suspension of effort until the danger is over. Less than a month's quiet ought not to be thought of—the longer the better.

Good results may also be expected from local applications. The various lotions which cool the parts, the astringments which lower the tension of the blood vessels, the tepid fomentations which accelerate the circulation in the engorged capillaries, the liniments of various composition, the stimulants, the opiate anodynes, the sedative preparations of aconite, the alterative frictions of iodine—all these are recommended and prescribed by one or another. We prefer counter-irritants, for the simple reason, among many others, that they tend by the promptness of their action to prevent by anticipation the formation of the bony deposits. The lameness will often yield to the blistering action of cantharides, in the form of ointment or liniment, and to the alterative preparations of iodine or mercury. And if the owner of a spavined horse really succeeds in removing the lameness, he has accomplished all that he is justified in hoping for; beyond this let him be well persuaded that a "cure" is impossible.

For this reason, moreover, he will do well to be on his guard against the patented "cures" which the traveling horse doctor may urge upon his credulity, and withhold his faith from the circular of the agent who will deluge him with references and certificates. It is possible that nostrums may in some exceptional instances prove serviceable, but the greater number of them are capable of producing only injurious effects. The removal of the bony tumor cannot be accomplished by any such means, and if a trial of these unknown compounds should be followed by complications no worse than the establishment of one or more ugly, hairless cicatrices, it will be well for both the horse and his owner.

At this point a word of explanation in reference to the operation of firing may be appropriate. The operation is one of simplicity, but is nevertheless one which, in order to secure its benefits, must be reserved for times and occasions of which only the best knowledge and highest discretion should be allowed to judge. It is not the mere application of a hot iron to a given part of the body which constitutes the operation of firing. It is the methodical and scientific introduction of heat into the structure with a view to a given effect upon a diseased organ or tissue by an expert surgeon. The first is one of the degrees of mere burning. The other is scientific cauterization, and is a surgical manipulation which should be committed exclusively to the practiced hand of the veterinary surgeon.

Either firing alone or stimulation with blisters is of great efficacy for the relief of lameness from bone spavin. Failure to produce relief after a few applications and after allowing a sufficient interval of rest should be followed by a second, or if needed, a third firing.

GETTING THE COLT ON ITS OWN RESOURCES.

The weaning of the colt is a task which requires not so much the application of definite rules as of common sense, careful observation and patience. The phrase "horse-sense" would not be an inappropriate substitute for these latter terms. This is for the simple reason that no two colts are alike, yet each must be carefully looked after, for each represents a cash as well as a time outlay.

Much can be done previous to the time the colt and its dam are separated that will tend to prevent a restless condition in both, but especially in the colt. The first one of these is to keep the colt from running with the mare in the fields and while at work. When a youngster once forms the habit of running loose, or has, in popular phrase, become a law unto itself, there is trouble ahead for the person who attempts to restrain it in all its coltish ways and independence of action. The only way to handle colts is to have a box stall for each, opening into a common lot which is so fenced that when confined therein the youngsters are pretty well shut off from the rest of the world. However, this kind of an arrangement is more rare than

common, else there would be fewer colts coming to maturity with so many ill manners. If a colt grows up with a decided respect for fences and gates, that attitude will generally remain through life, much to the satisfaction of his owner. In the absence of box stalls the next best thing is to turn the youngster loose in a closed building, the barn generally being most available, though it is far from being a satisfactory place.

Where two colts can be weaned together it results in an advantage to all concerned. The more that they can be kept in company the better, as colts soon develop a fondness for each other that is marked, and which is to an extent a substitute, no doubt, for the maternal affection. After the first separation the farther out of each other's hearing the dam and offspring can be kept the less restless either will be. This is possible only on a large farm or where there is a pasture which is well fenced and which does not come up to the barn yards, as bad results are sure to follow when mother and colt recognize each other over the ordinary pasture boundary line.

In the matter of feeds, oats lead all other grains and the youngster will quickly learn to eat it, if from no other place than its mother's feed box. In its individual ration some corn may be added to the oats if the colts have good mouths, though sometimes trouble is experienced in getting youngsters to eat as much as they should on account of tender gums or slow cutting teeth. If this condition exists soaked or steamed grains may be fed for a time, but they should never be allowed to sour. A good condiment of some kind is favored by many and no doubt it serves a good purpose. All agree on salt, however, the same to be accessible at all times.

It never loses any time to give colts proper attention, not only as regards nutrition, but as regards their manners. Some people claim that a colt makes a better horse when reared without learning the friendship of man. We have broken many colts, however, and seen many others broken which were, as youngsters, taught to the halter, and with few exceptions they took to the harness when grown as an old horse in a few days.

A good many men will for the first time in their lives have pure-bred colts to wean this year. They will require probably a little better care than has been given those of nondescript breeding. They are superior to the scrub colt simply because they are from stock which is superior by reason of better care. The colt represents only the start, and what the finish will be is largely in the hands of the owner. If the kind of encouragement suggested above is given, the finish should be very satisfactory to both the eye and the pocketbook.—Iowa Homestead.

COTTON SEED MEAL FOR DAIRY COWS.

One of the Eastern experiment stations has been experimenting to ascertain the value of cotton seed meal when fed to dairy cows in conjunction with corn ensilage. From the experiments conducted thus far with this combination the following conclusions have been reached:

1. Cotton seed meal when fed in conjunction with good corn silage may be fed to the extent of from five to six pounds per cow daily without affecting the health of the animals. Indeed such a ration appears to keep cows in an unusually good state of health.

2. A ration consisting of cotton seed meal and good corn silage is consumed by cows with great relish which is in no way lessened when the feeding of such a ration is continued for a period of five months.

3. No bad effects were noticeable from the practice of feeding cotton seed meal and corn silage separately. On the contrary such a practice appears to have distinct advantages over the common practice of mixing the meal with the roughage. Our results, therefore, tend to disprove the prevailing belief that heavy concentrates like cotton seed meal will act detrimentally on the health of the cows when fed unmixed with more bulky feeds.

4. Cows fed exclusively on cotton seed meal and corn silage for a period of five months exhibited no craving for dry roughage, but always preferred silage to good hay.

5. According to the herd records the cows yielded more milk and butter fat during this experiment than during any corresponding period in previous years.

6. Cotton seed meal and rich well-matured corn silage constitute an excellent ration for cows yielding from twenty to thirty pounds of milk daily.

7. Cotton seed meal and corn silage form by far the cheapest dairy feeds available to our dairymen. The cost of such a ration is only slightly more than half as much as that of the common dairy ration now fed in this State.

8. Our good results in the exclusive feeding of cotton seed meal and corn silage as a dairy ration are undoubtedly largely attributable to the fact that the corn silage was made from well-matured corn rich in grain, making it especially rich in carbohydrates. Unless silage is especially rich in grain, a ration consisting entirely of corn silage and cotton seed meal will lack in non-nitrogenous matter.

The amount of cotton seed meal used in this case; namely, from five to six pounds per cow daily, will seem large to the average dairyman, though the fact that it was used without any injurious effect whatever is significant. Mill feeds of all kinds are high in price at the present time, and it would not surprise us if they should remain high for many months to come. As cotton seed meal contains upwards of 40 per cent of protein, it will be apparent that compared with bran, for example, it makes an inexpensive source of flesh-forming material, as bran contains only about 16 per cent of protein.—Farmer and Stockman.

CALIFORNIA HOLSTEIN TRANSFERS.

COWS—Calla Favorite, Idlewild Mercedes, Legend Lulu, Nadgy of Sleepy Hollow, Pierra, S. Herzog to Joseph Daneri, San Francisco. Daisy Belle Korndyke, Joseph Daneri to S. Herzog, San Rafael. Aaggie Thrice, Carola Wase DeKol, Hengerveld of Sleepy Hollow, Lady Baker DeKol 2d, Lady Dora Colantha, Legend Michaela, Madrigal Parthenea Colantha and Marjory Wase Korndyke, S. Herzog to Chas I. Welch, Los Banos.

BULLS—Sir March 2nd, J. C. Cochran to John Roth, Alliance. Butter Boy Creamelle, E. G. Wharton to J. W. Lamarsna, Portersville. Empress Parthenea Sir Skylark, Clinton T. Brown to D. H. Dopkins, Reedley. Smith Butter Boy, E. G. Wharton to Ralph Smith, Tulare.

Cream Separators, all sizes, all prices. O. J. Weber Co., 555-557 S. Los Angeles street, Los Angeles.

PURE BRED SHEEP ON NATIONAL FOREST RANGES.

Many sheep breeders, especially those of the East, will be surprised to learn that pure bred registered sheep may be raised and run on the open ranges of the west in large bands without any diminution in the grade or quality of the product as compared to the parent dams and sires with which the flocks were started. The first requisite is that an entirely satisfactory range, properly protected from the intrusion of other flocks and upon which there is certain to be the necessary amount of forage, water, etc., must be assured. At the present time this condition exists only upon private lands and within the National Forests of the west, which are under the administration of the Forest Service.

A noteworthy example of what can be accomplished in breeding high-grade sheep on properly controlled open range is that of Allen Bros. who graze about 3000 head of registered Cottswold sheep within the Uinta National Forest in the State of Utah. These bands are the increase of about 200 head of prize winning stock from the Royal Stock Show in England and the International Show at Chicago, purchased and imported to Utah by Allen Bros. since 1892. They have been grazed within the Uinta Forest since 1903, upon ranges which are practically ideal for sheep grazing purposes, being well watered, grassed and shaded, and protected from the grazing of other sheep. Careful breeding is developing a pure bred type of Cottswold entirely adapted to western range conditions, yet equal to anything raised under fences in the eastern United States or in European countries.

This is a sample case that demonstrates what range control within the National Forests is enabling the stockmen of the West to do. There are quicker and greater returns to be secured from the raising of high grade stock than from inferior mongrel breeds, but in many sections stockmen have hesitated to invest in registered sires and dams because of the uncertainty of securing ranges upon which feed and water are absolutely assured and without which such ventures would not be so remunerative or so successful as the running of inferior grades of stock better adapted to the severe range conditions that are commonly encountered because of overstocking and lack of control.

On National Forest ranges the number of stock allowed is only what the range is sufficient to sustain under all conditions, and a stockman who secures a permit to graze stock on these ranges may embark upon the business of raising high grade cattle and sheep with every reasonable assurance of success.

Never choose a dairy cow because she is fat, sleek and a beauty. "Beauty is as beauty does." The fat and sleek dairy cow doesn't do the handsome thing. The scraggy, bony cow does. Therefore, she is the real dairy beauty.

The Tulare County Fair Association will have a novelty feature this year in vaudeville performances to be given by various sections of the county, all to be by local talent and a prize to be given the winner.

Wood Soled Boots and Shoes. Boots, $3.25; Shoes, $2.00. O. J. Weber Co., 555 South Los Angeles St., Los Angeles, Cal.

EXCLUSIVE
Tubular ADVANTAGES No. 8
Perfect Separation
Perfect separation not only means the "most butterfat," but means the delivery of the smoothest velvety cream, unfrothed and unchopped.
Exclusive Tubular Advantage No. 8 is the means that insures "perfect separation," both as to clean skimming and the production of smooth, velvety cream. Our Catalogue tells you the scientific and mechanical reasons why.
To convince you that the Tubular skims the cleanest, we offer to place one in your dairy and guarantee to cut in half any record any other machine may be able to make.
If other makers could make separator bowls like the Tubular, there would be no other kinds made. It is absolutely the most perfect bowl ever invented. If it were not, we could not make such a broad guarantee as stated above.
Now you want the best, don't you? A postal brings Catalog No. 260, giving more fully this broad guarantee. Write for it today.
1. Skimmed Milk Vent. 2. Cream Vent. 3. Cream Screw. 4. Dividing Wall. 5. Bowl. 6. Bowl Bottom. 7. Milk Inlet. 8. Wing.
The SHARPLES SEPARATOR Co., West Chester, Penna.
Toronto, Can., San Francisco, Calif., Chicago, Ill.

MORE MILK—MORE MEAT
IF YOU USE LILLY'S BEST FLY KILLER
I can positively testify to the merits of Lilly's Best Fly Killer. This is the first year that I have not had to fight grub in my cattle. I used it at first last summer having little faith, but the results quickly converted me. My cattle gave more milk, and kept in better flesh on less feed as a result, and I kept them in the stable all night.
A. F. CHAPMAN, Monohan, Wash.
For Sale by Dealers

CUTTER'S
Anthrax and Blackleg
VACCINES
Are given the preference by 80% of California stockmen because they give better results than others do.
Write for prices, testimonials and our NEW booklet on Anthrax and Blackleg
The Cutter Laboratory
Berkeley, California

HOLSTEINS
We Have For Sale a Number of Registered Young Bulls and Heifers $100
All our stock comes from the celebrated herd formerly owned by the Pierce Land and Stock Co., the premium herd of Holstein Friesians in California. Oakwoods Stock Farm Co., Lathrop, Cal.

VENADERA HERD
OF REGISTERED JERSEYS
I have for sale a number of richly bred young bulls, some of them from cows that have high official yearly records.
GUY H. MILLER,
Route 3, Modesto, Cal.

Thoroughbred Poland China Swine
Black Minorca and Barred Rock Poultry
High Grade Stock of Best Strains.
Young Stock For Sale
M Bassett Hanford, Cal.

California Cultivator

ESTABLISHED 1889

Subscription Price One Dollar per year, payable in advance. Dates of expiration of subscription accounts appear each week on the address label. John Jones 7-08 means July 1, 1908. Notify us by mail if you desire to discontinue.

Thursday, August 20, 1908

Address All Communications to
CULTIVATOR PUBLISHING CO.
115½ No. Broadway, Los Angeles.
733 Merchants Ex. Bldg., San Francisco.

Copy for Change of advertisement must be in office on Saturday preceeding date of issue. New advertising copy should reach the office not later than Tuesday to insure insertion.

CULTIVATOR PUBLISHING COMPANY
H. A. PERKINS, EDITOR AND GEN. MGR.

C. B. MESSENGER - - - - Associate Editor
FRANK H. THOMAS - - Advertising Manager
H. G. HUTCHINS - - Subscription Manager

EDITORIAL CONTRIBUTORS:

J. W. MILLS - - Deciduous and Citrus
JOHN ISAAC - - - Horticulture
J. B. NEFF - Walnut Culture and Irrigation.
Mrs. M. E. SHERMAN - Live Stock and Dairy
Q. A. LOBINGIER - - Vegetable Garden
S. S. TWOMBLY - - - - - - Poultry
W. E. FOSTER - - - - Pigeons
L. M. FALL - - - Law Queries
RALPH E. SMITH - - Plant Pathology
S. A. PEASE - Plant Diseases and Injurious Insects

Entered at the Post Office at Los Angeles, California, as Second-class matter.

Contents

SAN GABRIEL RIVER NEAR WHITTIER, Cover.

FUMIGATION ACCORDING TO LATEST METHODS, 171.

CITRUS.—Fumigation Investigations, 172, 173.

DECIDUOUS.—Coming Walnut Crop; Table Grapes in Transit and Storage; Gypsy Moth; Flea Beetle in British Columbia, 174, 175.

CALIFORNIA HORTICULTURALLY.—Eucalyptus in California; State Fair; Gypsum on Hardpan; Fresh Fruit Shipments; A Growing Industry; A Fairly Good Season, 176.

GENERAL AGRICULTURE.—Agricultural Research, 176.

LIVE STOCK AND DAIRY.—Breeders' Associations; Milch Goats in California; Bone Spavin; Getting a Colt on its Own Resources; Cottonseed Meal; Sheep on National Forest Range, 177, 178, 179.

EDITORIAL.—Farmers' Club; Alaska Wheat; A Collision; Shooting the Kids; Crop Conditions, 180.

AGRICULTURAL NOTES OF THE PACIFIC COAST—Northern, Central, Southern, the Coast, 181.

PROFIT IN THE POULTRY YARD.—Breeding for Greater Egg Production; Bumblefoot; Geese; Molting; Hopper Feeding; Crop-bound Chickens; Poultry Practice, 182, 183, 184.

SMALL FRUITS AND VEGETABLES.—Rust-resistant Asparagus; Brussels Sprouts; Requirements for Egg Plant, 185.

QUERIES AND REPLIES.—Farming by the Square Inch; Olive Culture; Nematodes; Keeping Beans; Dropping Grapefruit; Dodder; Seed Inoculation; Jerusalem Cherry; Red Scale; Bleached Walnut Seed; Planting Potatoes, 186.

FARM NAMES, 186.

ORNAMENTAL GARDEN.—Back Yard Gardens; Bird Houses, 187.

HOUSEHOLD.—Pa As a Carpenter; His Prize; Cooking Green Corn, 188, 189.

PRODUCE MARKETS.—Los Angeles Market; San Francisco Market; Citrus Markets, 190, 191.

THE FARMERS' CLUB.

In the northern part of the state the Grange has secured a strong foothold and is a power for good, used in the interest of the farmers. Socially, financially, and often politically, it has been used to correct evils which otherwise the farmer would have been compelled to endure. Long may it continue to grow and increase in power.

In the southern part of the state the Grange has never secured a foothold, there being none whatever south of the Tehachapi. Its place has been taken by the farmers' club, which in turn has at times held its institutes or general gathering of all farmers' clubs. These clubs have accomplished much for the farming class. We believe the present fertilizer law, which has corrected many abuses suffered by farmers, had its birth in the Claremont and Pomona Farmers' Clubs. These two clubs are the oldest in Southern California, and as a result of their efforts many others were organized. One of the latest of these to organize was that of East Whittier, which began its existence last week with a fine membership and much enthusiasm. It will doubtless be in line to take up any work which looks to the betterment of the farming class.

ALASKA WHEAT.

There recently came to the Cultivator an advertisement under the ordinary guise of a communication which the Cultivator was "permitted" to use; but unfortunately it was consigned to the waste basket with much other such matter. We note that some papers up and down the state, and even in Oregon, are publishing this stuff and usually without comment. That, of course, does not indorse all that the circular claims, but at the same time may prove misleading to some farmer. The circular claims that this wonderful wheat, which is a recent discovery, will yield the enormous average of 200 bushels per acre, or to be more exact, we believe it was 222 bushels in at least one case. It intimates that the wheat was discovered in Alaska, and says: "The United States paid eighty millions for Alaska, and yet the great gold payment Alaska has returned sinks into insignificance when compared with Farmer Adam's Alaska Wheat." And so on with a lot more of similar statements. We now note that Prof. W. H. Olin, agronomist of the Colorado Experiment Station, writes:

"I am pained to know that some unscrupulous persons are seeking to deceive our industrious farmers, desiring better milling wheat, by foisting upon them the so-called 'Alaska Wheat' as a superior milling wheat, of high yielding quality.

"Through the courtesy of Mr. Halsey C. Rhoades of Denver, Prof. Knorr and myself have been privileged to make a study of this wheat in the field. We seeded it by the side of known Egyptian, or Seven Headed wheat, and have studied both wheats from germination to maturity. The two wheats are absolutely identical. After harvest we will make the milling test of both wheats and publish a bulletin on the full results.

"Suffice to say now, Egyptian, Seven Headed, Mummy, or Alaska wheat (the various names by which it is known) is a soft spring wheat, not desirable to Colorado millers, and where grown to any appreciable extent in this state, will be discounted or docked in price by Colorado millers. Instead of being a very desirable wheat for milling purposes, it is quite the reverse, since it has high starch content and low gluten content of poor quality. Farmers are warned to avoid this wheat as they would a pestilence.

"The local reporter of the 'Rocky Mountain News' has already published in said paper two articles exposing this fraud on the public, and we trust it may have a tendency to check the sale of this undesirable wheat to farmers."

Further than the above letter of Professor Olin, the Cultivator has no information. But the tone of the advertising circular and the fabulous claims made for the wheat are sufficient to cause farmers to be wise and not pay $5 a pound, or any other fabulous sum, or make any extensive test with this wheat until more is learned about it.

A COLLISION.

The management of our State Agricultural Fair has seen fit to advertise "a great locomotive head-on collision" at the coming state fair. It may be that this is an agricultural product which is worthy of the energetic pushing and advertising which seems to be given it. One of the engines is said to have a record a mile long and has "even crossed dangerous bridges and dashed through dark and gruesome tunnels." This famous engine and another are to smash into each other at "full speed" at the "great State Fair of 1908."

Seriously, this exhibition may attract some of the rabble from the city of Sacramento, but we believe the energy which is being expended upon it could vastly better have been devoted to something more along agricultural lines. Collisions, sword swallowers and a few other like attractions may be necessary to bring a crowd to a small eastern fair; but we believe a State institution supported by the taxpayers' money should be on rather more dignified ground.

The anti-race track campaign is warming up in earnest. The biggest part of the fight will be at the polls at the coming election. Those who favor the enactment which will prevent this disgrace to the state are asking candidates for the assembly and state senate as to their attitude. This is beginning at the right end of the proposition and we imagine will accomplish results.

SHOOTING THE KIDS.

Melon growers in Kings and Tulare counties who have been exasperated by youngsters engaged in the gathering of their melons after the moon had disappeared below the horizon, proceeded to protect their own property, using the shotgun as a means of moral suasion. Several boys, many of them from the "best families," were filled uncomfortably full of birdshot, and the result is a disrupted neighborhood, an arrested farmer, and a condition which will cost the man who used the gun several times the amount the whole melon patch is worth.

Now it is not to the credit of any of us, but probably if we were to take a vote amongst the older men of the state as to the number who had never stolen a melon when they were young, there would be but few hands go up. This has possibly unfitted us all to sit on a jury for the reason that it seems to have been regarded as a moral principle that every younster should steal melons and still be exempt.

Be this as it may, it must be admitted that the farmer who has grown a crop in spite of drouth, insects, fungous and other diseases, and driven as good a bargain as possible with the commission man or buyer, is justified in a degree of exasperation to find his crop disappearing because of midnight marauders. The fact that such practices are winked at by many of us and that the boys are of good families cuts but little figure with the man whose crop is destroyed. Conditions are different from "when we were boys," but as true as that is, we believe the farmer should take a less bloodthirsty course and teach a severer lesson to the boys, which would make them less of heroes and hold them up to the community in their true light. It will be less costly to the one raising the melons and of more value in elevating the morals of the state.

Since the above is put in type we note in the Los Angeles Times that a Covina rancher has solved the problem to a nicety. He had himself elected constable. Now he quietly sits under the shade of a tree till the boys are "pulling' the fruit when he flies out and "pulls" the boys. They are taken to court where they are fined, the constable gets his fee of $1.00 and mileage of 25 cents per mile. He has already had five boys fined, has received his fees and is lying low for more. It has proved far more profitable than the melon crop.

CROP CONDITIONS.

On August 1, crop conditions in the United States were in the aggregate somewhat better (2 per cent) than a year ago, but slightly (1 per cent) below a ten-year average condition on that date. Of the crops that are above the average may be mentioned winter wheat, hay, cotton and tobacco. Corn, barley, rye, buckwheat, apples and flax are slightly below the average, potatoes about 5 per cent below, and oats nearly 10 per cent. below the average.

Shop Talk

SUBSCRIPTIONS.—Orders are received at this office almost daily to discontinue or change the address of the **Cultivator** without giving the name of the post-office to which the paper has been going. Much confusion and delay would be avoided if every one would bear in mind that we have a large list and that it is impossible to find names without knowing the postoffice address. The list is indexed according to location and not according to name. so all can see the necessity of paying attention to this suggestion when sending their orders.

CANDY BOOK—Orders are still coming in rapidly for the recipe book, "Home-made Ice Cream and Candy Book." It is surely a very attractive little book and is appreciated by **Cultivator** readers. Better join the crowd and send in your renewal for a year in advance according to the ad on another page.

SUNSET MAGAZINE.—All **Cultivator** readers should keep in mind the offer made last week giving the **Sunset** and the **Cultivator,** one year each, both for $2.00. This is a very reasonable and valuable offer and is good with renewals or new subscriptions. Better take advantage of it while fresh in mind and order at once through this office. The **Cultivator** makes no profit out of this offer, but makes it only to induce prompt renewal and to be of service to its readers. Cut out and mail the order blank found on another page.

Agricultural Notes of the Pacific Coast

Northern California

Gridley cannery is running with a force of 400 people.

Eldorado county is appealing for a cannery to handle its surplus crop.

Yuba City Cannery has already packed half a million cans of peaches.

The Sacramento River is said to be lower than ever known in the month of August.

Beet fields near Hamilton City will average from 18 to 29 tons per acre this season.

Biggs wine grape growers have been offered only $8 to $10 a ton for their grapes on the cars.

The California Fruit Canners' Association at Yuba City is appealing for more help to aid in its work.

Some beets bought at the Alta California factory at Hamilton City, have averaged as high as 25 per cent sugar.

Some Santa Rosa hop growers disposed of their hops at 9 cents a pound. The market seems to be very uncertain.

Some berry and small fruit sections near Redding are suffering from lack of water to carry the fruit through the season.

A fruit grower at Acampo has a new fruit, claimed to be a cross between peach and nectarine, which he has named the Peacherine.

The Feather River Canal Company, having an irrigation system near Gridley, expects to tap the Feather River this fall and have water for the coming season's irrigation.

The Selby Smelting Company of Solano County has been closed by order of the Board of Supervisors, owing to injury to fruit and garden crops from the fumes arising from the chimneys.

Apple growers of Sonora, Tuolumne county, are much disturbed over the appearance of pear blight in their apple orchards. Wholesale cutting back has been given the trees hoping to save them.

The Lake County Bee charges the setting of a serious forest fire, which caused vast damage, to the carelessness of hunters, or worse, to the cupidity of hunters in trying to drive game from the forest.

It is reported that the Sutter County Almond Growers' Association has disposed of its output to the Guggenheim Company, and while no prices are given, rumor has it that in the neighborhood of 12 cents will prevail.

Fruit growers near Winters have much trouble with Japanese contractors who had agreed to handle the fruit for the coming season. The Japs were unable to meet the conditions made by the immense crop and had a shifty way of evading their contracts.

Sonoma county poultrymen are seriously handicapped by the high price of feed this year and the further fact that eggs and poultry have sold lower than formerly. This has resulted in a very material reduction in the number of laying hens kept by most poultrymen.

The intake of the new dam built recently by the Butte County Canal Company was injured by a washout, and at first it was thought the farmers would be seriously damaged by the shortage of water, but the break was found to be less extensive than at first thought.

Central California

CORRECTION.

In the items of Central California last week an exasperating error occurred in which it was stated that the "Corcoran Sugar Factory burned." That this was a typographical error was shown by the remainder of the item which stated that tne management expected to manufacture 100,000 sacks this season. How "began its run" was changed into "burned" we do not know and regret the error.

The dairy inspector of San Jose has tendered his resignation.

Tokay grapes at Lodi promise good returns this year.

Thompson Seedless grapes in Sanger, Fresno county, are bringing fair prices.

Some potato land near Visalia, Tulare county, has yielded 146 sacks to the acre this season.

The creamery at Salinas, Monterey county, now turns out about 1800 pounds of butter daily.

A small number of citrus trees in Visalia affected with yellow scale are to be given a thorough fumigation.

Acreage of beets near Salinas is smaller than last season, but the crop is said to be in much better condition.

The soil survey work of the Department of Agriculture will be taken up in the Pajaro valley in the near future.

Santa Clara valley grapes promise to be of exceptionally fine quality. There has been practically no mildew this year.

Irrigators near Lindsay, Tulare county, have been compelled to lower tneir pumps on account of the receding water table.

A short irrigation season in much of the San Joaquin valley has been necessary because of the earliness of the dry season.

The Chamber of Commerce of Lodi is appealing to the growers to be careful in the growing of the finest of fruit only and culling vigorously.

Prune growers are discussing the probability of a good price for the coming prune crop. Many prunes have been injured by the sun's heat.

Apple shippers of Pajaro Valley have made application to the Southern Pacific Company for an emergency freight rate of 75 or 85 cents. The regular rate is $1.

Tulare County Agricultural Fair will have a modern dairy pavilion and an exhibit along dairy and creamery lines, that will surpass anything of that nature ever held in the valley.

County Veterinarian Browning of Santa Clara county has made an energetic campaign against the disease of anthrax in cattle and all animals vaccinated have proved immune.

It is rumored that a tract of land in Tulare county is to be subdivided and made the home for a colony of colored people. A feature will be an agriculture college for the young of the negro.

The hot weather prevailing for some time in the San Joaquin valley has been so intense that it is feared that many raisin grapes have been cooked and will make inferior raisins. At least the output will be much short of that of last year.

Southern California

Orange county honey season has been closed.

Imperial Valley has shipped over 20 cars of grapes.

Orange county ships about 2500 cars of oranges and lemons.

Oxnard claims to have the only eucalyptus floor in America.

Anaheim Walnut Association reports many applications for membership.

The prune crop this year is estimated to be less than 25 per cent normal crop.

Brawley is appealing for the establishment of a creamery and cold storage warchouse.

The Pacific Coast consumed about 400 cars of Imperial Valley's melon output this year.

Ranchers on the Irvine ranch, Santa Ana, are cutting black-eyed beans. The crop is only fair.

Huntington Beach shipped over 400 tons of beets to the Alamitos Sugar Factory one day.

Inglewood, Los Angeles county, is planning for a water melon day within the next week or two.

Mountain streams of most parts of Southern California are drying up much earlier than usual.

It is estimated that the dried apricot crop from Ventura county this year will aggregate 2100 tons.

The output of dried apricots from Ventura will be by a large margin the most extensive crop ever shipped.

One Huntington Beach ranch averaged 22½ tons of sugar beets per acre, much of which tested an average of 20 per cent.

Total shipments of Imperial melons aggregate 1954 cars. This includes 100 cars from Coachella and Yuma. Last year's total crop was 664.

Farmers at Corona, Riverside Co., are working for a more perfect water service and hope to have the pipe lines filled with water within a short time.

Grain growers of Imperial valley are already considering the early planting of grain for the next season's output. Some will be planted as early as September.

The sugar factory at Oxnard reports the beets of exceptional quality this year and a fine grade of sugar is being manufactured. The average percentage of sugar is 20.65.

Highland orange growers are looking for more extensive irrigation rights, it being found that the former supply is hardly sufficient as the groves come into full bearing.

The Lake Hemet Water Company has provided its zanjeros with motorcycles, each of which will be expected to make about 50 miles per day in the duties of turning on and shutting off water.

Covina ranchers are beginning their fall fumigation and will give exceptionally heavy fumigation for red, purple and black scale. There are over 100 men engaged in various outfits in that valley.

Agricultural Park, which has been in litigation between the directors of the old District Fair Association and the City of Los Angeles, has finally been awarded to the city and will be made into a public park.

The Coast

Portland exporters are buying wheat freely at high prices.

Colfax grain fields are yielding an average of 37 bushels of wheat per acre.

Oregon wool commands the top of the market in Eastern wool buying centers.

Wheat growing sections of Oregon are elated over the dollar wheat market again.

The Portland hop market is lifeless as yet, but hopes are entertained of a keener interest.

Forest fires of vast extent have been sweeping over the Shoshone Forest Reserve in Idaho.

Palouse, Washington, has marketed its first load of new crop wheat, which tested 58 pounds per bushel.

A half million bushels of wheat were shipped from Walla Walla, Washington, in two days last week.

Oregon will ship over a thousand cars of apples this season, 500 of which will be from the Hood River district.

A large number of men, working under the direction of forest supervisors, fought forest fire for three days near Tacoma, Washington.

Fraser valley fruit, of British Columbia, has been used for export to England and is commanding highest prices in that market.

Nearly all of the fairs of the northwest are making a strong effort to secure a representative agricultural exhibit for this fall's shows.

The Rocky Ford melon campaign this season was a very great disappointment in that the crop was light and the returns unsatisfactory.

Oregon Agricultural College at Corvallis has just issued its annual catalogue. This school is rapidly securing the reputation of being one of the finest in the west.

California vegetables are commanding fancy prices in Phoenix, but a campaign is under way by which it is hoped Arizona will produce more of its own "garden sass."

A cherry tree of the Royal Anne variety near Newbery, Oregon, is seventeen years old, and from it the owner took this year 2600 pounds of fruit which sold for $125.

It is now claimed that the fearfully destructive fires of British Columbia which caused the destruction of Fernie and other towns and cost many lives, were caused by incendiaries.

It is proposed amongst members of the grange that a strong campaign be made to increase the membership in Idaho. This organization has never held a strong position there.

The Fruit and Vegetable Growers' Association of Eugene, Oregon, is a co-operative organization which has succeeded admirably in disposing of the fruit of its members this year.

Owing to intense heat in the harvest fields near Washtucna, Washington, horses were prostrated by the heat, and in some cases died in such numbers as to embarrass the harvesting.

The Farmers' Co-operative and Educational Union at its recent meeting at Garfield, Washington, adopted a resolution pledging members to handle grain in bulk as soon as possible.

PER 2 BUSHEL SACK **$1.90** PER 2 BUSHEL SACK

Buy the World's Famous Egg Food No. 4

MIDLAND

IF YOU WANT EGGS
YOU WILL FEED NO OTHER.

Used by the largest and best breeders in the country. Thousands of poultrymen are using it, and it is the acknowledged standard of the world. Haphazard feeding is no longer profitable. Try Midland Food and be convinced.

Petaluma Incubators and Brooders

The acknowledged standards of perfection. All poultrymen who have used these machines have supreme confidence in their ability to hatch and breed. Hence their ever increasing popularity. Winners of the Gold Medal at the St. Louis World's Fair for the greatest hatch, with 40 different makes of incubators in competition. How's that?

St. Louis, Mo., Dec. 8th, 1904.—Petaluma Incubator Co., Petaluma, Cal: My dear Sir—The awards have been held up owing to a controversy between the Exposition officials and the national commission, but today I am able to state the award of a gold medal on your Petaluma Incubators has been confirmed. You are at liberty to make use of this in any way you see fit and in due time the diploma will be issued and the medal obtainable. Congratulating you upon this evidence of the merits of your incubators, in which there was very great competition, I beg to remain, yours very truly, J. A. Filcher, Commissioner.

And Now Comes New Reward for Merit

Read the following telegram received from the Lewis & Clark Exposition at Portland:
"Petaluma Incubators and Brooders just awarded Gold Medal at Lewis & Clark Exposition."

WRITE FOR CATALOGUE 47—A BEAUTY

Petaluma Incubator Co.

Main Office and Factory, Petaluma, Cal., Box F.
Los Angeles, 636 South Main Street.
San Francisco Office and Salesroom, 83 Market St.

Coulson's No. 3 Condition Powder

Is just the thing for molting hens. It acts as a tonic and digestive. Keeps the hens laying longer into the molt and quicker after it. Our FREE Booklet, "THE RIGHT WAY" gives full particulars. Manufactured only by

Coulson Poultry and Stock Food Company
Petaluma, California
Germain Seed Co., Los Angeles, Distributing Agents for So. Cal.

Poultry Supplies

Best of All Kinds at Lowest Prices

West Coast Seed Co.

707 So. Spring St., Los Angeles, Cal.

MY BOSS MAKES MONEY

Because he raises poultry in the Inglewood Poultry Colony. Eggs bring a higher price there than they do anywhere else. If you are going into the poultry business, go in right and get a farm in the Inglewood Poultry Colony. Address for particulars

Inglewood Water Company
349 Wilcox Building Los Angeles, Cal.

Ranch Mirasol

S. C. WHITE LEGHORNS—MITCHELL STRAIN
LARGE, HEALTHY, HEAVY BIRDS BRED TO LAY

Carl C. Curtis, Owner Cor. Lincoln Ave. and Ventura St., Pasadena, Cal.
North Fair Oaks Altadena Cars

Profit in the Poultry Yard

We solicit short articles of a practical nature from the fancier and utility breeder, giving their experience with poultry. All inquiries pertaining to feed, management, disease and its prevention will be answered through these columns.

BREEDING FOR GREATER EGG PRODUCTION.

AT THE Maine Experiment Station some nine years ago, the station authorities outlined an experiment, the initial purpose of which was to find a way to breed poultry so that an increase in egg production might be possible. In order to get at this knowledge a specific method of breeding was tried during a period of nine years. From time to time reports have been issued regarding this experiment which have given the general public the impression that the system being employed was resulting in a gradual but marked increase in the general average productiveness of the station flock. These reports have been given wide publicity by poultry editors, poultry writers and others, until it has become an accepted fact not only in this country but in foreign countries as well, that the work at the Maine Station was demonstrating that the way to build up a strain of heavy layers was to breed from the heavy layers. Consequently many of the breeders of so-called utility stock have bought birds from the famous 200-egg hens of the Maine Experiment Station. And their advertisements have notified a confiding public that eggs from their yards were from hens whose mothers, grandmothers and great-grandmothers, etc., laid 200 to 250 eggs yearly; but when these eggs were bought and hatched they produced pullets that laid 75 to 100 eggs annually in spite of their record-breaking ancestry. Now comes Bulletin No. 157 of the Maine Experiment Station, written by the director of the said station, in which he tells us that the claims made regarding the station's success in breeding layers have been largely overdrawn.

Extracts and conclusions from the bulletin are as follows:

"The amount of variation in regard to egg production is substantially the same at the end of the selections as at the beginning; that is to say, after nine years of selection with respect to egg production the birds breed no truer to a definite type of egg production than at the beginning of the experiment.

"The general trend of the average annual egg production has been slightly downward." This is shown by the following record of the flocks for the different years:

Year and pen.	Birds completed the year.	Eggs laid.	Actual average production.
1899-1900	70	9,545	136.36
1900-1901	85	12,192	143.44
1901-1902	48	7,468	155.58
1902-1903	147	19,906	135.42
1903-1904	254	29,947	117.90
1904-1905*50 bird pens	283	37,943	134.07
1905-1906*50 bird pens	178	24,827	140.14
1906-1907*50 bird pens	187	21,175	113.24

"There is no evidence of any increase in the average production of the flock.

"At the beginning of the experiment there were relatively few 'drones' in the flock. The relative proportion of such has not changed.

"The quality of high productiveness cannot be regarded as any more a fixed characteristic of the station's strain of Barred Plymouth Rocks now than it was at the beginning of the experiment.

"It is an unfortunate fact that the averages published in the earlier reports of this station were in several cases in error, so far as can be learned from the records themselves. The causes of these errors fall into two categories, namely, a faulty method of handling the statistical material; (b) arithmetical mistakes."

Careful consideration of the results set forth in this bulletin points to the fact that there is a large amount of variation among individual birds in respect to egg production. The range of variation is from zero to approximately 250. The amount of variation is substantially the same at the end of the experiment as in the beginning. That is to say, after nine years of selection, with respect to egg production, the birds breed no truer to a definite type of egg production than they did in the beginning.

It will be recognized by every stock breeder that this is an important fact to be taken into consideration in passing opinion on the value of the method of breeding poultry that was tried in this experiment. The general conclusions regarding the results of the breeding experiment, as quoted from the bulletin, are as follows:

"The practical conclusion to be drawn from the results of this breeding experiment seems to the authors to be clear. It is that the improvement of a strain of hens in egg producing ability by selective breeding is not so simple a matter as it has been supposed to be. Nothing could be simpler than breeding from high producers to get high producers. But if this method of breeding totally fails to get high producers—in other words, if the daughters prove not to be like the mothers in egg production—it cannot fail to excite wonder as to whether the simplicity of the method is not its chief (possibly its only) recommendation. Anyone who makes a thorough first-hand study of an extensive selection experiment carried out, as was this one, by the so-called German method, without testing of the congener power of the individual organisms, cannot fail to be impressed, we believe, with the fact that the improvement of a race by selective breeding is a vastly more complicated matter than it is assumed to be by those who maintain that one need only to breed from the best to insure improvement. The supposed 'facts' of heredity on which the practical stock breeder (working for utility points) operates are in very large part inferences rather than facts. What is needed more than anything else for the advancement of the stock breeding industry in all its phases is an accumulation of definite knowledge of the fundamental principles of the heredity process. All breeding operations must be based on the laws of inheritance in organisms. The practical stock breeder is able to work out the applications of these laws for himself. What he most

needs is broader and deeper knowledge of the laws themselves. This knowledge must come from thoroughgoing, purely scientific investigations."

POULTRY BREVITIES.

Do not feed one kind of food alone, as wheat, corn or barley. Such a diet lacks balance.

* * *

Hen lice are of many kinds, but the one species that gives the most trouble is the gray mite.

* * *

It never pays to keep culls a day longer than is necessary to get them into marketable condition.

* * *

The cause of 50 per cent. of the failures in poultry keeping is inability to reproduce the laying stock.

* * *

As a rule hens that are past two years old are not profitable layers and should be disposed of previous to going into moult.

* * *

Whole barley is an excellent poultry food, but if hens have not been used to eating it they will have to be taught to do so.

* * *

Laying stock need not be fed as often as growing chicks, but they should be fed at regular intervals and on egg producing food.

* * *

If the farmer, by systematic culling of his flock, can get greater uniformity, higher fertility, greater vigor, more rapid development and better quality of meat he makes a gain worth striving for.

* * *

Bumblefoot.

Can you tell us through the Cultivator what is the matter with the feet of our hens? We have 3 Plymouth Rock hens that have sores on their feet. The foot swells on the bottom, pus forms and there is a core like a boil which, left, gets hard. The hens eat well and seem to be in fairly good health.—E. J. F.

This is what is known as bumblefoot. It may arise from one or more causes. A bruise on the foot, resulting from high roosting may give rise to it.

Some authorities have claimed that it is due to tuberculosis and in many cases doubtless is. If anything of this character is suspected the natchet is the only remedy, and unless the cause is directly traceable to some injury it is well to assume that the trouble is of a serious nature and a safe procedure is to kill such birds.

The following treatment may be adopted. Open the abscess with a sharp knife, wash out well with warm water containing carbolic acid. Apply powdered boracic acid and keep on clean straw a few days.

Do not use a bird that has had bumblefoot for breeding purposes. —S.S.T.

* * *

Geese.

Do geese lay the year round or only in the spring? We are thinking of getting a few, just for our own pleasure, not as a speculation, as we have a good place. Would you advise a setting of eggs or a pair of fowls? —Amateur, Lakeside.

With geese the breeding season begins about February 1st, though some geese will begin laying as early as December, then stop and begin again the first of February. They will lay from 12 to 20 eggs before becoming broody. If, as soon as the goose shows an inclination to set, she is confined in a small coop and kept there for two or three days with water for drink, but no food, and then liberated, she will begin laying again. She can be made to lay a third clutch of eggs by preventing her sitting and in all will lay from 40 to 50 eggs annually. I think it would be more satisfactory to start with a pair of geese rather than buy the eggs.—S.S.T.

MOULTING.

Many breeders look upon moulting as the test period of the fowl's life. In a measure this is true says a writer in Successful Poultry Journal. Very often those birds we have looked upon as our best "go to pieces" during moult. Usually a fowl that passes through the moult in good physical condition, holds its color well and shows no noticeable ill-effects therefrom is a safe one to tie to. Those that show an appreciable failing in any particular following the process should be disposed of, as they are not desirable to breed from.

The usual period of moult is from midsummer to early fall, depending upon the condition of the birds and the care they have received. Exceptionally early hatched pullets will often moult the first season, in late fall, however, usually following a period of laying; especially is this true with some of the Mediterranean breeds. Early hatched fowls, as a rule, other things being equal, will moult the following season earlier than those hatched later. Very late hatched pullets that do not come into maturity until late in the winter will continue laying until late summer before going into moult. In cases of this kind the moulting is so late in the season that cold weatner comes when the fowls are in poor health and insufficiently protected. Suffering, disease and death often result from exposure at such times and many poultry raisers refrain from hatching late in the season on this account. Forcing fowls for laying will often put off or prolong the moult. The locality, of course, will govern the time of moulting somewhat, but if the fowls do not show a tendency to go into moult in due time to insure their having a new coat of feathers before cold weather, efforts should be made to induce it. If they are laying cut down the food supply to one-third the usual amount and if in a fat condition, less than this will do no harm. Continue this light feeding for two weeks. Egg laying will cease and the fowls will lose in flesh somewhat, both of which are desirable. Then start in gradually to increase the amount of food. A sudden change from scant to full feeding would be disastrous. Let the ration include as great a variety as possible of good wholesome food, such as would build up and keep in good condition a growing or grown fowl. Be generous, but do not stuff. This change will affect a fair proportion of the flock in the manner desired—start the process of moulting.

If allowed to bring off a hatch of chicks the hen will usually moult, when if "broken up" as soon as she shows broodiness the moult would be put off for some time. In the desire to get all the eggs possible from the flock we often push the birds to the limit and consequently they do not start to moult when they should and are seriously handicapped in the process, either by the double strain of laying and moulting at the same time, or from being weakened by excessive laying through forcing. Some fowls will lay and moult at the same time without apparent injury, but it is not desirable. We want our flock to be composed of birds of the greatest possible vigor and full and complete in feathering, hence we must so surround them during the period of moult that it will cause no more of a strain upon them than nature intended.

We will not attempt to specify any certain foods, as we do not believe there is much in the theory that one kind of food affects a certain portion of the anatomy, while another kind another portion. At least it is not of sufficient moment to be of practical value to the great majority of poultry raisers. What is of greater importance is feeding as great a variety as possible, including plenty of various kinds of green food, also animal food—beef scraps, fresh meat or green cut bone, and some milk, if it is to be had at a reasonable price. In this way the fowls are given such a variety as will afford them the necessary elements for feather growing. Their natural instincts, if not perverted by too unnatural and unhealthy suroundings, will guide them to choose that which is best for their needs. Fowls on the range have a better opportunity to satisfy their natural cravings than those confined.

Avoid an excess of corn in feeding white fowls, but on the other hand, birds that are of a golden hue in any sections may be improved in color of plumage by corn of the yellow variety. It will also improve the color of yellow legs.

Fowls, too, at this period should be sheltered from sudden storms and from the hot sun. An old orchard is an excellent place for fowls in moult, or a grove of trees, bushes of any kind, a patch of corn or sunflowers, anything that will partially protect them whenever the fowls desire it.

ADVANTAGE OF HOPPER FEEDING.

A writer in Reliable Poultry Journal has the following on the hopper method of feeding fowls, and although written from an Eastern standpoint, can be readily made to conform to California conditions. Where the Eastern poultryman uses corn we find it advisable oftentimes to substitute barley. When doing so we should remember that corn is richer in fat than barley, otherwise the composition of corn and barley is quite similar.

I use the hopper method of dry feeding, which is a great saving of labor, and keep a hopper each of oyster shell, charcoal and a large one of a mixture of bran, corn chops and prepared meat scraps before them all the time. I have never had a bird to overeat; in fact, they seem to do better, the hens lay better and the young chickens grow faster.

The whole grain is fed in litter in the scratching pens; the young chickens that have free range are fed their whole grain in hoppers. I have never had a hen too fat to lay, as they get plenty of exercise in hunting for the whole grain. Young chickens fed by the hopper method are never stunted in growth, as the weaker ones have the same chance as the stronger ones, consequently are not tramped to death, besides the labor it saves in mixing mashes, which alone would make the dry feeding popular. I make my own hoppers, and they give as good results as the ones bought, and at very little cost. To make them I take a box two feet long, one foot wide and one foot deep, put a hinged cover on it and cut three holes on each side about three or four inches in diameter and about four to eight

High Priced EGGS

Are what all poultrymen like to get during the fall and winter; but without the very best of health in the flock and a good variety of sound, wholesome feed it is hard to get such eggs.

Nature requires that hens have a rest just prior to and during the molting period; the result is a scarcity of eggs, with higher prices, and a larger profit for those who can overcome the difficulty. The one that can get eggs during the fall will be just that much ahead of his neighbors and others who fail to do so, which in the end is the difference between success and failure.

COULSON'S EGG FOOD is the feed that will turn failure into success by enabling you to secure eggs in the fall and winter while prices rule high.

Improvements have been effected in the composition of the **EGG FOOD** during the past year, so that it is now richer in the various nutrients required by the laying hen, and is a better feed than ever before.

"THE RIGHT WAY," our booklet fully describes **COULSON'S IMPROVED MASH EGG FOOD** and other balanced rations for poultry and gives full directions for feeding and care of poultry from the time they are hatched, together with care of sick chicks. If you have no copy of it, you should drop us a line today; a postal card will bring it to you.

We have agents selling our poultry foods in nearly every town in California. If you cannot obtain what you want from your dealer, write to us and we will tell you where to get it.

Coulson Poultry & Stock Food Co.
Petaluma, Cal.

Germain Seed Co.
Los Angeles
Distributing Agents for Southern California

Malthoid Roofing

H. D. Richards, General Mgr. Orleans Gold Bar Mining Co., of Orleans, Cal., U. S. A., writes: "Within 20 feet of the burning building was our implement house, full of machinery. This house was covered with Malthoid. The heat was intense and scorched the building but with a small hose the building was saved and I attribute it to the Malthoid. Shakes and shingles are not in it with Malthoid.

The Paraffine Paint Co. San Francisco California

E. G. Judah, General Representative, Security Bldg, Los Angeles

Trap-Nested White Wyandottes

That won 22 ribbons out of 25 and 6 Silver Cups and a carving set and a cut glass vase. All the National White Wyandotte Club Ribbons. Second on 10 pullet pen, contest open to all breeds. Mammotb Bronze Turkeys, winners of 5 blue ribbons, all at Los Angeles County Poultry Association Show, December 7, 1907. White Wyandottes were judged by H. Berrar of San Jose, Cal., and W. W. Browning of Ogden, Utah. Hens and Pullets, $15, $20 and up.

MISSION VIEW POULTRY RANCH, MRS. C. D. HUBBARD, SAN FERNANDO, CAL.

Home Made Ice Cream and Candy

Appeals to Everyone in the Family

Has been going since the very day of publication. Full of all that is known about Home Made Ice Cream and Candy. Nearly Three Hundred Formulas.

Make 60 cent Chocolates for 15 cents

Taffies Nut Candies Butterscotch Everything

A 50c Book **You Get It Free With the Cultivator** For 1 Year's Subscription

Paid in advance. For old or new names who pay for the coming year. Enclose a $1.00 bill and ask for the "Candy Book." But remember, you will not receive the book unless the remittance pays for at least a whole year from this date. Address

Cultivator Pub. Co., Los Angeles, Cal.

Orpingtons--Black and Buff

We now offer some exceptionally well bred stock of our fine exhibition strains. Satisfied customers count for much with us. Let us send you prices today, correspondence a pleasure. Catalogue free.

ORPINGTON RESERVATION
ROSS & TATE
ALTADENA, CAL.
BUFF, WHITE, BLACK
ORPINGTONS

One Block North and Two Blocks East Altadena Post Office

Is Your Dog or Cat Sick?

You may lose your valuable dog or cat at this season of the year, when a simple remedy would effect a cure. We have that cure in the Celebrated CLAYTON'S DOG & CAT REMEDIES. In short, we have a cure for all ailments that "Fido" and "Tabby" are heir to.

Write for treatise on diseases of both. It's FREE.

Germain Seed Company

326-330 So. Main St., Los Angeles, Cal.

Baldwin's White Leghorns

First prizes San Jose '06, and State Fair '07. Three 1sts and special, San Jose, '07. $50 cup best display Petaluma '07. Send for free '08 Catalogue and price list. Good breeding stock for sale cheap to make room; also young c'k'ls.

Frank E. Baldwin

46 Washington Ave. - San Jose, Cal.

White Wyandottes Exclusively

Good, White, Typical Birds. Stock and Eggs For Sale.

W. A. SEYMOUR

470 No. Beaudry Ave. Los Angeles Cal.

Now is the time to hatch **BANTAMS**

Golden Sebright, Buff Cochin, and Light Brahma Eggs, $2 per 15. Prize winners.

M. E. Dillingham Box 67, San Gabriel, Cal.

When writing advertisers, mention Cultivator.

inches from the bottom, according to size of chickens they are intended for.

I had fifty hens in 1907 and they laid 600 dozen eggs. Fifteen of them set and raised chickens and turkeys during the spring, which took considerable time during the natural laying season. I never fed any egg foods, or any condiments of any kind, but just fed good, wholesome food and plenty of green stuff, or boiled vegetables; plenty of fresh water, and kept everything in a sanitary condition. The best and easiest way I have ever tried is to clean the houses once a week if possible and to do the work thoroughly. I would rather have things cleaned up once or twice a month and have it done well, than to have it done oftener and not done so thoroughly, for success depends on thoroughness of doing things, and doing it when needed to be done—not putting it off until a more convenient time. In the poultry business, procrastination is the thief of success, and success depends largely on not neglecting the small things that are so important to the welfare of the chickens.

Coal oil and lard are excellent for scaly legs caused by parasites. A scaly-legged fowl is a detriment to any flock, and this is the time of the year when they are apt to be overlooked.

It is a bad plan to throw out whole eggshells where the hens can find them. First you know they will be picking into the whole eggs. Better smash the shells up just as fine as you can.

CROP-BOUND CHICKENS.

Chickens cannot assimilate a concentrated ration. They must have grit and coarse foods, says Mrs. S. B. Titterington, in the Des Moines Homestead. It will not do to depend altogether on what grit they can pick up on free range. It has been a long time since I fed hardboiled eggs to little chicks. It did not work well with me. The reason that it is not what they need seems obvious. The last thing before leaving the shell while hatching, the chick absorbs the yolk of the egg. If feeding is done before this yolk is assimilated, harm will result to the delicate digestive organs. Since the chick has had the yolk to care for, why should it be given more egg, especially in a form hard to digest? Oatmeal also has a tendency to produce the very trouble of which many poultry men complain. Pin-head oats are the least objectionable form of this food, but I hold with a constantly increasing number of poultry raisers who contend that oatmeal in any form is almost poison to little chicks. Oat flakes is the worst form, packing in the crop and producing bowel trouble. My opinion in this matter is based on personal experience, so is not mere theory.

The commercial chick feed is almost an ideal food, as it digests easily, and is not concentrated. It seems probable that the trouble known as crop-bound can be corrected. It so happens that a gentleman told me quite recently of an experience he had a number of years ago. A flock of choice White Leghorn chicks became not only crop-bound, but constipated. In those days chick feeds as now offered on the market were unknown, and he was feeding quite constantly dry cornmeal. An old drayman of the town, a shrewd, observing man, who was famous for his wealth of odds and ends of information, advised him to put one-half bran with the cornmeal. He did so and the trouble vanished. Bran is a good feed to form part of the ration, as it supplies what we may call roughage, preventing too great concentration of food elements.

Since I have stopped feeding my chicks at regular intervals, placing their rations (always dry) before them in hoppers or boxes, or else scattering it plentifully in deep litter so that they can help themselves at will, I have had very little trouble. The little fellows seem to understand their own needs better than we do, and seldom overeat. With grit at hand, sharp, not mere gravel, they thrive like weeds. When they are allowed to get hungry between their meals, they are far more apt to gorge themselves, and bring on varying troubles.

An experiment, tried by a physician, is interesting in this connection. He had some valuable fowls which became crop-bound, and, to all appearances, doomed. He reasoned that if he had a human patient in a condition at all like this he should as the first step see that the bowels were free. So he gave each bird an enema. The next morning, instead of being dead, they were ready for breakfast. Later, he took a number of premiums on one of the birds saved in this way.

If our friends will make the ration less rich and concentrated by the addition of bran, not feeding so much, but letting the chicks eat at will, placing sharp chick grit within their reach, and in some way making sure that the bowels are not confined, this trouble will probably disappear. The plan of hopper feeding is such a labor-saving method, besides being much better in its results, that if once tried we will never return to the old way.

POULTRY PRACTICE.

All those persons who are keeping poultry the returns from which are not what they had expected, we would respectively ask to critically investigate themselves and the management their flocks have received, and see if they cannot discover why chickens are not filling the egg basket as they ought. Inasmuch as there are so many mistakes made in the matter of providing suitable quarters for the fowls, examine the roosting quarters and see if they are not reeking in filth and vermin. The hen is too frequently required to roost in the most abominable places, and under such conditions cannot produce eggs.

A hen ought not to be required to roost in quarters into which the rays of the sun do not enter at sometime during the day that the sun shines. The hen herself loves the sunshine. Their quarters if not kept clean and the sun is shut out are sure to become unsanitary, and the hens will not thrive while being confined therein. Unthrifty hens do not lay. Then, at once, clean up the roosting room, and keep it clean—prepare some whitewash into which put some carbolinium—a pint to a gallon of the wash—and apply the same to the walls and ceiling of the room; paint the under side of perches, dropping boards and inside of nest boxes with pure carbolinium; dust the fowls thoroughly with buhack or insect powder until the faulty conditions referred to no longer exist. This proceeding will bring far greater results in restoring desirable conditions and getting the hens to laying than a wagon load of condiments and poultry medicines could possibly do.

Again, take notice if the hens are roosting in a draught, which might produce roup or colds in the flock; also, if the roosting room is well ventilated or not. Poor ventilation is likely to cause debility and disease under which conditions hens cannot lay. Remedy the same by substituting a muslin curtain and poultry netting in place of the boards on the south side of the building, and thus secure perfect sanitary conditions.

Don't feed the hens their grain feed in a trough, but provide a scratching room for them and keep the floor of same covered with no less than four to six inches of straw or like material, upon which scatter the grain daily, and require that they scratch for what they get. This will be natural exercise for the hens and develop their muscular tissues and keep them healthy and vigorous. Do not look for many eggs until this is done.

In addition, keep fresh water before them all the time, also milk if you have it. Of course, all know about the shells and grit, as well as the green stuff and the dust bath. Get the hens to laying and keep them laying. Breed right and maintain the fowls in good working condition. Let us know of your difficulties, and we will try to help you.—The Ranch.

The hen enjoys a dust bath these days as much as she does at any other time of the year, and a barrel full of dry dust is a good thing to keep in the poultry house. Provide a box for them to take their baths in and renew the dust in the box every three or four days.

Irrigating Hose

12oz. Canvas Coated or Plain. Good for several seasons.

1¾ Inch
2½ "
4 "
6 "
9 "

3 Inch

Galvanized or Brass Couplings.

Prices on Application

Tents, Stack Covers, Picking Bags

The Wm. H. Hoegee Co.
INC.
138-140-142 So. Main St., Los Angeles
BOTH PHONE EXCHANGES 87

Mr. Farmer

If You Have

Sunflower Seed
or **Popcorn**

For Sale Write or Call

Excelsior Cereal Milling Co.
242 Central Ave., Los Angeles

Now Is the Time to Plant

Cover Crops
Canadian Peas
Vetch
Fenugreek
Burr Clover

Onions
White Burmuda
New Queen

Cabbage
Winningstadt

Our Seed is the Best
Johnson & Musser Seed Co.
113 N. Main St., Los Angeles, Cal.

STRAWBERRY PLANTS
Strong one-year-old plants for August planting; Brandywines, $2.50 per M. Klondike, Lady Thompson, A-1, Excelsior and Midnight, $3.00. A full line of this season's plants later. New catalogue ready in September, giving full description of our Improved strawberry plants and other small fruit.
G. H. HOPKINS & SON *Burbank, Cal.*

Burbank Crimson Winter Rhubarb

Plants and Seed for sale in any quantity. Warranted the genuine article. Orders filled promptly

A. L. Fratt, Ventura, Cal.

Mushroom Spawn

Spawn manufactured by a practical grower. Call at my place and see mushrooms growing. Finest varieties grown.

Arndt's Mushroom Farm
3751 So. Normandie St. Los Angeles, Cal.

Pacific Seed Co.
C. Bagnall, Prop.
GROWERS AND IMPORTERS OF
Grass, Vegetable and Flower Seeds
All Kinds of Bulbs and Onion Sets
609 J St., Sacramento, Cal.
Send for Catalogue. Please mention Cultivator.

Wilted celery rolled in a cold damp cloth will be fresh and ready to serve in two hours' time.

Small Fruits and Vegetables

RUST-RESISTANT ASPARAGUS.

IN RECENT years asparagus culture has been seriously threatened by rust, which comes on after the beds have been well established and by gradually weakening the plants results in great loss to the grower and in the ultimate destruction of the plants. The disease has been particularly severe in the New England States, where asparagus is grown as a profitable industry. It is also severe in other sections, especially on the Pacific Coast, where some success has been secured in the matter of its prevention, probably owing largely to favorable climatic conditions. All efforts to control the disease in the East through the usual methods of spraying and similar treatments have met with indifferent success. It seemed desirable, therefore, that attempts should be made to secure types of asparagus which would be able to resist the rust. To this end collections of asparagus have been made from various sections of the world, and in co-operation with the Massachusetts Agricultural Experiment Station work has been inaugurated in the matter of securing rust-resistant types.

The particular matter to which we wish to call attention now is the result of hybridizing conducted by Mr. Oliver with a species of South African asparagus secured by Mr. David Fairchild, which seems to be rust-resistant. This South African species (asparagus virgatus) it is claimed has some other advantages over our types. The young growths are edible even when a foot high, and although the stalks are more slender than those of our cultivated types, this variety will probably prove a valuable addition to our stock of horticultural crops. Successful hybrids have been secured between the South African species and various varieties of our own asparagus. The ability of these plants to resist rust is yet to be determined, but the fact that we have secured the hybrids and that these hybrids, so far as appearances go, give every indication of possessing qualities of value, is worthy of note. Various crosses have also been made between different varieties of our own asparagus to determine the question of rust resistance.—Yearbook of Department of Agriculture, 1907.

BRUSSELS SPROUTS.

By repeated trials and the study of the habits of the Brussels sprouts this plant has grown in favor and proportion until it has become one of the leading factors in farming on Eastern Long Island. From the few quarts first raised and used it has grown in popularity until today millions of quarts are used and are shipped to all the large cities.

It can be grown in almost any climate where the cabbage and cauliflower thrive. The seed sells at 75 cents to $1 per ounce.

The method of culture is as follows:

Sow the seed in drills the same as for cabbage. When plants are large enough to transplant, pull them and plunge the roots in water, pack in crates and take to the field. If it is a very dry spell, use transplanting machines. If the weather is favorable, use dibbers, setting the plants eighteen inches in the row, with rows three feet apart. The land must be in a good state of cultivation, as sprouts are gross feeders. Use plenty of fertilizer. Thorough cultivation is one of the great secrets of success to this crop and will apply to any other crop.

After the crop has matured cut the plants off just above the ground with a corn hoe, haul them to some convenient place near the packing house and stack them in windrows about a rod wide and any desired length. Then begin the winter's work of picking. Sprouts are shipped in quart cups, the same as strawberries, thirty-two, forty-eight and sixty quart crates being used to ship them in. They are picked by the quart, pickers receiving 2 cents per quart. This is done by cutting the sprout from the stump with a small, sharp knife and all the outer leaves are trimmed off, leaving a miniature cabbage which is tender and delicious. The yield varies according to conditions. On highly cultivated land 4000 quarts are often gathered, and from that down to 2000 is considered a profitable yield.

REQUIREMENTS FOR RAISING EGGPLANT.

The eggplant, though capable of growing under conditions similar to those for the tomato, needs more time to produce fruit of suitable size, and, as it is a native of a warm climate, should have more heat from the first. The ground they are to occupy should be well manured, and, after a thorough pulverization, marked off in rows four feet apart. In these rows set the plants about two or two and one-half feet apart, and after they have begun to grow place around each a small quantity of poultry manure or other strong fertilizer. Cultivate or hoe often, so as to keep the ground loose and the weeds down.

As it takes about six months for the plants to bear fruit after the seeds have been sown, starting them during the month of March in hotbeds or hothouses is necessary. For this purpose the bed is watered, worked up and warmed, and the seed then sown in rows about three inches apart. Owing to the tenderness of the plant they want to start quickly, and this is best brought about by shallow planting and covering the rows with sand after the seeds are distributed. Preferably the soil in the bed—if a hotbed is used—should come up to within about five inches of the glass, and the bed be kept rather close, airing most when the sun shines and during mild weather. Unless it is quite warm the plants will do better to raise the upper, rather than the lower, end of the sash, and this not more than an inch or two. When the plants have got their second leaves they should be thinned to about two inches apart in the row. Unlike early tomatoes, it is not well to transplant them until they can go direct from the seed bed to the open ground.

It is important, of course, to get a good variety of egg plant, and one as nearly adaptable as possible to the locality in which it is to be grown.

In planting tomato, cabbage or cauliflower damage from cut worms can largely be avoided by planting with a collar of paper about the stem; this should extend 2 inches into the ground and 4 above. This can be supplemented by placing bran sweetened and poisoned with Paris green not too near the plants and by careful cultivation and killing the worm when found.

One grape grower of Lodi will ship 50 cars of table grapes this season.

LONG SERVICE

FARM WAGONS

THE wagon that breaks down and has to go to the repair shop every once in a while is not a good wagon to buy.

Such a wagon is a poor one because it is poorly constructed, and because it is made from poor and improperly seasoned material. It is dear at any price.

In the building of Weber and Columbus wagons there is always a rigid observance of these four indispensable requisites:

1. Proper wood materials,
2. Thorough seasoning,
3. Superior ironing,
4. The best of skilled workmanship.

These are the things which have built up the excellent reputation everywhere enjoyed by

Weber and Columbus Wagons.

The New Bettendorf Wagon has steel gears which make it a wagon for any climate, and practically unbreakable.

Strength and durability should be first considerations when you buy a wagon. The Weber, Columbus and New Bettendorf wagons can be relied upon for long, satisfactory service. They are built to haul heavy loads and to stand the rough usage to which farm wagons are always subjected.

These wagons are in the front rank of high-grade wagons.

With all the strength and durability of these wagons, they are not made excessively heavy. They are noted for their light running qualities.

International local agents will be glad to show you these superior wagons and furnish catalogs with all desired information. Call and take the matter up with them or write to nearest branch house.

WESTERN GENERAL AGENCIES: Denver, Colo., Portland, Ore., Salt Lake City, Utah, Helena, Mont., Spokane, Wash., San Francisco Cal.
COAST SELLING AGENTS
Arnott & Co., Los Angeles, Cal.
International Harvester Company of America, Chicago, U. S. A.
(Incorporated)

Peckham Says

Increase Your Income $2,000 a Year

I want every man or woman who is interested in his or her future to look into our Corcoran land proposition—the land that you easily make $2000 a year on.

I want you to see this land for yourself; you can go with the next party I take to look at the property, or I will gladly furnish you with the names of men who have gone, and you can ask them what conditions they found.

There are many features of this land that make it safe and profitable which I haven't space to touch upon, but any one living in Los Angeles who is interested should call at my office for details; those living outside of the city should send for Profitable Realty, which gives full details.

George C. Peckham & Company

203-4-5-6 Union Trust Bldg., Corner Fourth and Spring Sts.
Phones: Main 3221, F5392.

The prime object of cultivation is to render the soil loose and light.

Warranted to give satisfaction.

GOMBAULT'S
CAUSTIC BALSAM

A safe, speedy and positive cure for

Curb, Splint, Sweeny, Capped Hock, Strained Tendons, Founder, Wind Puffs, and all lameness from Spavin, Ringbone and other bony tumors. Cures all skin diseases or Parasites, Thrush, Diphtheria. Removes all Bunches from Horses or Cattle.

As a **HUMAN REMEDY** for **Rheumatism, Sprains, Sore Throat,** etc., it is invaluable.

Every bottle of **Caustic Balsam** sold is Warranted to give satisfaction. Price **$1.50** per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars, testimonials, etc. Address

THE LAWRENCE-WILLIAMS COMPANY, Cleveland, Ohio.

Fanning Mills

"The California"

This is one of the most powerful and complete cleaners in the market, and is known as a double blast fan mill. The first blast operates as the grain passes in showers through the sieves, and in this operation the chaff and light stuff is removed. The second blast operates as the grain passes off the last screen in a thin stream and at this time the heavier particles are removed. These mills are rigged to clean beans.

We are also agents for the

Western Fanning Mill

This machine is not only a cleaner but likewise will acomplish what no other machine on the market will do. Separates wheat, oats and rye, clover and timothy and makes them marketable in their class. Separates cheat and cockle from wheat. Separates wild oats from wheat, barley and large tame oat. Separates barley from wheat, and rye from wheat. Equipment is five screens and sieves, one wheat zinc hurdle, a chess-board, tail-board and spout suitable for all requirements of a farmer. Will clean and grade beans. Alfalfa and bean screens are extra.

Pacific Implement Co.
133-153 Kansas St. San Francisco Cal.

STUDY AT HOME
READ—THINK—ACT

We are teaching over 3000 students at their homes, in Collegiate, Commercial and Normal subjects.
No interruption of regular work.
To study with us is a pleasure.
Lessons carefully examined and corrected, and promptly returned.
Send for complete catalogue.
We want local representatives throughout California.
Help yourself by helping us.

Modern School of Business and Correspondence, San Jose, Cal.
WRITE TODAY DEPT. D

SEED GRAIN
Black and Red Oats, Wheat, Barley, Bean Screenings, Etc.
constantly on hand and for sale at lowest market rates
Bray Brothers Buyers of Grain and Beans Members Merchants Exc.
220 Clay St., San Francisco, Cal.
Established in 1855. Correspondence Invited.

When writing advertisers, mention Cultivator.

Queries and Replies

Questions to be answered in this department should be received at this office one week before reply is expected. Write plainly on one side of the paper and sign full name and address. Unsigned communications receive no attention.—Ed.

Farming by the Square Inch.

Will you please give in the query columns of your valuable paper information regarding farming by the square inch, which I saw in the issue of August 6? Is there a book or magazine published describing the Frenchman's method of intensive farming?—T. H., San Diego.

We do not know that there is any book describing the method referred to in the article. It is simply intensive farming carried to the extreme and we do not doubt any book on commercial gardening would aid in getting information regarding this matter.

Olive Culture.

I should like a book pertaining to olive culture. Can you give me name of such book and where it can be purchased?—G.W.B., El Toro.

The State Board of Horticulture at one time issued "California Olive Industry," which if still in print may be had by writing to J. W. Jeffrey, State Horticultural Commissioner, Sacramento. The State Experiment Station also issued a bulletin on olives, pickling process and a good many notes which may be had by addressing Prof. E. J. Wickson, Director State Experiment Station, Berkeley, California, provided it is still in print. We do not think that any book touching on California conditions in olive culture is for sale.

Nematodes.

I enclose sample of diseased tomato roots. They become swollen and soon rot away. Soil sandy, drainage good, and plants have had best of care. Have planted squash where tomatoes were and squash seem to be affected the same way. Will disease attack all roots?—M.S. St. C., Lordsburg.

This query was referred to Prof. Ralph E. Smith of the Southern California Pathological Institute and he writes: "The samples of tomato roots recently received are affected with nematode worms which cause swellings or galls on the roots and serious injury to the plants. These worms affect a great variety of plants and it is not safe to plant anything in affected ground with assurance of its being immune.

The best method of control is to let the ground lie bare and dry throughout the summer for at least one year.

Keeping Beans from Weevil.

Further answering a query which appeared in a recent Cultivator, Mr. C. F. Lee of Pasadena sends in the following which he gave to the Cultivator some years ago. It is no doubt excellent for keeping small quantities of seed. Mr. Lee's formula is as follows:

"Place seed beans in glass fruit jars with small piece of fabric saturated with carbolic acid. Put on rubber and screw down lid. We have used two-year-old seed this season and they grow well." Mr. Lee adds that he has grown seed preserved in this way and he has never had a failure.

Dropping Grapefruit.

What is cause and remedy of dropping grapefruit? Tree in very fair condition, apparently, though very young and sets full of fruit. When about the size of marbles nearly every one falls off. Has some scale.—H. G. H.

It is hard to determine why your grapefruit drops, but it may be the fault of your particular tree. We had several seedlings at the Pomona Station and some of them always dropped most of their fruit while others produced well. If your tree is budded fruit it must be due to some local condition. Try a liberal supply of stable manure on it.—J. W. M.

Dodder.

There is a small clinging weed or vine, apparently a parasite, infesting my alfalfa. Some call it the love-vine What is it and what is the cure?—S. D., Compton.

This is nothing more nor less than the common dodder, referred to often in the columns of the Cultivator. It is a perplexing pest and about the only remedy after it has once secured a foothold is to burn by placing straw or other combustible over the entire spot infested. This destroys some of the alfalfa but seems to be the only remedy. The best remedy, however, is the preventive. That is, in buying alfalfa seed be sure and get clean seed, because ordinarily the infestation comes from the seed when the crop is first planted. Where the irrigation supply comes from the mountains, it is barely possible that the pest comes in the water, as the dodder more or less infests the native growth of the mountain sides.

Seed Inoculation.

Is there any value in the inoculation of seed with a culture of bacteria for nitrogen and cover crops?—S. E., Redlands.

The inoculation of seed has been disappointing to some, but mainly, doubtless, through not understanding the method of handling. Some maintain that the best method of inoculation is to obtain soil from some place where the particular crop to be used for a cover crop has been grown successfully. The soil may be scattered in the orchard as the seed is sown; or it may be washed and the water used to inoculate the seed. Also, the dry form of the inoculating material may be had by addressing the Johnson & Musser Seed Company. They keep it in stock and have found that where carefully handled it does great good.

Jerusalem Cherry Trees.

Would like to ask a question or two through the Cultivator. I have a row of Jerusalem cherry trees. They did well until they were about three years old; then the leaves began to turn yellow around the edges. I examined the roots and found them one mass of small lumps, with a large growth clear around the base of the tree, just below the surface. Could you tell me the cause of this and the cure, if any?—P. J. G., San Diego.

Your cherry trees have root knot or nematode worms. The former produces a wart-like growth on the roots, mainly on the large roots, while the latter produces a bead-like effect on the small roots. There is perhaps no remedy for either that will save your trees or make them profitable to keep. Nematode worms live in the soil and must be starved out to be gotten rid of. Cutting out root knots and washing the wounds with blue stone and water will give relief in mild cases.—J. W. M.

Anthrax Cure, Milk Fever Outfits. See O. J. Weber Co., 555-557 S. Los Angeles street, Los Angeles.

Red Scale.

Will you please tell me through the Cultivator how to treat red scale on orange trees? If fumigation with hydrocyanic gas is to be used, how shall I use it?—H. J. M., Selma.

To give complete directions on this point would require much more space than is at command of this department. But there is given in this week's paper a couple of pages of information regarding Mr. Woglum's latest investigations. You will see the general form of a tent is octagonal. In making a tent the strips all run one way, and to secure uniformity of dosage it is well to mark it as indicated on page 172. After determining the strength or amount of gas for your particular sized tree, the gas is manufactured by mixing in a vessel one part of cyanide of potassium, one part sulphuric acid, three parts water. These are not mixed together until the tent is placed and everything all ready. The gas must not be breathed. In saying one part cyanide, etc., we mean that if the dose for instance is one avoirdupois ounce of cyanide, then use one fluid ounce of acid, and three fluid ounces of water. The tent, after being placed over the tree is allowed to remain for an hour. All work must be done at night to prevent burning of the trees caused by decomposition of the gas by light. The dosage as given in the table on first page of this issue will be abundantly strong for your red scale and will probably burn tender growth on tree somewhat.

Bleached Walnut Seed.

Does bleaching impair the vitality of English walnuts or would you advise getting walnuts that have not been bleached, same to be used for planting?—J. M. W., Hutto, Tex.

By all means get unbleached nuts for planting purposes. Further, get them from some reputable grower who will guarantee them to be from vigorous, strong growing, continual bearing trees. There is great difference in the ordinary seedling walnut and only the best should be selected. This is assuming that you wish to grow the seedling tree. The best growers nowadays are generally planting grafted trees which may be on common black walnut root. This will produce for you a vastly more satisfactory orchard.

Planting Potatoes.

I would like to ask if it is advisable to plant a crop of potatoes at this time to hide an unsightly garden spot surrounding a new house.—E. C. G., Los Angeles.

To secure a fall crop, potatoes should be planted at once, and even a little earlier would have been better. However, if given a good season you will probably secure fair returns from planting at this time.

Farm Names

HAVE you named the home yet? If you have, let the Cultivator help to establish the name and fix it in the minds of your neighbors and others in this state.

If you haven't get busy and think it over. It will attach a new value to your old home. Not only in your own mind from a sentimental standpoint, but it will appear in a new light to your neighbors.

It is not necessary that it be a grand and high sounding name, but make it typical if possible. Does a brook run through it lined with trees? Then name it "Brookhurst." Hurst means a wood or grove and is capable of many combinations.

Is your little field so small as to be "hardly worth a name." Just a little "home croft." Then work in croft in combination with other words. Croft means a small farm or field adjoining the home.

Increase our list by sending in new home names. Northern California takes the honors this week. Southern California hasn't a single name in and the central part of the state has allowed the northern part to present the greatest number.

The names sent in this week are:

Rancho Santo Antonio, owner, A. J. A. Freitas, Hanford, Kings county. Mr. Freitas writes that his place is of 160 acres, is a mile west and seven south of Hanford. He bought the place unimproved and is now building house, farm buildings and other improvements.

Lindoford, owners, Mr. and Mrs. N. Woodford, Chico, Butte county. The owners write that Lindoford is situated two miles north of Chico, Cal., on the Lindo Channel, which is bordered with trees and fringed with wild grape vines.

"We have orange, lemon, pomelo, fig, persimmon, umbrella, pomegranate, peach, plum, pear, apple, prune, walnut, oak and pistachio trees; also garden and small fruits. There are twenty-two acres of land and, besides, good tools and machinery. We have some conveniences in the house, which is eight-room, besides pantry, bath and closets, such as power washer, bread worker and the handiest kitchen in California."

The Nutshell, owner Mrs. Mary A. Powell, Elk Grove, Sacramento county. "The Nutshell" is announced on a beautiful embossed letterhead on high grade linen paper. It doesn't smack of the old-time or typical backwoods farm life, but shows that the up-to-date catchy things of town life may be transplanted to the farm. Mrs. Powell writes:

"I have been very much interested in your articles on 'Naming the Ranch,' and will say that we had scarcely unloaded the car that brought our household goods from the East before we began thinking of a suitable name for this beautiful little forty-acre ranch.

"While we have nearly every variety of fruit on the place, we expect to make a specialty of English walnuts. We already have nut trees on the place that former owners planted twenty-five years ago, hence the name, 'The Nutshell.'

"We find the California Cultivator very interesting and helpful in our work in our new home. May it live long and prosper."

Indian Hillock, owner J. T. Law, Loomis, Placer county. Mr. Law also has printed letterheads and fine linen stock, but has not yet placed the ranch name as a part of the heading. He writes:

"I call it Indian Hillock because there are on the land several rocks containing numerous holes 12 or 18 inches deep by six or ten inches wide, evidently worn centuries ago in the granite by Indians grinding or pounding their roots, corn, etc. I am sure it would greatly interest travelers passing along our roads if every place bore its name and the name of the occupant. A coat of whitewash on the fence posts also brightens up a district wonderfully and costs next to nothing. Farmers and others should all have their names on their wagons, carts, etc., instead of the maker's names."

At the entrance of Mr. Law's place is the ranch name painted in black on a white ground.

"Alfadena," owned by L. E. Dahling, Yuba City, Sutter county.

"Our home place comtains one hundred and sixty acres and we expect to have the greater part of it in alfalfa, consequently we have named it "Alfadena.'"

The Ornamental Garden

BACK YARD GARDENS.

There are few home makers who have not at one period or another come in contact with that most difficult of problems—the unsightly back yard. With its gaping fence, its vigorous growth of weeds and most frequently its share of rubbish and litter, it seems to defy any attempt which might be made at its improvement. More than one discouraged matron has abandoned the back yard to its fate, leaving it the one eyesore around an otherwise attractive home. Yet, there is no reason why this spot should not be made pleasing and even beautiful, if the secret of so doing be possessed by the owner.

The first step needs no directions, for it necessarily consists of clearing away the rubbish and litter which have accumulated through the years of neglect, and which would prove effective obstacles in the way of plants and flowers. When this is done, however, and the space presents a tidy appearance once more, the real difficulty presents itself. The yard is clean; but it has a bare, uninviting aspect, which ill accords with the velvety lawn, with its gay flowers, which fronts the house. Vegetation of some kind must take the place of the luxuriant crop of weeds recently removed in order to really accomplish the reclaiming of the back yard. Upon the space, as well as upon the amount of sunlight that it gets, the choice of flowers depends, although there is one rule which might be invariably used to govern the selection. Plant only those flowers which are hardy, profuse bloomers and easily cared for, as lack of time, perhaps, more than anything else, is responsible for the condition of the back yard. A very pretty idea, and one which cannot fail to give satisfaction to the owner, is to make of the back yard an old-fashioned garden, where the flowers popular a century ago may bloom. Petunias, marigolds, nasturtiums and a number of others will adapt themselves admirably to the back yard garden. Not only will they bloom in the shade, but from early summer until the frosts they will flower continuously, keeping the garden bright. Then, too, they fit themselves to the space, showing to equal advantage in the most diminutive plat. For a small space, bulbs are not to be particularly recommended, unless, of course, time is not an object to the maker, as while they promise early bloom they last but a short time and require moving, if other flowers are to take their place.

If space permits, a tiny walk, intersecting the garden and bordered on either side by sweet alyssum, or with any of the low, prolific bloomers which adapt themselves to this purpose, should by all means be included in the garden plan. Besides the alyssum, a row of taller plants with blossoms of a contrasting hue render both the border and themselves more effective.

There is no reason why the back door should be less attractive than the front entrance. There are many ways in which its appearance might be improved, but none more effective than the tiny trellis which shades and beautifies the doorway. Over it may be trained one or more of the numerous varieties of vines which are particularly adapted to trellises. Clematis Paniculata, a beautiful and well-known one, possesses decorative value not only for its glossy, dark green foliage but for its fragrant white blossoms. The Mexican or Mandarin vine, known by names as numerous as the colors of Joseph's coat, is rivaled by the humble morning glory, scarlet runner and climbing nasturtium vines in the back yard garden. Harmony and simplicity are the combination to be sought after in the garden. And the last-named vines harmonize perfectly with the annuals which are most suited to the back-yard garden.

Trained against the fence or the side of the house, the vines make a pretty background to the bit of gay coloring of the flowers.—Farm and Field Life.

BIRD HOUSES.

The right kind of bird house is made to attract some particular bird, to keep out cats and English sparrows, and it is as simple and inconspicuous as possible. Don't set a Swiss chalet on top of a bare pole where everyone can admire your handicraft and the cats can eat the bluebirds. Make simple boxes like the one described here. Use weather-beaten boards and don't paint them; or, better still, use hollow logs that will match the trees you put them in.

The first thing to think of is a cat-foiler. A sure and easy way to keep cats down is to put a piece of tin around the pole, trunk or limb that carries the bird house so that it will stand out horizontally and the cat cannot reach around it and climb above the obstruction. So, first consider where you are going to put the bird house and how you propose to fool the cats.

The next most important thing is to find out how big to make the entrance hole to let in the birds you want and keep out their enemies.

For wrens make a hole the size of a 25-cent piece. Ridiculous as it sounds, you can make an excellent wren house out of a quart tomato can, painting it afterward some neutral color to make it inconspicuous. Make a circular hole one-half inch in diameter; clip the edges and bend them with a pair of pinchers to make a suitable smooth doorway. Cut the hole close to the rim of one end. Nail the other end to a piece of board so that the nesting bird may sit lengthwise of the house and have a round doorway above her head. Punch a hole in the bottom to let out water. Nail the supporting board wherever you wish and see that no perch for an intruder is within reach of it.

For chickadees make the hole 1¼ inches in diameter. A box 12x5x4 inches (inside measurement) is ample for chickadees or wrens. For safety mount it vertically so that the nest will be at the bottom and the doorway at the top.

To prevent rain from getting into your birdhouse, you can make a tin roof, but if you do so paint it a neutral color. Or make a rather high-pitched roof of young pine or birch bark or old leather. If you want to make a box out of shingles and have only new ones, tack bark on the outside to make them inconspicuous. Beautiful houses can be made of birch and chesnut bark, but you would better wait until spring to make these, because bark does not strip well in winter.—Marion Llewellyn.

Classified Liners

Rates 1½ cents per word per issue. No ad accepted for less than 25 cents. Our classified columns are the clearing house for the readers of the Cultivator. Here you can insert an ad for the small sum of 1½ cents per word per issue, and be sure that it will be read by thousands.

MACHINERY.

WE CARRY A GENERAL LINE OF MAchinery, gas engines, air compressors, boilers, engines and pumps. 40 car loads of screw pipe and casing can be cut to lengths, also all kinds and sizes of fittings. Several hundred iron fence posts. R. KELLY MACHINERY CO., corner of Mission road and Macy street, Los Angeles, Cal.

FOR SALE—SECONDHAND PIPE AND oil well casing, all sizes, any amount; boilers and engines; gas and distillate engines; pumps, etc. Get our prices before you buy. A. CANNADY & CO., 1029 N. Alameda St., Los Angeles, Cal.

FOR SALE—AIR COMPRESSORS BELTED and steam driven also steam pumps and other machinery. See us before buying. We can save you money. Baille & Brandt Co., 943 N. Main St., Los Angeles, Cal.

FOR SALE—6-H.P. GASOLINE ENGINE and centrifugal pump never been used at a snap. N. W. cor MAIN & BRUNO STS., Los Angeles, Cal.

FOR SALE—MEHRING MILKING MAchine with extra parts and covered pail, all in good order. WM. H. BIRD, Box 6, Compton, Cal.

FOR SALE—ALTERNATING AND DIRECT current motors, from 5-H.P. up. We also rent motors. Baille & Brandt Co., 943 N. MAIN St., Los Angeles, Cal.

FARM LANDS FOR SALE.

RANCH FOR SALE—105 ACRES AT $40 AN acre; 85 acres in cultivation; nearly all of remainder can easily be put in cultivation; 45 acres level land; 800 full bearing apricot trees; 5-room dwelling; good large barn; fruit drying plant; 5 miles north west from Moorpark; half mile of school; land suited to beans, hay and corn. For further information apply to WM. ROBINSON, Moorpark, Ventura county, California.

FOR SALE—1 TO 10-ACRE TRACTS ON CAR line, between Riverside and new cement works; good for chicken ranches, alfalfa or gardening; will sell on easy terms; plenty of water on each tract. C. C. POND & N. R. BELL, Riverside, Cal.

ORCHARD HOMES FOR SALE—FIVE acres and upwards; fine citrus and deciduous fruit lands on easy instalments and low interest. Write us today. Wyatt & Wilson, WINTERS, Cal.

EGGS FOR HATCHING.

EGGS FROM MY PRIZE WINNING BARred Rocks; won all firsts, all seconds but one, and all specials on Barred Rocks at L. A. C. P. A. Show, 1907. Eggs from best pens, $3 per 15; $12.50 per 100. Stock for sale. CHAS. E. SMITH, Gardena, Cal. San Pedro Interurban car to Smith's Crossing.

POULTRY

KILLAMITE KILLS THEM—BEST INSECT powder made for fowls or plants. 50c for 2½ lb. sifting can, express prepaid by us if your dealer hasn't it. Regular 10c can free, postage paid, for 10 addresses of poultry keepers. WEST COAST MILL, 705 Griffin Ave., Los Angeles Cal.

PARTRIDGE WYANDOTTES—C. ANdrews, 823 W. Franklin Ave., Hollywood, Cal.—1st cock, hen, cockerel and pullet; 3 cups, Poultry Breeders' Show, 1908.

WANTED—MALE HELP.

NINETEEN JOBS GOING AT PRESENT—Electricity, plumbing, bricklaying taught in few months; tuition back after two months; advanced students paid wages. Free catalogue. UNION TRADE SCHOOL & CONTRACTING CO., 120-126 E 9th St., Los Angeles, Cal.

DOGS.

SABLE AND WHITE COLLIE PUPPIES—Sires, Brandane Wishaw Squire and Glen Fana Bounder, litter brother to Aufield Model. Dams, Ormskirk Gloriana and Presidio Nellie. $10 to $25; 2 to 8 months. GLENALPINE KENNELS, Grandville, Cal.

FOR SALE—COCKER SPANIEL PUPS, 8 weeks old; blacks, $10 each. MINNEWAWA VINEYARD, Fresno, Cal.

TREES.

FOR SALE—1,500 EUREKA LEMON TREES and 1,000 Washington navel orange trees, true to name. Also street and ornamental trees. Clean, healthy stock only offered. GEO. B. WARNER, SANTA ANA, CAL.

SEED.

FOR SALE—EUCALYPTUS RUDIS SEED, fresh, by pound or ounce. MINNEWAWA VINEYARD, Fresno, Cal.

PARTNER WANTED.

WANTED—A PARTY TO TAKE AN INterest in my seed and poultry supply business, who has a good nursery and can furnish plenty of nursery stock. Have a fine store; grand location and splendid opportunity. Address or call, S. H. CHURCH, 636 S. Main St., Los Angeles.

NURSERY FOR SALE.

OLD ESTABLISHED NURSERY BUSINESS for sale. Good stock. Good location. Good reasons for selling. Address THE AUBURN NURSERIES, East Auburn, Cal.

Campaign Song Books, '08

Republican "Taft Vote Getters" 50c, 3 for $1.00
Democrat "Bryan Electors" 50c, 3 for $1.00
Doz. lots, $3.00. **ED. S. EVES, O'Neill, Neb.**

Sacramento Valley Development Association is securing returns from those who have grown Japanese matting grass, of which 15,000 roots were distributed last spring. These roots were distributed from the Chico Plant Garden.

What MORE Could You Desire In A Savings Bank?

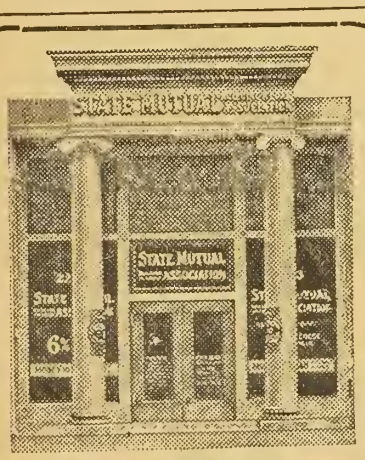
20,000 Depositors
Strong Directorate
Capital and Surplus Over
$900,000
Resources
$10,000,000

GERMAN AMERICAN SAVINGS BANK

Tallest Building in Los Angeles

SPRING & FOURTH STS.

Heart of the Business Center
Model Banking Facilities



6% INTEREST PAID
STATE MUTUAL
BUILDING & LOAN ASSN.
223 S. SPRING ST., LOS ANGELES, CAL.

ESTABLISHED 1889
Largest Association in California
Assets [Jan 1, 1908] $2,002,111
No Admission or Withdrawal Fee
Only 30 Days' Withdrawal Notice
Money to Loan for Building
OFFICERS AND DIRECTORS
DR. W. G. COCHRAN, President
A. E. POMEROY, Vice President
J. M. ELLIOTT, Vice President
W. D. WOOLWINE, Vice President
C. J. WADE, Secretary

D. M. CUTHBERT, Loan Inspector.
Send for Booklet and Statement
Mention This Paper

Your Eastern Trip

SOUTHERN PACIFIC

May be arranged so that you may travel by way of

New Orleans and the Sunset Route

San Francisco and the Ogden Route

Portland and the Shasta Route

Enjoying the balmy air of the South or the cool and bracing air of the North.

Personally conducted excursions every day from Los Angeles via all routes without change to principal eastern points.

Southern Pacific

Household Department

PA AS A CARPENTER.

Father took his coat off—said,
"I'll do that job today.
We need a chicken coop, you bet;
Our hens all get away."

He found the hammer and the nails
And then he got the saw,
And went to work while all the tads
Looked on in silent awe.

Somehow, the boards seemed rather tough
And fate was most unkind;
While father puffed and puffed and puffed
His trousers split behind.

At last he got some short lengths cut
And while he mopped his face
He studied out the proper way
To put those boards in place.

He nailed a strip across a strip.
Then he made a slight miscue;
The hammer came down on his thumb
And mashed it black and blue.

Then father used some language that
Was never heard before,
And mother took the babies inside
And softly closed the door.
—Birmingham Age-Herald.

HIS PRIZE.

THE broken window of the old garret was stuffed with rags and odd pieces of clothing, and the cutting December wind whistled shrilly through them, causing the fine particles of snow to form little eddies in the air and on the floor.

In one corner of the room, as far as possible from the window, sat a tall, lank figure, his glowing pipe making quite as much light as the small fire that burned in an old stove at his side.

Dalton knew that the last chance of a long and bitter fight was before him. He had tried time and again with unfailing energy to succeed, but the rebuffs and disappointments had piled up as fast as had the rejected manuscripts on his table.

With one last effort he had written the story of his ups and downs, and he incidentally wove into it the story of his love affairs—college dreams they seemed to him.

"This story must go," he muttered, "it's got to." With a sigh he laid down the papers. There was a sound of hurried footsteps in the hall, and the door burst open, admitting a ruddy-faced young man in a summer suit and with no overcoat.

"Hello, Dalton," he cried. "What's doing to-day?"

"Oh, nothing much," answered Dalton.

"What's this?" asked Joe Lamier, picking up the story from Dalton's lap.

"That," said he, "is my last chance."

"Tell you what you do, let me put it in that prize story contest the Daily—— is having. It's $500 for you if it wins," was the friendly suggestion. "Sister's got one here that I'm going to take over." And he drew some papers from his pocket.

Dalton read the story through carefully, then handed it back, exclaiming:

"That's got mine beat. Is there a second prize?"

"Sure—good chance to land that. There's $200 in it."

"Well, take it along then, and tell your sister she's—well, tell her she's a dandy at the business. Will you, Lamier?"

Two weeks later, after a good, big, square, filling meal at the Salvation Army house, Dalton sat in his little room and read the list of prize winners. His name was missing from the solid list that his eye fell upon, but as he glanced at the head of the column he could hear his own heart beat. There, in large black type, were the words: "Mr. Luke Dalton First Prize.'

A letter addressed to him was in the mail box. He thrust it into his pocket as he walked over to the Lamier flat. Grace Lamier, with laughing eyes that sparkled delightedly, opened the door for him. "You didn't get the prize?" he questioned, still unbelieving.

"No," she smiled.

"Why?" he asked. "Why? Your story was much better than mine."

"Was it?" she replied, as they were seated. "Maybe the judges didn't think so."

"I'll bet they did if they saw—" he paused, as a thought came to his mind, then he blurted out: "You didn't send it, did you? I can see by your face you didn't."

"No, I thought better of it, besides, it really wasn't any good." Her twinkling blue eyes seemed to confuse him.

"Why didn't you send it?" he continued.

"Oh, I—I—" she broke off hastily as he came closer to her chair.

"Because you wanted me to win. Is that it?" He was laughing now.

"Maybe," she replied. The pressure of her hand in his left no doubt, and what followed left her hair in a state of disorder that caused them both to laugh.

He pulled the letter out of his pocket, and a green slip of paper fell to the floor. The girl picked it up, looked at the $500 writen on it, but the man was reading the letter, with a bewildered look on his face.

"Grace," he cried, "I guess we won't have to wait very long for those wedding bells; just read this. He handed her the letter.

"Report at $25 a week," she read. "Luke, isn't it just dandy?"

"I'll accept it upon one condition," replied Luke, trying to look seriously at the merry, flushed face of the girl.

"What is it now, Mr. Author?" she asked.

"That you report at the minister's with me at once," he cried, as he folded her in his arms.—Universal Magazine.

A FEW BUSINESS B's.

Be personally interested.
Be progressively alive.
Be physically active.
Be prodigious in energy.
Be pushing in business.
Be punctual in appointments.
Be painstaking with customers.
Be pleasant to all.
Be partial to none.
Be plucky at all times.
Be peaceably inclined.
Be positive for principle.
Be productive for good.

FEARFULLY AND WONDERFULLY MADE.

A school teacher, after spending forty-five strenuous minutes explaining the mysteries of physiology to the primary class, sounded their intelligent attention by asking the definition of vetebrae. A small and anxious boy on the back seat arose and delivered the following:

"The vertebrae is a long, wavy bone. My head sits on one end of it and I sit on the other.

Not the lowest-priced; but the lowest-cost.

Genasco Ready Roofing

Saves repair-money and time and trouble. Made of Trinidad Lake Asphalt, the greatest weatherproofer in existence.

Gives you longer roof-protection than any other ready roofing at any price.

Mineral or smooth surface. Insist on Genasco. Look for the trade-mark. Write for free Book 35 and samples.

THE BARBER ASPHALT PAVING COMPANY

GENASCO — THE STANDARD OF EXCELLENCE — TRADE MARK

Largest producers of asphalt, and largest manufacturers of ready roofing in the world.

PHILADELPHIA
New York
San Francisco Chicago

Deposit Your Surplus Savings
WITH THE
California Savings Bank
Los Angeles, Cal.
4% Paid on Time Deposits
3% Paid on Checking Accounts

Everybody Can Play Billiards and Pool at Home

on my Portable Tables. Used in any room on your own table. Also Combination Dining and Billiard Tables. All sizes. Low priced but fit for experts. Catalog? Write today
C. Ridderhof, Laughlin Bldg., Los Angeles

KELLOGG'S ANT PASTE

The original ant paste. Absolutely guaranteed to rid your house of ants. If your druggist can't supply it write to factory, enclosing 40c for package prepaid.

KELLOGG'S ANT PASTE CO.
1010 East Ninth Street Los Angeles, Cal.

FARMERS' BOOKS

Order Through the Cultivator

FEEDS AND FEEDING.—By Prof. W. A. Henry. Is a thorough, accurate and reliable handbook for students and stockman, giving most practical and useful knowledge on plant growth and animal nutrition, feeding stuffs, feeding animals and every detail pertaining to this important subject, indispensable to every owner of live stock. 658 pages. 6x9 inches.
Cloth $2.00

AMERICAN GRAPE GROWING AND WINE MAKING.—By George Hussmann of California. With contributions from well known grape growers, giving wide range of experience. The author of this book is a recognized authority on the subject. Illustrated. 269 pages. 5x7 inches.
Cloth $1.50

STANDARD OF PERFECTION.—By the American Poultry Association and used as the standard for judging all shows. The thing for dealers in fancy stock.
Cloth $1.50

PERFECTED POULTRY OF AMERICA.—This is the most recent publication, and is one of the finest poultry books ever issued. It contains full page illustrations of all breeds and varieties of poultry, turkeys and water-fowl. On many of its pages are represented the feathers from each section of the fowl. Gives the information necessary for the selecting of the best specimen in your flock.
Cloth $2.50

A. B. C. AND X. Y. Z. OF BEE CULTURE.—By A. J. and E. R. Root, the leading authority on Bee Culture Its reputation is known to all Beekeepers. 536 pages.
Cloth $1.50

CAMPBELL'S SOIL CULTURE MANUAL.—By H. W. Campbell. The originator of the "Campbell System of Dry Farming." A complete guide to scientific agriculture as adapted to the semi-arid regions. Of great value to all Western ranches. 320 pages.
..... $2.50

Cultivator Publishing Company

COOKING GREEN CORN.

There is no immature product of the garden to equal in food value and in distinctive excellence the rich succulence of a good variety of sweet corn, such as the Country Gentleman. Additional importance is given by the long season for which it is available. The earliest planting may be ready for use in July; the latest is only cut short by the nipping frost of autumn's first serious chill. With a favorable season green corn freshly picked may be had for full three months, a fourth of the entire year. For the rest, we must content ourselves with canned or dried corn.

The simplest ways of cooking green corn give so good a result that elaboration seems unnecessary. Yet there is wide room for variations and many excellent combinations are easily made. Cooked with beans we have the flesh-forming elements of fat and lean meats. Served on the ear the operation of eating from the cob is somewhat difficult to perform with ease and grace, but it can be managed with sufficient skill, and to many persons corn on the cob has a relish quite beyond any other mode of serving. A common fault in cooking corn on the ear is too long boiling. So much depends on the condition of the corn that a time rule is of little value. But if the kernels are still very soft, in that state which gives, to my taste, the best of its sweetness and richness, ten minutes' cooking is sufficient. Plunge in an ample quantity of boiling, salted water; cover and note from the time when the bubbles begin to rise again. Seven minutes may be sufficient. When the milky juice is once "set" and the raw flavor gone, longer boiling tends to harden; it has no further good effect.

The tender ears may be broiled over coals in a wire gridiron, care being taken to avoid scorching, and served very hot as roast corn. Eaten with salt and a liberal allowance of sweet butter, the flavor is something to be remembered. "Roast corn! I haven't seen it since I was a boy!" was the exclamation of an elderly man, familiar with the world's best in matters of the table; it was very gratifying to the hostess to see how his appetite responded to the call of the long neglected dish.

Corn cut from the ear and roasted or really baked in a very hot oven in a buttered pan is another mode worth trying. Salt lightly and shake the pan often to stir thoroughly.

Lima beans are best for the familiar succotash, supposed to be the invention of our Indian forerunners. But other beans may be substituted on occasion, taking care to remember that the beans require longer boiling and must, therefore, be put over first and the corn added later. In cutting the corn from the cob a shallow cut is always best, pressing out the remaining pulp with the back of the knife, so as to leave the husk or skin of the kernels mostly upon the cob. By first scoring each row of kernels lengthwise the milk and pulp may be pressed out in the best condition for those combinations with milk and eggs which have various names, such as corn oysters, corn custard, etc Some of these forms of serving corn are among the most delicate and palatable of vegetable concoctions, and at the same time give a result very high in nutritive value.

The uses of green corn are so many and various that it is easy to find a place for it on the table for every meal if one chooses. It makes a delicious and heartening soup or rich broth with hardly any other material except a little milk or sweet cream. For a hot supper dish one may have plain corn, boiled or roasted or browned (cut from the ear) in a hot frying pan, with a little salt and a very little hot water added as it browns, to make a rich gravy. In salad form, use cold corn cut from the ear and mixed with diced apple. Serve on lettuce leaves with a French dressing or mayonnaise. A green corn omelet is one of the best of summer breakfast dishes. Allow for it an ear of corn, not too large, to each egg. Score and scrape out the pulp, mix with the eggs, well-beaten, white and yolk together, season with salt and pepper, and add a tablespoonful of cream or rich milk for each egg. Cook, fold and turn out as usual. Fritters, corn pudding and corn pancakes are other variations.

The Boston baked beans will have a new and very rich quality if about half an hour before serving an equal quantity of sweet corn, cut from the cob, is thoroughly stirred into the pot. Return to the oven and serve as usual. Corn pudding is frequently served with fried chicken and is equally good with roast lamb or lamb chops. It should be of a rich custard-like consistency and the proportions may vary considerably as more or less eggs are used. To a quart of milk allow two, four or six eggs, and more or less corn accordingly. Score and scrape off the corn and beat the whites of the eggs separately and thicken with the corn to make a good soft batter.

Other uses are easily suggested. Various combinations, for example: summer squash pulped and strained combines pleasantly with corn, either in soup, or in "oysters" or little patties to be baked. It is a pleasure to use one's own ingenuity in producing a new dish now and then. No flavor is more appreciated than that of individuality on the home table.—Country Gentleman.

NEEDED STRENGTH.

"I have seen many fantastic and humorous advertisements in newspapers during my somewhat lengthy career," once said Colonel Henry Watterson, in an address to a convention of journalists, "but quite the most interesting and oddest of these was an ad. that I chanced upon in London. It was printed in the staid old Times, and as I remember it, ran something like this:

"'A young gentleman who is on the point of getting married is most desirous of meeting a man of experience who will take the responsibility of dissuading him from this dangerous step.'"—Harper's Weekly.

BOOKSELLER'S BRIGHT THOUGHT.

In a London bookseller's catalogue the following entries appeared:

Patti, Adelina Life of
" oyster, how to make.

This case is fully paralleled in the latest volume of the "English Reference Catalogue," a very important bibliographical publication, where the following entries appear:

Lead, Copper.
—— Kindly Light (Newman).

WHY NOT?

Mater—"I wonder how George got hay fever?"

Pater—"He was pretty thick with that grass widow, last summer, you remember."

The Oldest Savings Bank in California

FOUNDED IN 1857

The Savings and Loan Society

101 Montgomery St., Cor. Sutter St., San Francisco

CAPITAL FULLY PAID $1,000,000.00

Exclusively a Savings Bank whose policy is for ***Conservatism*** and ***Safety,*** the result of ***50 years experience.***
Deposits may be made and withdrawn by mail.

San Francisco Savings Union

Founded June 18, 1862 Northwest Cor. California and Montgomery Sts., San Francisco

Conducts a Savings Bank Business Exclusively

Capital Paid Up, $1,000,000.00. Surplus, $1,183,622.00.
Total Assets, $27,508,850.00.

E. B. POND, President.
W. C. B. de FREMERY AND C. O. G. MILLER, ... Vice-Presidents.
LOVELL WHITE, Cashier. . . . . R. M. WELCH, Asst. Cashier.

DIRECTORS: John F. Merrill, Wm. A. Magee, W. C. B. de Fremery, H. C. Breeden, Jacob Barth, Fred H. Beaver, Wakefield Baker, C. O. G. Miller, E. B. Pond.

Every facility afforded for opening accounts and making deposits and withdrawals by mail. Correspondence invited.

Paid Semi-Annually

7%

Assured Profit

We offer you Cane Sugar Lands in Mexico. Perfect title. Give 50-year contract to cultivate for you, guaranteeing 7%, paid semi-annually, until crop profit exceeds this amount. Offer these lands for cash or on easy terms.

A Life Income from Land

Sugar Plantations produce the greatest continuous yield of any known crop. Tropical Mexico stands today unmatched in soil, climate, water. We own over 9000 acres in the heart of the best section—near Tampico. You become a land-owning profit-sharer in this project. We do all the work for you.

Sugar Plantations the Most Profitable Crop in All the World

GOOD LIVE AGENTS WANTED

One Acre Should Produce $203.52 Annually
Five Acres Should Produce $1017.60 Annually
Ten Acres Should Produce $2035.20 Annually

Free Trip to Property Communities or syndicates buying 50 acres or more, may send representative to property at our expense

Tampico Sugar Company

Los Angeles California

References: Citizen National Bank

501 Union Trust Building

$16.30 buys this handsome six-hole Nickle-Trimmed Cast Range direct from the Manufacturer

without high shelf. With high shelf, just as shown in the cut, $19.97; large oven, six cooking holes, best quality of iron. Burns coal or wood. Handsome nickel trimmings. OUR TERMS are the most liberal ever made. You can pay after you receive the range. You can take it into your own home and use it 30 days. If you don't find it exactly as represented, the biggest bargain you ever saw, you won't have to keep it.

Write today for our beautifully illustrated Stove Catalogue No. 101-C. A postal card will do it. Don't buy until you get it.

P. F. Ross & Co.

268 Market St. San Francisco, Cal.

Woodbury Business College

809 SOUTH HILL STREET, LOS ANGELES

Strong, original, practical, SUCCESSFUL. Belongs to no "chain" or trust, class or clan—absolute MERIT its only alliance. Concentrated, enthusiastic, COMPLETE. A school of FORCE, CHARACTER, and INFLUENCE. Prestige of long experience, thousands of graduates—every one a WOODBURY testimonial and a vital force in the world. "BETTERNESS" its distinctive quality. "THE SUCCESS OF THE STUDENT" its slogan. Entire year—begin when ready. POSITIONS SECURED. Write for "CATALOGUE W"—it is illustrated, interesting, instructive, INSPIRING.

The Produce Markets

Los Angeles Markets

LOS ANGELES, Aug. 19th, 1908.

Butter.

Butter still stands exactly as last week with actual selling price on extra 2½ cents in advance of following quotations.

Wholesale quotations now are:

Creamery ex per roll	.55
Firsts	.52½
Dairy	.25
Cooking	.22
"Butterine"	.15@20

Cheese.

Cheese is still weak though an effort is made to strengthen it by holders of large stock.

Southern California	.14½@17
Northern fresh	.14
Longhorn	.17@18
Eastern singles	.16½
Cheddars	.17
Imported Swiss	.28@28¼
Swiss	.17½
Oregon	.15
Limburger	.18

Eggs and Poultry.

The weak egg market of last week has taken a decided change and not only a decided advance has been made but the demand at this time is in excess of the supply. The price for the local candled is 5 cents in advance of the local buying price of case count.

Eggs local candled	.35
Eggs case count	.30
Firsts fresh	.33
Eastern fresh	.25@26
Eastern fresh jobbing price	.23@26
Storage	.26

Wholesale prices..

Hens per lb	.10@12
Young roosters per lb	.17
Fryers	.15@17
Broilers per lb	.15@17
Roasters	.16
Old Roosters	.7
Turkeys	.16@18
Geese	.11@13
Ducks	.10
Squabs	1.25@1.50

Live Stock.

The following quotations are f. o. b., Los Angeles, on all stock.

Hogs from 175 to 200 pounds	.6
Prime steers	.4¼
Heifers	.3½@3¾
Calves per lb	.4½
Sheep ewes per head	3.75@4.00
Lambs per head	3.00@3.25
Wethers	4.00@4.50

Potatoes.

Wholesale prices are:

Sweet potatoes per lb	.3½@3¾
New potatoes per lb	1.15
New potatoes choice	.25@75
Northern Burbanks fy	1.25

Onions.

Wholesale quotations are:

Bermudas per 100	1.00@1.10
Silverskin new	1.00@1.15
Crystal wax per crate	1.00@1.20
Northern Red	.90@1.00
Australian Browns	1.00@1.10
Danvers	1.00@1.15
Garlic	.7@8

Vegetables.

The following are commission house prices; deduct freight and commission to secure farm prices.

Artichokes per doz	.40
Beets per doz	.25@30
Bell peppers per lb large	.3@5
Bell peppers box	.30
Beans limas per lb	.3
Beans string	.2@2½
Cabbage sack	.50@60
Cabbage red per lb	.2
Celery per doz green hothouse	1.25
Corn per box	.40
Chili peppers per lb	.2@3
Cucumbers per box	.10@20
Cauliflower per doz	1.40
Carrots per oz	.25@30
Egg plant per box	.20
Green onions doz bunches	.20@30
Horseradish	.12½
Lettuce per crate	.60@75
Mint per box	.40
Okra	.6
Peas sugar per lb	.5
Parsley	.30
Parsnips	.35@40
Rhubarb per box	1.25
Radishes per doz	.15@20
New summer squash per box	.15
Summer squash per box	.10@25
Salsify	.15@20
Spinach per doz	.15@17
Turnips dozen bunches	.25@30
Tomatoes lug box	.20@30

Citrus Fruits.

Valencias	3.25@3.35
Grapefruit seedless	3.00
Grapefruit seedlings	1.75@2.00
Lemons fancy	2.25
Lemons choice	1.75
Limes 15-lb box	.75

Fresh Fruits.

Wholesale prices on the market are:

Red Astrachans new	.75
Astrachans packed box	1.35@1.50
Bellefleurs	1.25@1.50
Alexandria 4-tier	1.40@1.50
Gravenstein 4½-tier	1.40@1.50
Crab apples	1.10
Apricots cold storage	.50
Cantaloupe st	.90@1.00
Cantaloupe locals large crate	2.00
Casaba crate	2.50
Figs per fig box	1.35
Grapes Thompson seedless	.50
Grapes seedless Sultanas	.85
Grapes Concord per crate	1.00@1.50
Muscats per lug box	1.35@1.50
Grapes Malaga	.50@75
Rose of Peru	.60@75
Grapes Black Hamburgs	.90@1.00
Nectarines	1.00
Pears per box	1.25@1.50
Plums Burbanks per box	.75
Plums Sonoma	.50@60
Plums Satsumas	.90@1.00
Plums Kelsey	.60@75
Plums egg	.50@60
Hungarian prunes	.85
Peaches per lug box	.40@60
Peaches clings	.50
Pineapples per lb	.7
Raspberries per box	.5@6
Strawberries per box	.2@4
Extra fancy	.10
Blackberries per box	.6
Loganberries per box	.3@4
Watermelons per lb	.1¼

Dried Fruits.

Wholesale prices are:

Apricots	.7@9
Evap. apples fy per lb	.7½@8
Figs loose white	.6
Figs blk	.4
Peaches	.9@10
Pears	.11½@12½
Nectarines	.14
Prunes	.4@4½

Beans Dried.

Wholesale prices:

Limas per ctl	5.50
Pink No 1	3.75
Lady Washington	5.00
Small white	4.75
Black eyes	3.80
Garvanzas	4.80@5.00
Lentils	.9@10
Bayou	3.80

Nuts.

Almonds per lb	.15@16
Pecans polished	.12@15
Peanuts Virginia	.7½
Peanuts California	.7
Walnuts No 1 SS	.14

Honey.

Wholesale quotations:

Extracted Water White	.7
Comb W W	.16
Comb white	.15

Hay.

Price paid to producers f. o. b. Los Angeles are as follows:

Barley No 1	13.00@15.00
Barley No 2	10.00@13.00
Alfalfa northern per ton	11.00@12.50
Alfalfa local	12.50@14.00
Plain oat No 1	15.00@17.00
Wheat No 1	13.00@16.00
Wheat No 2	12.00@14.50

Grains.

Wholesale selling price f. o. b., Los Angeles.

Wheat new per ctl	1.85
Wheat in 100-lb sacks	1.90
Kaffir corn	1.80
Barley	1.55
Corn Eastern sacked	2.00
White oats	1.90

Feed Stuff.

Selling price F. O. B. Los Angeles as follows:

Cracked corn	2.05
Shorts	1.80
Bran	1.65
Oil cake meal	2.50
Feed meal	2.10
Rolled barley	1.55

Don't let your vehicles get into rattletrap condition. Screw up the loose nuts so as to tighten all the bolts and keep them from rattling. Use coal oil freely when there is rust. Rust does as much damage as wear on the ironwork of vehicles. Leather or rubber washers should always be available.

San Francisco Markets

SAN FRANCISCO, Aug. 18, 1908.

Butter.

Butter advanced after last report to 27 cents on extras on the 14th and has now dropped back to 25 cents or ½ cent lower than last week. At this writing the market is firm.

California extras per lb	.25
California firsts	.23½
California seconds	.23
California thirds	.20
Fresh packing stock	.20½
Packing stock No 2	.19

Cheese.

California young American fy	.13
Firsts	.12½
California flats fy	.11½
Firsts	.10½
Young America fy	.14½
Eastern fy	.16
Oregon fy	.13

Eggs and Poultry.

Eggs have advanced to 37½ or 3 cents above last week. Present condition of market is firm.

Official quotations of the S. F. Wholesale Dairy & Produce Ex. are:

Fresh ranch eggs	.37½
Eggs firsts per doz	.32½
Eggs seconds	.26½
Eastern selected	.27
Eastern firsts	.25
Eastern seconds	.23
Hens per doz	3.50@5.50
Hens extra	6.50@7.50
Young roosters	5.00@6.00
Old roosters	3.50@4.50
Fryers per doz	4.00@5.00
Broilers per doz	3.00@3.50
Geese per pair	1.50@1.75
Goslings per pair	1.75@@2.00
Ducks young	5.00@6.00
Hen turkeys per lb	.20@21
Gobblers live	.19@20
Spring turkeys	.24@26
Pigeons young	1.25@1.50

Live Stock.

San Francisco prices gross weight:

Steers No 1	.3¾@4
Do second quality	.3¼@3½
No 1 cows and heifers	.2¾@3
Second quality	.2¾
Hogs 100 to 225	.6½
Hogs 225 to 300 lbs	.6
Calves per lb	.3½@4½
Lambs spring	.4½@4¾
Wethers No 1	.4
Ewes No 1	.3½

Potatoes.

Wholesale market quotations:

River Whites fy	.70@1.00
River Whites poor	.50@65
do per box	1.00@1.15
Early Rose new	.75@85
Salinas Burbanks	1.35@1.70
Sweets per lb	.2@3¾

Vegetables.

Wholesale quotations:

Asparagus per lb	.7@8
Asparagus No 2	.4@5
Bell peppers per box	.65@75
Celery per doz	.35@50
Cucumbers per box	.35@50
Chili peppers per box	.35@50
Corn per sk	.75@1.75
Egg plant per box	.40@50
Green peas per lb	.2@2½
Lima beans	.4@5
Squash per box	.35@50
Onions green per box	.70@75
Okra per box	.50@60
Rhubarb per box	.50@65
Tomatoes per box	.25@40
Tomatoes River large box	.75@1.25
String beans	.2@3
Wax beans	.2@3
Garlic new	.4@6

Onions.

Onions red per sk	.60@75
Onions yellow per sk	.75@90

Citrus Fruits.

Valencias facy	2.50@4.00
Grapefruit seedless	2.00@3.50
Lemons ch	1.50@2.50
Lemons fy	2.50@3.50
Limes	4.00@5.00

Fresh Fruits.

Apples green per box	.25@50
Apples fy Gravenstines	.75@90
Apples Astrachans	.50@75
Crabapples	.50@60
Blackberries per chest	3.00@5.00
Cherries white per drawer	.35@60
Cherries Royal Annes	.3@6
Cherries Black	.3½@6
Currants per chest	5.00@7.00
Figs per crate one layer	.65@85
Grapes per crate seedless	.65@75
Grapes sweetwater	.50@75
Grapes Muscats	.60@75
Grapes Rose of Peru	.50@60
Grapes Tokays	.60@90
Huckleberries per lb	.9@11
Loganberries	4.00@6.00
Cantaloupes Turlock	1.25@1.50
Cantaloupes River	.50@75
Nectarines	.60@75
Nestarines white	.60@65
Pears Bartlett per box	.25@60
Pears other varieties	.40@50
Pears per ton	10.00@20.00
Plums lug box	.40@50
Plums Damson	.75@1.00
Plums per ton	10.00@12.00
Peaches lug box	.40@60
Peaches per box	.25@50
Peaches baskets	.20@35
Aligator pears per doz	7.00@9.00
Raspberries per crate	1.50@1.75
Raspberries per lb	.7@9
Strawberries per chest	5.00@7.00
Longworths per chest	6.00@8.00
Watermelons per doz	1.00@2.00

Dried Fruits.

1908 prunes being contracted for at 4@4½ cents for Santa Claras and 4 for outsides.

Apricots show remarkable firmness and have advanced materially. In fact all dried fruits are showing much interest.

New crop contracts, 25-lb. lots—Apricots per lb.: Choice, 6@8; fancy, 9@10.

PEACHES — Choice 5@6; extra fancy 6@7.

Apples (evap.)	.4½@6
Figs white	.2¼@3½
Nectarines	.10@13
Plums pitted	.12@15
Peaches st	.5@5¼
Peaches ch	.5¼@5½
Peaches fy	.6@6½
Pears	.5@5½
Prunes 4-size bag basis	.3½@3¾

Nuts.

Walnuts S S No 1 new crop	.12½@13
Walnuts No 2	.10@10½
Almonds nonp	.11@12
Almonds IXL	.10@10½
Ne Plus Ultra	.10

Beans Dried.

Limas	4.90@5.00
Pink	3.25@3.40
Small white	4.60@4.75
Large white	4.60@4.75
Lady Washington	3.45@3.50
Black eyes	3.40@3.60
Red kidneys	2.75@3.00
Garvanzas	3.50@3.75
Bayo	3.10@3.20
Horse beans	2.25@2.40

Hops.

Hops new crop	.10@13
Hops old stock	.3@6

Honey.

Clear white comb	.15½@16
Amber	.12@14
Extracted w c	.7@8
Extract light amber	.6½@7
Beeswax No 1 per lb	.28@30
Beeswax No 2 per lb	.25@27

Hay.

Somers & Co. say:

Receipts of hay for the past week amounted to 3890 tons, an amount about equal to that which arrived last week. Conditions remain practically the same here so we can report absolutely no change in prices. But little interest is shown in any hay on the market with the possible exception of an occasional car of fancy wheat hay, which quality is seen but very little here now owing to the fact that people who purchase this quality of hay cannot bring it in at present and realize and profit on their investment and they are, therefore, holding it in the country with the idea of a better demand later on. Whether this will come or not has yet to be decided for trade still continues dull and we are all the time getting reports to the effect that many consumers who have any amount of storage room have sufficient old hay on hand to last them some little time. One or two of the larger consumers are filling their barns, but this has had no noticeable effect on the market.

Choice wheat hay	16.00@17.00
Good wheat hay	14.00@15.50
Other grades same	11.00@13.00
Wheat and Oat	11.00@15.50
Tame oat	11.00@15.50
Wild oat	10.00@13.50
Stock hay	8.00 to 10.00
Alfalfa	9.00@13.00
Straw, per bale	.45@75

Grains.

Wheat No. 1	1.62½@1.67½
Barley new	1.35@1.40
Corn large yellow	1.80@1.85
Oats white	1.45@1.55
Oats gray	1.40@1.55
—Rye new crop	1.45@1.52½

Feed Stuff.

Bran per ton	29.50@31.00
Feed cornmeal per ton	39.00@40.00
Cracked corn per ton	40.00@41.00
Rolled barley per ton	30.00@31.00
Oil cake meal per ton	36.75@38.25
Cocoanut cake per ton	25.00@26.00
Middlings	32.00@35.00

If the complaining farmer will compare notes with the city fellow who gets $2000 a year, but has to buy everything he needs, he may be surprised to learn the amount of salary he is actually getting.

Citrus Market

LOS ANGELES, Cal., Aug. 19, 1908.

The few oranges going forward now are commanding fair prices. At present rate the Valencias will clean up before the end of the season.

Shipments.

Total citrus shipments to date 27,877 cars, of which 4247 were lemons. To same date last season 26,643, of which 2123 were lemons.

NEW YORK, Aug. 14.—Market firm, slightly easier on 176s to 250s. Two Valencias sold. Weather hot and muggy.

VALENCIAS—	Avg.
Blue Globe Riv Ft Ex Riv	$4.00
Red Globe Riv Ft Ex Riv	3.80

CLEVELAND, Aug. 14.—Weather hot and muggy. Three cars sold. Four on track. Market is firm on good stock.

VALENCIAS—	
Alhambra S T Ft Ex Alham	3.85
Don Quixote S T Ft Ex Alham	3.50
California S T Ft Ex E Alham	2.15
Golden Scepter Rialto Orange Co	3.70
LEMONS—	
Squirrel A H Ft Ex Prenda	3.95
Palm Tree A H Ft Ex Pen	3.70
Commercial A H Ft Ex Prenda	2.00

PHILADELPHIA, Aug. 14.—Two cars Valencias sold. One car on track. Weather hot and muggy. Market is steady.

VALENCIAS—	
Aurora E Peycke Co	4.15
Climax E Peycke Co	4.08
Parrot S A Ft Ex Pom	3.27

PITTSBURG, Aug. 14.—One car sold. Six on track. The market is lower. Weather favorable.

VALENCIAS—	
Quail O K Ft Ex	3.45
Coyote O K Ft Ex	3.20
Blue Jay O K Ft Ex	2.50

CINCINNATI, Aug. 14.—Weather hot and muggy. Market is weak. One car sold.

VALENCIAS—	
Hawk S A Ft Ex Pom	2.50
Carlo S A Ft Ex Pom	2.30
BUDDED—	
Parrott S A Ft Ex Pom	2.75
ST. MICHAELS—	
Parrott S A Ft Ex Pom	3.85

ST. LOUIS, Aug. 14.—Weather warm. Think the market will be slightly higher on lemons. Market is weak on Valencias. Three cars sold. Three on track.

VALENCIAS—	
Sweetheart High Ft Ex	3.90
Eagle High Ft Ex	3.60
Yankee Doodle High Ft Ex	3.05
LEMONS—	
Montecito Sweetwater Ft CoBon	3.05

Messina lemons sold at $2.40 per box.

NEW YORK, Aug. 17.—Four Valencias and four mixed cars sold. Market very steady. Demand good. Prices unchanged. Weather cloudy with showers.

VALENCIAS—	
Rossmoyne fy E M Ross	3.85
Orchard or Nat Or Co	4.40
Standard st Nat Or Co	3.85
Blossom	3.45
Orchard Run	2.95
Blue Seal ACG Ft Ex	4.30
Red Shield ACG Ft Ex	3.30
Green Crown ACG Ft Ex	2.90
Alta Cresta AH Ft Ex	4.15
Robusta AH Ft Ex	3.55
Cerrito fy LVW Brown	4.00
Swastika ch LVW Brown	3.45
Plain End LVW Brown	3.10
Thoroughbred or Cal Cit U	3.95
Summit ch Red O G Assn	3.60
Yacht San Ber Ft Ex	2.90
El Toreador st S Mar G P Co	3.50
GRAPEFRUIT—	
Alta Cresta seedless AH Ft Ex	4.80
Robusta seedless AH Ft Ex	3.50
Cerrito ½s fy LVW Brown	3.40
Orchard ½s or Nat O Co	3.50
Rossmoyne or E M Ross	2.75

ST. LOUIS, Aug. 17.—Weather very hot. The market is advancing on lemons but weak on Valencias on account of the very hot weather. Three cars sold, six on track.

VALENCIAS—	
Defender ex ch Altland Ft Co	3.60
Buscada Altland Ft Co	3.60
NAVELS—	
Stock Label	2.10
LEMONS—	
Coyote OK Ft Ex	3.05
Blue Jay O K Ft Ex	2.50
Owl OK Ft Ex	1.85
Bonanza E B Leach Chula Vista	4.05
Nat E B Leach Chula Vista	3.45
Orchid fy Altland Ft Co	3.25
Buscada Altland Ft Co	3.00

BOSTON, Aug. 17.—One car sold. It is raining. The market is strong and higher. Five cars on track.

VALENCIAS—	
Stag ACG Ft Ex Glendora	4.40
Pointer ACG Ft Ex Glen	4.20

PITTSBURG, Aug. 17.—Two cars sold, six on track. The market is steady. Weather warm.

VALENCIAS—	
Red Globe Riv Ft Ex Riv	3.55
Cal. Orange Riv Ft Ex Riv	3.05
Humming Bird Riv Ft Ex Riv	3.35
Riverside No 8 Riv Ft Ex Riv	3.00
LEMONS—	
Commercial AH Ft Ex Pren	2.50
Newsboy R H Ft Ex Red	3.05
Old America	3.70
LEMONS—	
Arab S A Ft Ex San Di	3.40
Pet S A Ft Ex San Di	4.00
Duck S A Ft Ex San Di	2.50
Banner or Pinkham & McKev	2.95
GRAPEFRUIT—	
Royal Knight R H Ft Ex Red	1.50
Banner or Pinkham McKev	.60

EARLIANA TOMATOES.

PHILADELPHIA, Aug. 17.—Three cars Valencias sold. Weather cloudy, muggy. Market is steady. One car on track.

VALENCIAS—	
Coyote O K Ft Ex	3.22
Stag ACG Ft Ex Glen	4.19
Pointer ACG Ft Ex Glen	4.00
Hunter ACG Ft Ex Glen	3.63
Purity fy Tustin Pack Co	4.16
Old Oak ch Tustin Pack Co	3.85

CINCINNATI, Aug. 17.—Weather hot and muggy. The market is weak on Valencias and steady on lemons. Three cars sold, one on track.

VALENCIAS—	
Red Globe Riv Ft Ex Riv	3.90
Cal. Orange Rix Ft Ex Riv	3.00
LEMONS—	
Blue Jay OK Ft Ex	3.25
Silence ex ch Flagler Co	4.00
Cry Baby st Flagler Ft Co	3.70

CLEVELAND, Aug. 17.—Weather hot and muggy. Market is firm on good stock. Three cars sold, three on track.

VALENCIAS—	
Royal Knight RH Ft Ex Red	3.70

For Mehring Foot-Power Milking Machines see O. J. Weber Co., 555-557 S. Los Angeles St., Los Angeles, Cal.

UNCERTAINTY OF FUMIGATION REMOVED.

Continued from page 171.

ground on one side and the figure 15 on the other side, then it is 30 feet over the tree. If the men have been careless in throwing the tent and the center of the tent is not over the center of the tree still it registers accurately, for if one side registers 10 feet and the other 20 feet still it is the thirty feet. That is, the sum of the figures is the distance over. That is one dimension.

The other dimension is the tree circumference. This is secured by pacing about the tree, and one with ordinary care can do that with sufficient accuracy.

The fumigator now has the two dimensions, the "circumference" and the "over." To make these of value, Mr. Woglum has prepared a chart figured on the basis of one ounce of cyanide being sufficient for 100 cubic feet of space under the tent. This is a strong dose, found to be sufficient. The fumigator takes this chart; he follows down the left hand column and finds his distance over; say, for instance, the tree is 30 feet over and 30 feet in circumference, then along the top he finds that figure. At the intersection or crossing of these lines is the exact dose for that tree.

The wayfaring man need not err therein and the common laborer has no excuse for not securing good results under this improved plan. It should mean vastly better results from the fumigation process.

FUMIGATION INVESTIGATIONS.

Continued from page 173.

definite dimensions as herein specified, was worked out independently for that particular tree. A chart was then made and these different dosages for trees of different dimensions placed therein. The result is this chart, a glance at which will show that there is no abrupt break from one end to the other but a gradual increase in the dosage as the tree becomes larger.

This dosage is about the equivalent of what is known among many fumigators as a double dosage; that is, about twice the dosage strength ordinarily employed against the black scale. The schedule was prepared for the purple scale but can be used for any other scale. This schedule is not one of eradication for the purple scale and was not prepared with any such idea in mind. As stated previously in this paper it was prepared for use against the purple scale in the Whittier section during the latter part of July, at a time when the young fruit in some orchards was about the size of a walnut. It was made with a dosage of as great strength as the fruit would stand at that time without injury. It is possible that a stronger dosage could be used at this date wtihout ill effects. I do not believe that it is advisable to use a dosage of less strength against the purple scale.

This schedule is uniform throughout as to dosage-strength. It thus easily allows an increase or decrease in strength if desired. If a person does not consider this dosage heavy enough he can increase it very readily by any amount he wishes, by simply increasing eacn number or dosage in equal proportions and vice versa.

Total Available Gas.

One more consideration. It is the use of water in fumigation. Equal parts of acid and cyanide are used by most fumigators. The proportion of water used, however, varies all the way from 2 to 8 parts. Believing that there must be some difference in the amount of gas available where different proportions of water were used, a careful experiment was outlined, which was performed, and the analysis of the residue made by the Bureau of Chemistry at Washington. The result of this experiment goes to prove that the use of more than 3 parts of water to one of acid results in a net loss of gas through absorbtion by the water so that where 8 parts water are used twice the quantity of cyanide and acid is necessary. This makes a needless waste.

Many fumigators in their work frequently give trees severely infested with scale a heavier dosage than other trees less severely infested. Almost as frequently, also, the proportion of water is increased on these trees receiving the heavier dosage, thus unconsciously preventing the object which they sought to attain.

Pioneer Rubber Sanded Roofing

The Roof that "proves," sun-proof and rain-proof, needs no paint or repairs. Following are a few "Wont's" about Rubber Sanded Roofing:

Won't chip. Won't warp.
Won't tear. Won't crack.
Won't rust. Won't decay.
Won't shrink.
Won't crumble.
Won't need repairing.
Won't absorb moisture.
Won't attract electricity.
Won't need any paint to preserve it.
Won't be affected by any climatic changes or conditions.
Won't cost as much, in the long run, as other roofing.

What Rubber Sanded WILL do is told of in our booklet "ROOF TALK," which will be sent free upon request, together with samples of the Roofing itself.

Pioneer Roll Paper Co

Makers of Rubber Sanded Roofing and Refiners of Asphaltum

Department 11, Los Angeles, Cal.

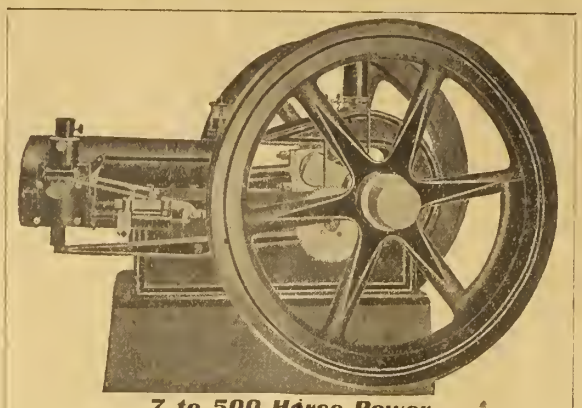
The Popular

Western

Built In the West Best For the West

FACTORY AT YOUR DOOR

LONGEST LIFE LEAST FUEL FEWEST PARTS ALWAYS GOES



7 to 500 Horse Power

Irrigation Plants

Designed Constructed Installed

U. S. GOVERNMENT TEST

35 H. P. Western Engine Been Run 2 Years

RAN 87 DAYS DAY AND NIGHT

With One 20-Minute Stop to Lace a Belt

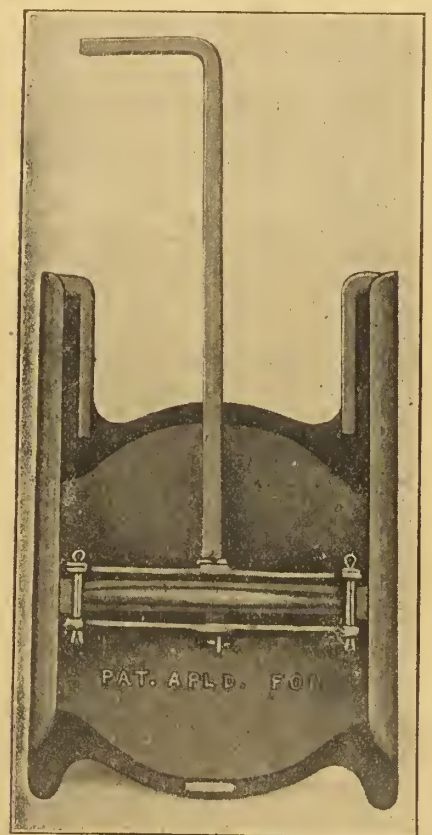
Send for the Copy of Test

Western Gas Engine Co.

Works and Office:

908 to 932 No. Main St. Los Angeles, Cal.

Send for Catalogue.



Pomona Pressure Gates

A Great Aid in Irrigation

These gates are made similar to the ordinary slide gates except that there is a locking device interposed to lock the cover in any desired position or to press the two faces together to make a WATER TIGHT joint, from either direction when closed. The parts are very simple, only a tapering screw with a split tapering nut socket. By turning the handle to the right tightens, and to the left loosens the cover or it may be removed entirely.

Pomona Mfg. Co.

Pomona, Cal.

THE

Latest Deep Well

Guaranteed to deliver from 100 gallons per minute upwards, depending on the diameter and capacity of well, from a depth of 50 to 300 feet below the surface. Can be either belt driven or direct connected to electric motor as occasion requires.

Write for Catalogue 46B.

Byron Jackson Iron Works

Turbine Pump

A deep well pump that has no valves or plungers to wear or get out of order, no gears, consequently no noise or breaking of teeth.

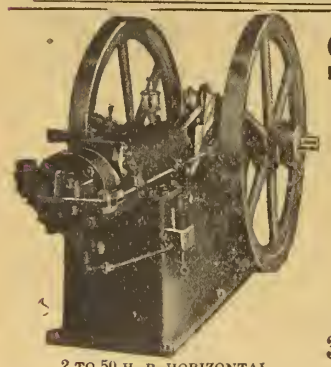
Compact, durable, always primed and ready to operate, constant flow, hence increased capacity of well.

This type of pump is fast taking the place of Vertical Steam, Deep well Plunger and Propeller Pumps.

Main Office and Works:

Carlton Station

West Berkeley, Cal.



STOVER GAS ENGINES

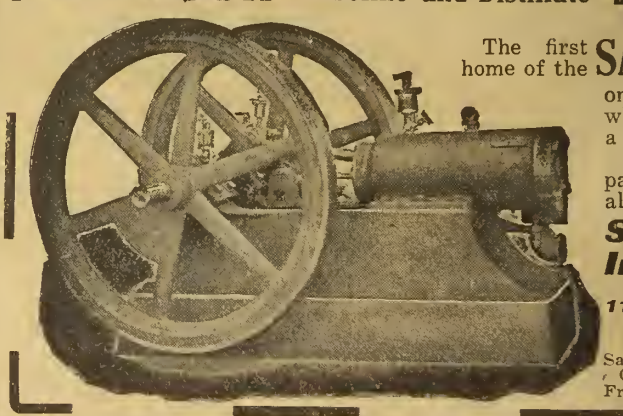
The simplest and the best. We have had long experience installing pumping plants. We know our business. See us before you buy. 2 to 50 H. P.

LIVINGSTON & LEE

352 So. Los Angeles St., Los Angeles, Cal.

2 TO 50 H. P. HORIZONTAL

Samson Gasoline and Distillate Engines



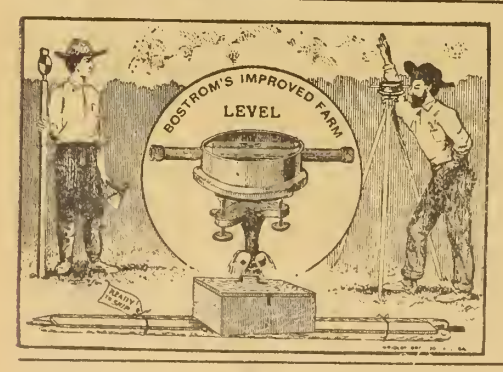
The first home of the SAMSON engine is a large one. It's second home, which is everlasting, is a happy one.

They may be compared with the sea—always ready to roll.

Samson Iron Works

Office and Factory:
1100 to 1198 Aurora St.
Stockton, Cal.

BRANCHES:
San Francisco,
Cor. Market and First Sts.
Fresno, 920 J St.

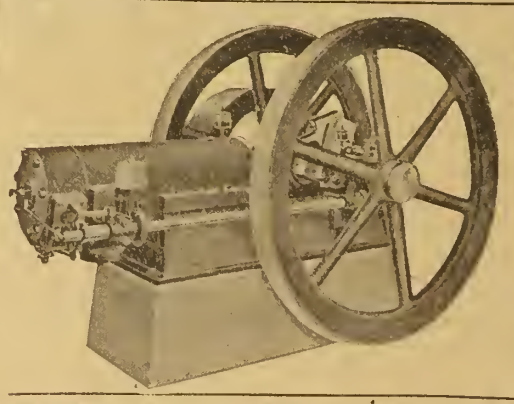


BOSTROM'S IMPROVED FARM LEVEL

Used for irrigation and drainage work. Cheapest and best level yet invented for farm use. Has the latest patented improvements in simplicity and usefulness. Can be operated by any one. Price including telescope tripod and target rod $15.00.

PALACE HARDWARE COMPANY
581 Market Street, San Francisco.

Coast Agents. Send for Circular.



HERCULES DISTILLATE ENGINE

Heavy, Strong and Simple in Construction

The Right Engine at the Right Price

Horizontal and Vertical; All Sizes. Buy direct from the manufacturer and save agent's commission. Send for our new Catalogue C.

The Hercules Gas Engine Works

Alameda, Cal.

Wine Tank

Tanks Tanks

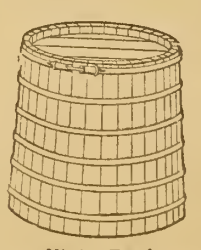
WINDELER'S PLANING MILL AND COOPERAGE

GEO. WINDELER, Prop

Water Tanks, Wine Tanks made from carefully selected stock by careful and experienced workmen. "Tanks that are well made last a long time." It will pay you to get my prices before buying.

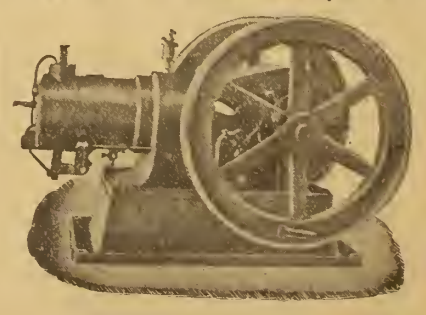
Geo. Windeler

144-154 Berry St. San Francisco, Cal.



Water Tank

Olds Gasoline Distillate Engines



For all purposes, Stationary, Portable and Spraying. All sizes from 2 to 100 H. P. Simple, durable, warranted, are giving fine satisfaction to purchasers on the Coast. Prices and circulars mailed on application to

The Compressed Air Machinery Company

Dealers in all kinds of machinery

34 to 40 Jessie St., San Francisco, Cal.

SEND FOR BULLETIN NO. 15

ARNOTT HARNESS $10.00 to $80.00

Everything guaranteed. Money back if not satisfactory. Factory in Los Angeles. California leather for all uses. Send for No. 10, eighty page FREE Catalogue.

ARNOTT & COMPANY 112-118 So. Los Angeles St. Los Angeles, Calif.

When writing advertisers, mention Cultivator.

When writing advertisers, mention Cultivator.

LIBRARY
OF THE
UNIVERSITY OF ILLINOIS

California Cultivator

Published Weekly — One Dollar a Year

Los Angeles — August 27, 1908 — San Francisco

Foliage of Two Eucalypts

E. AMYGDALINA—VAR REGNANS.

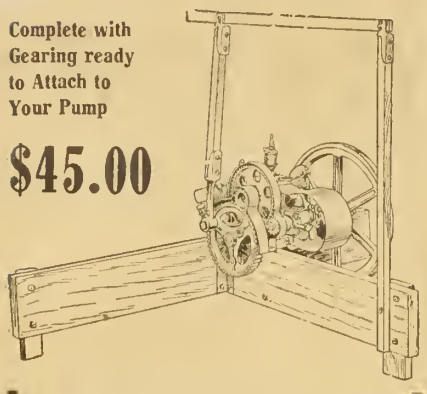
E. ROSTRATA—RED GUM.

The Amygdalina is the Tallest *of* Australian Trees. In This State It Has Not Shown Such Great Growth. *The* Rostrata is One *of* Our Best Trees

Aermotor Gasoline Engine

Complete with Gearing ready to Attach to Your Pump

$45.00



Will pump all the time, wind or no wind, and deliver as much water as an 8 ft. Aermotor in a good wind.

From 225 to 1600 gallons per hour, depending on height water is to be raised.

Air cooled, uses Gasoline or Distillate.

A reliable, durable engine at a very low price. **Can You Afford** to be without one.

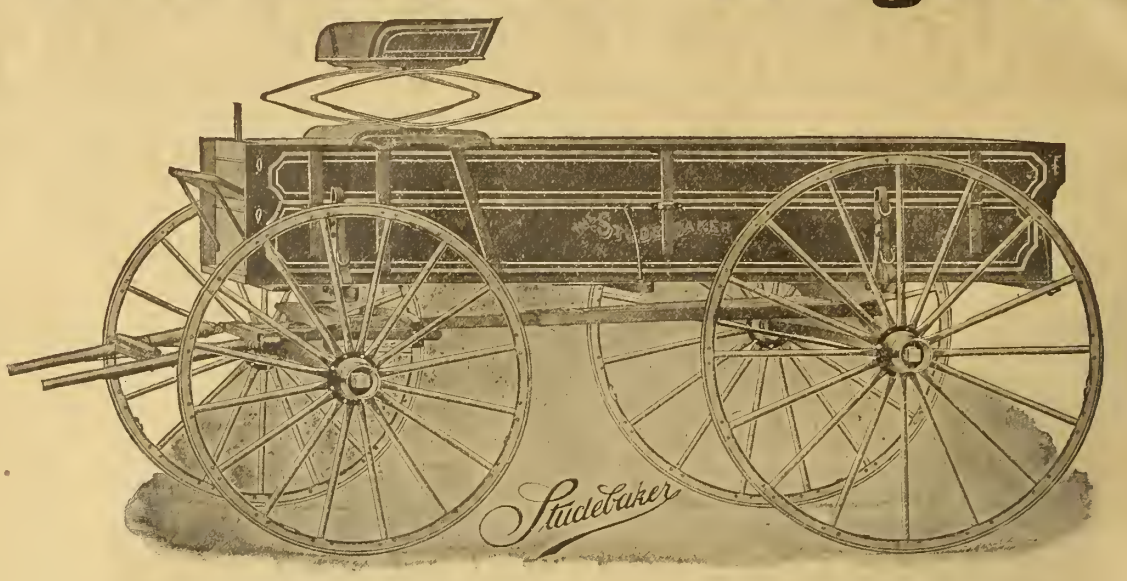
Send for Special Circular.

Tanks Towers Pumps Distillate Engines

Smith-Booth-Usher Co
Machinery and Supplies
Successors to
S. J. Smith Machinery Co. and L. Booth & Sons
212-214 S. Los Angeles St., Los Angeles
Home, Ex. 1090—Sunset, Main 1090

One cubic foot of water equals seven and one-half gallons.

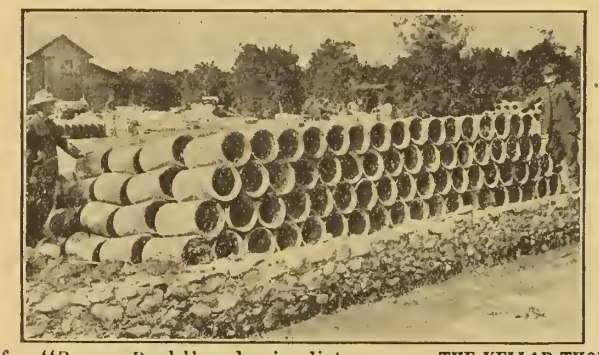
Studebaker Wagons



You are now marketiug your crops of hay, grain, fruit or vegetables. You need a wagon. Get the best.

We can furnish the exact wagon needed for every condition. Write for catalogue or call at our store and learn about the best wagons made.

Newell Mathews Co.
Wagons, Carriages & Implements
200 North Los Angeles Street
Los Angeles, California



From photograph showing amount of

Ten-Inch Pipe

made by four men from 10 bbls. of cement in 9 hours — 280 two-foot joints, or 560 feet. This pipe was made with the

"K T" Moulds

An equal amount can not be made with any other tools in the same period of time. Write for "Brown Book" and price list.

THE KELLAR-THOMASON MFG. CO., Covina, Cal.

Pioneer RUBBER SANDED ROOFING

The Roof that "Proves," sun-proof and rain-proof; needs no paint or repairs

Rubber Sanded Roofing won't chip, won't rust, won't tear, won't warp, won't decay, won't crack, won't absorb moisture, won't attract electricity, won't wear out, won't be affected by climatic changes or conditions, won't cost as much, in the long run, as other roofing.

What Rubber Sanded Roofing WILL do is told of in our Booklet, "Roof Talk," which will be sent free upon request, together with samples of the Roofing itself.

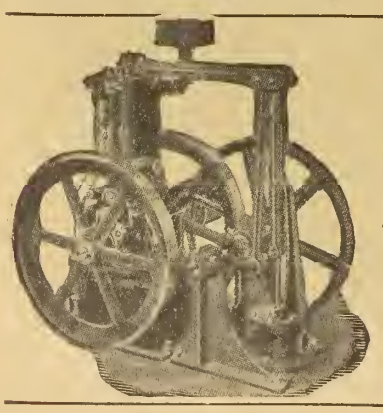
Pioneer Roll Paper Co. Department 11 Los Angeles, California
Makers of Rubber Sanded and Rubber Flexine Roofing and Refiners of Asphaltum

Alamo Gas and Oil Hoisting and Stationary Engines

Best in price, appearance and quality. Self-starting and small operating cost. A complete line of repair parts and accessories always on hand. Complete pumping plants installed and we are prepared to construct all kinds of mining machinery on contract. Write for catalog and prices.

Harrison Machine Works

719-721 N. Main Street Los Angeles, California



A Handy Little Engine

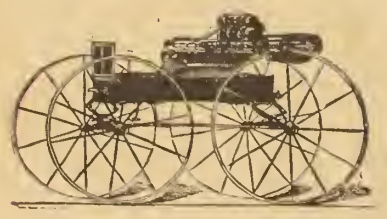
Just the thing to run the feed cutter, the pump, the churn, the grinder, or anything on the ranch. It's well named

The Little Wonder

Write or call on

Wm. Gregory
602 No. Main St. Los Angeles, Cal.

Terrible Accident at 110 and 112 North Los Angeles Street



Hard Times make us Want money, so we have decided to throw on the market

50 Surreys at Greatly Reduced Prices **For Cash**

We have Surreys with tops and without tops; rubber tires and steel tires. If you are going to need a two-seater don't fail to call and examine our stock before you purchase. No trouble to show goods.

This Sale Lasts Only 30 Days

Los Angeles Vehicle and Implement Co. 110 and 112 North Los Angeles Street Los Angeles, California

Fanning Mills

"The California"

This is one of the most powerful and complete cleaners in the market, and is known as a double blast fan mill. The first blast operates as the grain passes in showers through the sieves, and in this operation the chaff and light stuff is removed. The second blast operates as the grain passes off the last screen in a thin stream and at this time the heavier particles are removed. These mills are rigged to clean beans.

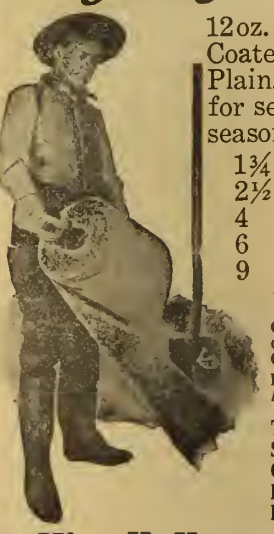
We are also agents for the

Western Fanning Mill

This machine is not only a cleaner but likewise will acomplish what no other machine on the market will do. Separates wheat, oats and rye, clover and timothy and makes them marketable in their class. Separates cheat and cockle from wheat. Separates wild oats from wheat, barley and large tame oat. Separates barley from wheat, and rye from wheat. Equipment is five screens and sieves, one wheat zinc hurdle, a chess-board, tall-board and spout suitable for all requirements of a farmer. Will clean and grade beans. Alfalfa and bean screens are extra.

Pacific Implement Co.
133-153 Kansas St. San Francisco Cal.

Irrigating Hose



12oz. Canvas Coated or Plain. Good for several seasons.

1¾ Inch
2½ "
4 "
6 "
9 "
3 Inch

Galvanized or Brass Couplings.

Prices on Application

Tents, Stack Covers, Picking Bags

The Wm. H. Hoegee Co.
INC.
138-140-142 So. Main St., Los Angeles
BOTH PHONE EXCHANGES 87

The Gilson Air Cooled Gasoline Engine

Wonderfully Simple, Reliable and Convenient. Light and Compact. Any Size from 1 H. P. to 15 H. P. Write for large catalogue. Sold by

I. O. FOWLER, Box 43, Palermo, Cal.

California Cultivator

Vol. XXXI—No. 9 Los Angeles, California, Thursday, August 27, 1908 Subscription $1 a Year

Some Hardy Varieties of Eucalypts

Leonard Coates of Morganhill Writes Entertainingly of Some of the Lesser Known of These Useful Trees

THERE are several species of very hardy eucalypts which are unknown in California, unless, possibly, in the collection of some amateur. There are also methods which may be employed in the propagation and growing of the young plants, which will tend greatly to harden them; not, of course, changing their characteristics, but rendering them less susceptible to climatic extremes. And these extremes may be said to be 15 degrees and 125 degrees, in spite of the equability of the California climate of which we hear so much but experience so little.

Dr. Horace Bushnell, 50 years ago, wrote of the "incredible anomalies" of the California climate. "It cannot be said of California, as of New England or of the Middle states, that it has a climate. On the contrary, it has a great multitude of them, curiously pitched together, at short distances, one from another, defying, too, not seldom, our most accepted notions of the effects of latitude and altitude, and the defences of mountain ranges."

Fortunately, some of the most valuable species will stand all these "climates," and those that do not may be planted near the coast for a length of 600 or 700 miles.

Some of the hardiest of the eucalytpus family are described by Chief Forester Matthews, of the government of New Zealand, in a recently published book on "Tree Culture" in that country. All of them we have now growing in our nurseries and we shall be distributing them at various elevations in the Sierra foothills as well as in the Coast range.

Eucalyptus coccifera (mountain peppermint gum.) This species is frequent up to 4000 feet in Tasmania. A specimen has stood 23 degrees of frost in England without injury, and is now 78 feet in height. It has a tendency to a tall, central stem, frequently rising to 150 feet. The timber is heavy, reddish and extremely durable. It grows naturally amongst rocks and on poor gravelly soils at fairly high altitudes.

E. urnigera (urn-bearing gum.) The foliage is denser than coccifera, otherwise very similar, though it can be readily identified by its capsules, or seed cups, which are shaped like a Grecian urn. It is found only in the cool, elevated regions of Tasmania.

E. Muellerii (known in Tasmania as mountain red gum). Not to be counfounded with E. Muelleriana, being but recently discovered, and growing only in the alpine regions of Tasmania, where it is said to attain a height of 200 feet, and often 100 feet without a single branch. The wood is very hard and heavy, though it has not been known long enough for proof of its durability to be established. It has withstood 26 degrees of frost without damage, and, according to Hooker, it is hardy at Kew Gardens, London, England. E. Gunnii (cider gum.) Large trees have withstood 32 degrees of frost in New Zealand, and is hardy in many places in England and Scotland. It is found in alpine regions up to 5600 feet. Grows in almost any soil. Wood from the older trees is hard and durable. Tree of moderate size.

E. Stuartiana (apple-scented gum). Fastest growing of all the very hardy eucalypts. Prefers moist, sandy soil.

E. Regnans (swamp gum of Tasmania). In vertical growth it exceeds the "Big Trees" of California, one specimen being found to measure 471 feet. It has resisted 22 degrees of frost. Prefers cool, sheltered gullies. One of the strongest of all the timbers, but not lasting in the ground.

These comprise most of the valuable species that are suitable for mountainous regions, some of them having withstood zero weather without injury.

All young seedlings, however, are liable to injury by the hot sun, as well as by the early frosts, unless properly hardened in the early stages of their growth. Eucalyptus plants grown near the coast, where the air is invariably moist and cool, often receive a rude shock when transplanted to localities where extremes of climate are much greater. Grown where the summers are intensely hot and dry, it is necessary that the young trees be kept constantly shaded, or they will be burnt. This great heat, under shade, induces to a "weedy" growth, not desirable when transplanting time comes. It would seem, then, that a climate where the weather is warm, and where the tender seedlings may be exposed to the full rays of the sun, and where they will also face the sharp frosts of early winter should be, and is, an ideal location for the growing of these trees in large quantity. We move the plants constantly, from muslin shade over the seed boxes until well sprouted, to a lath shade, and then into the full sunshine, before transplanting. Then, after transplanting, to entire shade for one day, lath shade for a few days or a week, they then are exposed fully to the weather. There is nothing specially new in this, except that we find by an exact routine in thus handling the plants, all are hardened to stand great climatic extremes, and not a single plant wilts after transplanting. When the time comes for permanent planting in the field, we have a robust tree, inured alike to the burning rays of the sun or to many degrees of frost.—Leonard Coates, Morganhill, August, 1908.

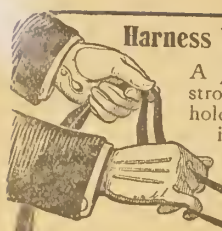
EUCALYPTUS GLOBULUS. (Blue Gum.)

Eucalyptus globulus is only one of the 50 different kinds known in Australia as "blue gum." In California "blue gum" has been applied by common consent to the globulus. Another blue gum of Australia is leucoxylon," which McClatchie suggests should be called "white gum."

The eucalypts constitute a considerable part of the forests of Australia, and are said to give a characteristic appearance to the landscape of the regions in which they grow. They are known in their native home as gum trees, mahogany trees, box trees, stringy barks and by quite a number of other names, the first being the most common appellation. Notwithstanding the general use of the term "gum tree," the name is not an entirely appropriate one, as the exudations from the trees are in most cases not gums, but resins. The name "eucalypts," proposed by Baron Von Mueller, is more suitable and euphonious. The only Australian common names that have been generally adopted in America are "blue gum tree" for E. globulus and "red gum tree" for E. rostrata and several other species, indiscriminately. In Australia several species are known as blue gums and several as red gums. This confusion of names, due to the great number of the species, and to the application to the same species of different common names by the inhabitants of different colonies of Australia, makes it impracticable to designate a eucalyptus tree by a common name. It will probably be some time, even in their native home, before these trees have well established popular names for each of the 150 or more species.

The average condition of white potatoes on August 1 was 82.9 per cent of a normal, as compared with 89.6 on July 1, 1908, 88.5 on August 1, 1907, 89.0 on August 1, 1906, and 86.8 the ten-year average on August 1.

The average condition of spring wheat on August 1 was 80.7 per cent. of a normal, as compared with 89.4 a month ago, 79.4 on August 1, 1907, 86.9 on August 1, 1906, and 82.7 the ten-year average on August 1.



Harness With "Life" in it

A *pliable* strap is a strong strap. You will hold the horse all right if you have softened and toughened the whole harness with

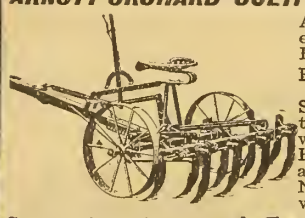
EUREKA Harness Oil

Unequalled as a leather preservative. Prevents cracking and rotting. Gives a fine finish. An application now and then saves the harness—pays the owner. Ask for Eureka Harness Oil. Made by

STANDARD OIL CO. (Incorporated)

EVERYTHING FOR THE FARMER

ARNOTT ORCHARD CULTIVATOR



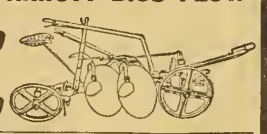
Acknowledged the BEST. Five feet wide. Spring teeth if wanted. Horizontal lift, No neck weight.

Steel and Malleable Iron. Dust proof wheels..... **$45.00**

SANDERS-ARNOTT DISC PLOW

SINGLE **$60.00**

DOUBLE **$80.00**



COLUMBUS WAGONS

Three inch Skein. Four inch Tire. Brake and Pole. **$80.00**

PACIFIC ORCHARD TRUCK

3¼x10 Skeins. 28x30 in. wheels..**$32.50**

LEATHER TRIMMED

Guaranteed Twelve Months

$65.00

MONITOR WINDMILL

8 ft.....$30.00

10 ft..... $45.00

The New 8 and 10 Foot MONITOR

MONITOR ENGINE

Simple Economical

2 H. P....$130

4 H. P. $250

6 H. P. $350

Catalogue No. 9 Sent Free on Application Address Department G.

ARNOTT & COMPANY Inc.

112-118 South Los Angeles Street

QUALITY ARNOTT GUARANTEED

Los Angeles California.

When writing advertisers, mention Cultivator.

With the Citrus Growers

GUM DISEASE.

IN A recent article in the Los Angeles Times, State Horticultural Commissioner Jeffrey states that Judge A. F. Call of Corona has had much success in treating gum disease of citrus trees, and that his treatment is receiving general attention, and that drainage is the chief remedy used by the grower. [Judge Call's article appeared in the Cultivator of July 9th.—Ed.] Mr. Jeffrey states that a more rational school of horticulture is coming to the front and the physical conditions of the soil are claiming the attention of growers more and more. He states that gum disease is more prevalent in heavy soils than those of other character and that much trouble is brought about by the baking and imbedding of gravel about the roots. Our observations would lead us to believe that he is right, or at least, we cannot see fit to dispute him.

It is true that some of the worst cases of gum disease are found in soils that are so gravelly that it worries a five-inch stream to get across ten acres. In such cases, the natural conclusion would be that lack of water at frequent intervals would account for it. It is also true that trees in soils similar and also different have frequently suffered from lack of water, year after year and still show no signs of gum disease. So there you are. It is impossible to ascertain the physical condition of soils until you get into them. Surface indications are unsatisfactory. The impression some have, is that the soil immediately around the trunk of the tree is the seat of the trouble. That may be partly true though we cannot see how it can be to any great extent, because the feeding roots are mostly beyond the branches though there may be such a thing that poor condition of the soil immediately under the trees has most to do with the presence of the scaly bark gum disease.

We have in mind an orange grove in which we had occasion to spend much time and in which we never saw a case of this disease. This grove received a light dressing of stable manure last year and the trees were trimmed out on the inside occasionally, but the brush was stacked under the trees and around the trunks. The lower branches were allowed to grow to the ground, hiding all this rubbish. The under part of these collections of brush and leaves had rotted and formed a leaf mould mulch, not a spear of grass growing there, but the ground beneath was honey combed by earth worms. The spaces between the trees were in no better condition than hundreds of other groves, and while the crops of oranges were not excessively heavy, they were regular. But the point is the freedom from gum disease.

Mr. Jeffrey quotes Prof. R. E. Smith, in his statement, that there is a certain margin between health and an unsatisfactory condition classed as discase, and he also states that along this line of thought comes the idea that certain soils are easily kept in proper physical condition, while others are inclined to get out of such condition easily, and that there may be trees that are not so prone to succumb to these conditions and finally, there may be found a citrus stock easily kept in good condition. This last idea is in line with our observations. not only with sour stock but with certain strains of sweet stock as well. The Cultivator recently contained an article that advanced the theory that there may be some time found a stock that is immune, and that indications are that such already exist, not only as a budding stock, but a strain or strains of the commercial varieties which would resist the efforts that cause the disease, independent of the roots.—J. W. Mills.

CITRUS IMPORTS.

In a speech before the Citrus Protective League, Senator Perkins gave the following figures regarding the imports of oranges from the islands:

From Cuba, 1903 to 1907:

1903	151,519	lbs.....	$ 1,687
1904	226,142	lbs.....	3,671
1905	303,124	lbs.....	3,603
1906	541,489	lbs.....	10,164
1907	430,599	lbs.....	8,005

Imports of oranges from British West Indies from 1903 to 1907, inclusive, were:

1903	37,798,340	lbs....	495,256
1904	26,311,482	lbs....	338,395
1905	22,261,862	lbs....	269,194
1906	21,275,396	lbs....	249,658
1907	5,988,107	lbs....	75,839

The value of the citrus crop of California is $30,000,000, and the estimated consumption in the state, $1,000,000.

MANGO CULTURE.

Taking advantage of your kind invitation to give my views on the fancy mango question through your columns, for the benefit of our horticultural friends, I will endeavor to do so, as far as my knowledge extends in that particular line, says a writer in Porto Rico News.

The propagation and raising of the East Indian, Ceylon or Fancy Mango to an extent which might be called commercial is, as far as I can find out, a very recent industry in the United States, a few being raised by planters in Southern Florida. I have every reason to believe that mango raising will be one of the leading if not the leading industries in our tropical and semi-tropical climates. They are particularly adapted to the conditions of soil and climate in Porto Rico and grow remarkably fast, much more so than any I have seen in Florida. During my limited residence in Porto Rico, it has been practically demonstrated in our nursery at Bayamon what can be done by proper cultivation and care.

Few of the rare varieties have fruited in the United States, but I have eaten the Mulgoba and Sundusha varieties in Florida and they are certainly delicious, the word does not really describe the flavor. Their freedom from fibre and the absence of the unpleasant turpentine flavor so often found in the native mango, together with a firm, smooth flesh that can readily be sliced with a knife, are recommendations which place them far in advance of the common varieties. Of the flavor, I can only say it is "indescribable."

Mangos are shipped from Bombay to London, a trip of twenty days, in cold storage and arrive in very good condition bringing very remunerative prices. Now that some of our steamship lines are introducing cold storage to a limited extent, they can be sent from here to the United States safely.

I have seen fruit from young Mulgoba trees in Forida at the age of

HEIDER

2, 3, 4 and 5-Horse Eveners

For SULKY, GANG and DISC PLOWS

Ask Your Dealer for "Heider" Eveners, or Write Us

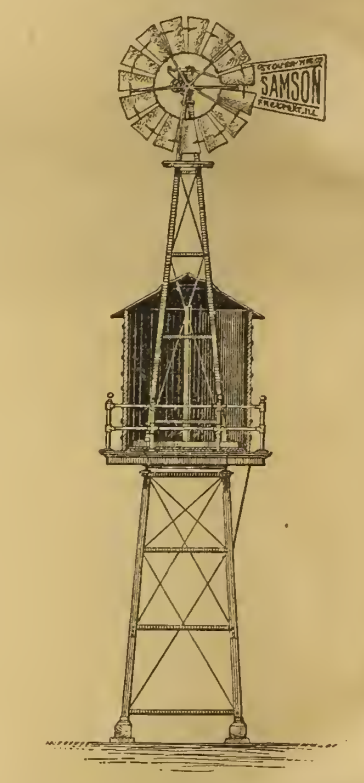
HEIDER MFG. CO.,

Mfrs. of all kinds of Eveners, Ladders, Etc.

Dept. 3. CARROLL, IOWA.

SAMSON WIND MILLS

Have double gears, removable bearings and center lift, which double the life of the mill. They will last longer, pump more water and give better satisfaction than any other WIND MILL.



This is an up-to-date Sub-structure, Tank and Wind Mill outfit complete; substantial, economical and attractive. We build all kinds. Write us or our general agents for full information and prices, description &c., before purchasing.

The STOVER MFG. CO.

FREEPORT - ILLINOIS

30 California Avenue

CRANE CO., LOS ANGELES and SAN FRANCISCO

General Agents for California

Gold Medal Citrus Trees

Are fully described in our treatise of Citrus Culture, which is a trifle the best thing of its kind ever published. Contains about 50,000 words and 100 illustrations telling about oranges and lemons from the seed bed to the bearing orchard. Price 25 cents. Remember we are the largest producers of Citrus Trees in the world and stand ready to serve you with the finest nursery stock that can be grown. Correspondence invited.

San Dimas Citrus Nurseries

San Dimas, Cal

R. M. Teague, Prop.

EDISON PHONOGRAPHS, VICTORS, ZONOPHONES

Records and Supplies, delivered at your nearest railroad station upon receipt of full retail price. Write for particulars and ask for catalogue. **Peter Bacigalupi & Sons, 1113-15 Fillmore St. San Francisco**

. Severe winds damaged fruits quite seriously near Sacramento recently.

CITRUS TREES READY FOR MARKET.

three years, and there is no reason why they should not do equally well, if not better, in Porto Rico. Quite recently we had blossoms on seven trees which were transplanted sixteen months ago from six-inch flower pots. They range in height from six to seven and a half feet and five to six feet wide at the top. This speaks well for the Porto Rican climate.

The Department of Agriculture is now considering ways and means of introducing them generally in Porto Rico after fruiting and classifying them. This will, of course, take some time, but when it becomes known that they head the list in the fruit line as money makers, they will receive much attention. With the able and highly trained corps of specialists we now have at the Mayaguez Experimental Station, we may feel assured of rapid strides in horticultural work in Porto Rico. No obstacles should be placed in their way as they will assuredly be of much service to us in many ways.

THE AMOUNT OF RAINFALL OVER THE SURFACE OF THE EARTH.

The discussion of observations on rainfall made first by Sir John Murray and later by Bruckner and Fritsche permits an estimation to be made of the mean rainfall on continents, which is found to be about 30 inches per year. The rainfall on the ocean is more difficult to measure, but it has been estimated by Supau; and Fritsche, taking account of all the known facts, estimates the mean annual rainfall for the entire surface of the earth at about 36 inches. Making use of this number, it is easy to calculate that the total rainfall amounts to 464 milion milions of metric tons per year, 1272 thousand millions of tons per day, 53 thousand millions of tons per hour, 883 million tons per minute, or 15 million tons per second.—Scientific American.

The Sunny Mountain Orange Wine Company is a recently incorporated body at Riverside. The company is at present operating in a small way but expects to have a large cement winery in the near future.

One Yuba county orchard will ship 45 cars of pears this season.

AFTER CALIFORNIA WEEDS.

A. C. Cox, connected with the U. S. Department of Agriculture, and whose special province is the investigation of weeds and their eradication, has been looking into the peculiarities and habits of our great vegetable pest, the morning glory. This is a member of the convolvulus family, and from its low, skulking habits is a disgrace to the more respectable members of the family. It will flourish under the most discouraging conditions and the more it is punished the stronger it grows. It is propagated in all possible ways, from seed when it is allowed to, but from root joints when it cannot go to seed. Cutting it out with the cultivator only spreads it as every particle of root left in the ground starts a new plant. Weeds are useful forms of vegetation, out of place, and about the only place where the morning glory would be of service would be at the north pole where it might carpet the barren waste with a verdant coat and lend its delicate white blossoms to brighten the landscape. We really hope that Mr. Cox will find some method of easily getting rid of the morning glory pest. When he gets through with it, we know a fine patch of Johnson grass to which we will draw his attention.

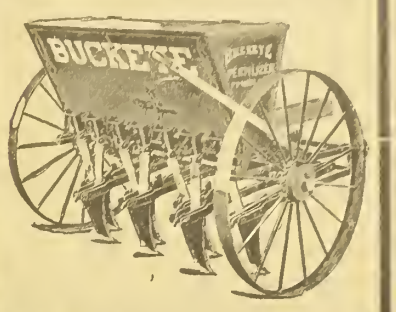
The most satisfactory land on which to plant an orchard is where soil has been previously cropped and is in a good state of fertility.

Fertilizer Drills

GET THE BEST

Buy the Buckeye

7 Hoe 7 Inch or 8 Hoe 8 Inch



Will furnish set of plates when requested (without extra charge) for sowing peas or vetch.

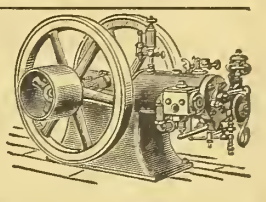
Hawley, King & Co.

Los Angeles St. bet. 2nd and 3rd Sts.
Los Angeles, Cal.

A Gasoline Engine 35 H.P.

Used short time; in good condition.
For Sale at Half Price. A Bargain.

National Wood Pipe Co., 404 Equitable Bank Building Los Angeles, California



WILLIAMS' GOOSE-NECK CULTIVATOR

Especially adapted for citrus orchards. Sizes 8 to 14 feet. Lightest draft. Free trial to responsible parties. No agents. You pay only one profit. Write today

WILLIAMS & SON, Manufacturers
Orange, California

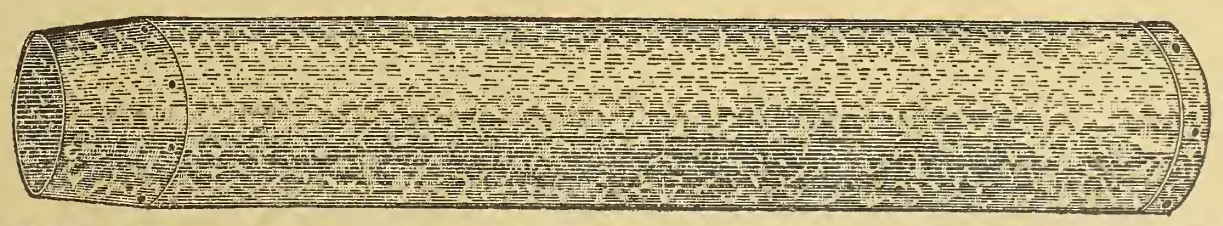
TENTS

Fumigating and Lemon Curing Tents our Specialties

Irrigating Hose, all sizes. Prices and Samples quoted upon application. Write your wants
Wagon Covers, Hay Covers, and Canvas Covers of Every Description.

Mellus Bros. & Co Phones—Home, F 4871; S. S., Main 3500
250 East Fifth St., Los Angeles, Cal.

When writing advertisers, mention Cultivator.



AMERICAN SURFACE IRRIGATION PIPE

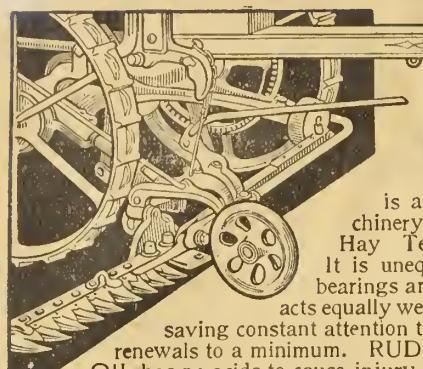
SAVES WATER, GRADING AND TIME

The **only** way to **irrigate Alfalfa. Cheaper** than **Flumes.** This is only **one** of our **specialties.** We make **Riveted Water Pipe** in lengths of **ten feet** from **single sheets.** Let us **prove** to you that we make **Pipe** and **Tanks right.** WRITE FOR CATALOGUE.

AMERICAN STEEL PIPE & TANK COMPANY

FORMERLY TALLERDAY MANUFACTURING COMPANY

636-7 Pacific Electric Building **Los Angeles, Cal**



Ruddy Harvester Oil

is a superior lubricant for heavy farm machinery and for use on Harvesting Machines, Hay Tedders, Mowers, Feed Cutters, etc. It is unequalled especially if bearings are loose or worn. It acts equally well on light machines, saving constant attention to parts and reduces renewals to a minimum. RUDDY HARVESTER OIL has no acids to cause injury and is but slightly affected by extremes of temperature. A team will work longer and easier when it is used, because of the lessened friction. It will not run off the bearings and never gums or turns rancid. Dealers in farm supplies have it in one and five gallon cans, half-barrels and barrels.

All dealers in farm supplies sell it.

STANDARD OIL COMPANY
(Incorporated)

Placer Nurseries

We have now growing for next season's delivery a large stock of all leading varieties of trees and vines. We propagate only the best commercial sorts. Our trees and vines are the best that good care can produce and in their selection, propagation and growing we spare no labor or expense; and they are true to name. That is what you want.

Contract now the trees and vines you will want for next season's planting.

Write us.

Silva & Bergtholdt Company
Newcastle, California

TREE TANGLEFOOT

A Sticky Preparation Applied Directly to the Bark of the Trees

Will not injure trees. A band 5 inches wide and 1-16-inch thick cannot be crossed by any climbing insect pest. Remains sticky five to ten times as long as any other known substance. You can test it at slight expense, as no apparatus is required. Used by the carload in New England against the Gypsy and Brown-Tail Moths. In California it preserves prune orchards from the Canker Worm Wherever the Gypsy or Brown-tail Moths, Tussock Moths fall or Spring Canker Worm or Web Worm appear TREE TANGLEFOOT is of great value, and should be used when the caterpillars begin to crawl while they are very young.

Price 25c per lb. Liberal discount on quantities. The only safe and effective banding preparation. Send for testimonials

THE O. & W. THUM COMPANY

Manufacturers of Tanglefoot Fly Paper **Grand Rapids, Michigan**

A Railway on the Ranch

Saves Much of the Hard Labor

The equipping of the ranch with a ***Portable Railway*** is a very ***Profitable Investment*** and ***not*** very expensive.

Our booklet S. F. 60 gives several suggestions for applying it to the Dairy and Ranch.

Works at Koppel, Penn.

ARTHUR KOPPEL CO.

Eastern Offices:
Pittsburg
New York
Chicago
Boston

212 So. Los Angeles St., Los Angeles, Cal. ***Chronicle Building, San Francisco, Cal***

A Business Training for Young Men and Women

COMPLETE INSTRUCTION IN THE FOLLOWING SUBJECTS: BOOKKEEPING, CORRESPONDENCE, GRAMMAR, SPELLING, SHORTHAND, TYPEWRITING, PENMANSHIP AND ACTUAL BUSINESS PRACTICE IN OUR FULLY EQUIPPED OFFICES.

Students assisted to permanent and profitable positions.

SAN JOSE is an ideal city for study. It is rapidly growing and there is great demand for competent young people.

Catalogue and Brass Ruler Free. Write for Them Today.

Pacific Coast Business College, San Jose, Cal.

When writing advertisers, mention Cultivator.

Deciduous Fruit Culture

THE GROSSE PRUNE.

THE plum known under the various names of Grosse Prune, Hungarian Prune and others, is perhaps the finest of all shipping varieties. It is large, handsome and has a delicious flavor when fully ripe. Like the Wickson plum, it has the rare quality of developing a good color and flavor after shipping, even when picked before fully grown. It must have developed at least a light tint of pink on one side in order to make this change, but some color develops before full growth is attained. The color is a deep red wine color and some specimens attain a size of two by three inches through the center.

The tree is a vigorous grower and an enormous bearer; in fact, is frequently broken down with its load of fruit. The wood is very brittle and careful pruning is necessary to insure against breakage. Thinning the fruit is also essential and can be done with considerable advantage in producing a high percentage of good fruit. The Grosse prune is prone to grow double and with a partly developed twin plum on one side of an otherwise good one. The half that loses "its grip" will often be a mere knob or a hard, sharp black beak either of which renders the plum unfit to ship. If these imperfect plums were picked off after the crop is set, it would result in larger sizes for those remaining and render picking less expensive. Many trees run from one-fourth to half imperfect plums, while others run as low as one or two per cent. imperfect fruit.

There is an excellent opportunity for type selection in the case of the Grosse prune; not only do many trees produce a large percentage of imperfect fruit, but some produce a large percentage of small fruit. Adjoining trees will do the reverse.

In planting the Grosse prune, it is essential to give them plenty of room, for they will not bear when crowded Twenty-four or five feet each way is close enough.

IRRIGATION OF VINEYARDS.

The recent hot spell of weather has demonstrated beyond a doubt to the Central and Northern California grape growers, that irrigation is a good thing in dry, hot times, and when they are equipped for such occasions, they will no doubt find that a good soaking of the drier parts of their vineyards during favorable seasons will be an advantage. It is quite noticeable that vines situated on land where the roots reach water were not affected by the recent hot weather, while the reverse is the condition on the high ridge adjoining.—J. W. Mills.

GRAPE GROWING DIFFICULTIES IN IMPERIAL VALLEY.

The conditions which confront the grape grower in the Imperial valley are so different from those of other grape growing districts that one who is successful in other places is liable to meet with partial or possibly total failure in this section. The climate, the soil, the manner of irrigation, are each a study and absolutely different than most grape growers have ever experienced. The newcomer who attempts to start his vineyard from cuttings does well if he gets a half stand to live through the first year.

My experience tells me that the best way for one who is new to this section is to plant his cuttings in nursery row for the first year. In this way he will learn how much water and care it takes to get grape cuttings to grow in Imperial soil during an Imperial summer. He will, by good care, get about one-half of these cuttings to make thrifty plants for next year's vineyard planting. Meantime he can be watering the ground for vineyard, which should be planted in January or February. They are then on the ranch and there is no loss or cost in transportation.

No cuttings should be longer than 12 inches. I like the three bud cuttings, not over 8 to 10 inches long for nursery planting. Do not leave any of cutting above ground.

There have been several kinds of grapes grown with varying success. The dark grape does not ripen up with a good "black." In other words it has too many light or purplish grapes in the bunch to be a successful market grape. The white grapes do not sunburn as badly and ripen more evenly than the dark kinds. The Malaga is and will continue to be the most productive shipper for the valley, though some think the Muscat will be a close second with Thompson Seedless a close rival. We must have a care and plant varieties which will make desirable raisins in case table grapes do not make satisfactory returns. Muscats make good sized bunches either for grapes or raisins. To secure good results, however, it is necessary to sulphur the vines to prevent mildew, and the work of a small insect that gets on the vines and grows over the bunches of young fruit making a web over the entire bunch.—Arthur S. Fell, El Centro.

ROOT ROTS.

This is the ideal time of the year to go over the orchard and pick out the trees affected with root troubles. An early ripening of the foliage or a slight bronzing of the leaves on all or part of the tree is often the first sign of distress. Of course, an early ripening of the foliage is not always an indication that the tree is affected with root rot. Anything which tends to interfere with the feeding process of the tree may cause the foliage to yellow early in the fall. The orchard should be carefully inspected at this season of the year and, if time will not permit of anything further, all suspected trees should be marked to be promptly looked after as soon as the rush of harvesting the crop is over.

Any plant disease which works upon the parts of the plant below the surface of the ground is hard to combat. In nearly all cases the farmer resorts to the rotation of crops, but this is impossible in the case of the fruit grower. Apparently two unidentified forms of root rot, due to the attacks of fungi, no doubt, are found in our orchards. While it is true that soil conditions may have much to do with the rapidity with which these diseases spread and their destructiveness, they cannot be said to be the initial cause of the death of the tree.

The most destructive root rot found in our orchards is the one which seems to show preference for the Ben Davis and the Gano apple. In a very few cases coming under my observation has it attacked Baldwin, Spitzen-

burg, and Grime's Goldon. The work of this root rot is not entirely confined to the roots, but often kills the bark well up on the body of the tree. This disease seems to spread rapidly from tree to tree, probably through irrigation water. When once infected the tree is soon girdled by a complete killing of the bark. It is sometimes detected in early summer by an oozing out of the discolored sap on the body of the tree. While the tree is in most cases girdled the first season, it does not die until the following season, when starvation of the root system and a drying out of the sap wood checks the upward flow of sap. The other form of root rot seems to confine itself to the root system and shows no great preference for varieties. The destruction of the tree is not so rapid, nor does it seem to spread so rapidly from tree to tree.

ORANGE AND PEACH ORCHARDS NEAR MERCED.

It is very hard to suggest any remedy for these root rots. In the case of the first, where careful examination shows only a small portion of the bark diseased, this may be cut away to healthy tissue and the wound washed with some disinfectant. For this work corrosive sublimate, 1 part to 1000 of water, may be used. This has proved of some value where the work is carefululy and thoroughly performed. Where the deadened area extends down on the roots, thorough work seems almost impossible and, as a result, the disease continues to spread. In the case of the disease where the work is on the roots entirely, remedial measures seem to be almost out of the question. The outcome of the work in controlling these troubles will depend more upon preventive measures than upon remedies. Affected trees should be promptly removed and burned. As observations would seem to suggest that irrigation water may be a medium through which the disease is transferred, the ditches might well be placed at greater distances from the trees. The soil should be kept in good condition, well cultivated, and not over wet.

The question is often asked as to the advisability of planting a new tree where an affected tree has been removed. So far as I have observed, no serious trouble follows such a practice. I think it well to remove the old tree and to allow the hole to remain open over winter. The action of the sun and the frost will do much to rid the soil of any remaining pound or two of blue stone in the traces of the disease. As a double precaution it may be well to place a hole and run water in to dissolve it. It would hardly seem advisable to replant Gano or Ben Davis where trees of either variety have been lost.

The grower should not rely alone upon this fall treatment to stamp out these diseases in the orchard. An occasional inspection of the trees during the summer and the cutting out of the diseased areas may save many trees. While it is often a great temptation to leave a tree until it matures its crop, the grower does this at his own risk.—O. B. Whipple, Field Horticulturist, Colorado Agricultural College.

WATCHING GROWERS' INTERESTS.

A movement recently inaugurated to protect the industries of California begins to excite active interest.

Chairmen of the several sub-committees of the California Tariff Revision Committee are asked in letters, individually addressed, to prepare as early as possible arguments in which there shall be set forth the necessity for the tariff protection of products of this state, and also dealing with the question whether the existing tariff on California products should be maintained or increased. Each chairman of a sub-committee is also requested to prepare statistics relating to acreage, cost of handling products and the disadvantage to overcome in competing with similar articles imported into the United States from foreign countries. These requests have been made by Arthur R. Briggs, chairman of the General Committee, and he has addressed his colleagues vigorously concerning the points involved.

This move marks the opening of a campaign fraught with important consequences to California. A mere enumeration of the committees is sufficient to indicate the wide scope that the work will take. Sub-committees have been assigned to the following classes: citrus fruits; nuts; wine and brandy; raisins and dried grapes; olives and olive oil; beet sugar; deciduous green fruits; dried fruits other than raisins and dried grapes; hops; lumber; minerals; manufactured goods, and miscellaneous products.

The field of labor includes the protection of industries that represent hundreds of millions of dollars of invested capital and that add many millions of dollars to the wealth of the state annually. These industries give employment to an army of men, women and children, distributed throughout California. In the general question of protection to home industries all persons in this state are financially concerned. The need, therefore, for immediate and concerted action is obvious. The extent of the damage that must fall on this state if the tariff on its products is tinkered with detrimentally, will be made to appear in figures and text.

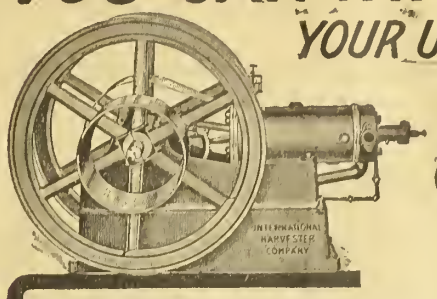
IT'S PENNY WISE

Policy to set out a good tree, costing good money, and then let the sun burn the bark or the rabbits gnaw it, when for $1 an acre you can get Yucca Tree Protectors that are practically indestructible. Write for free sample of the wrap. Yucca Manufacturing Company, 1380 Willow street, Los Angeles.

Apple crop of Yucaipe valley and other mountain sections near Redlands is reported to be of exceptionally fine quality.

Elwood Cooper of Santa Barbara says he does not believe the Argentine ant has been found in California.

YOU CAN IRRIGATE YOUR UP-LANDS WITH AN I. H. C. GASOLINE ENGINE



NO need to go up stream and construct miles and miles of ditch to get the water high enough.

Place one of the powerful I. H. C. gasoline engines on the stream where it is nearest your land. There are large engines for irrigating on a big scale and smaller engines for small farms.

These engines are the best means for raising and utilizing the underflow; also for raising water from lakes, ponds, and wells, and also running streams.

They will raise all the water you need and deliver it just where you want it—in the ditch or in laterals.

The first cost of one of these I. H. C. gasoline engines is, in almost every case, less than the building of a long ditch to enable the water to flow naturally to the land.

And the cost of running is always less than the cost of keeping the ditch clean of drifting sand, silt, weeds and fast growing bushes.

In many cases, an I. H. C. engine enables you to reach the knolls and other high places which you cannot reach at all by ditch without expensive flumes that are "tumble-down" and must be repaired every spring.

The engines are made both vertical and horizontal and in many sizes from 1 to 20-horse power. They are easily controlled and run dependably. The irrigator does not need to give them constant attention.

Only an occasional return to them, to replenish the fuel and water supply, is all that is necessary. One man can handle the head of water in the field and at the same time attend to the engine.

International local agents will furnish catalogs and give particulars on all sizes of irrigating engines. Or write the nearest branch office.

WESTERN GENERAL AGENCIES: Denver, Colo., Portland, Ore., Salt Lake City, Utah, Helena, Mont., Spokane, Wash., San Francisco, Cal.

INTERNATIONAL HARVESTER COMPANY OF AMERICA, Chicago, U. S. A
(Incorporated)

GOPHER DOPE

Gophers destroy annually a large per cent of the crops, trees, lawns, etc., and they are a great nuisance to land owners all over the country.

The Gopher drives burrows or tunnels of very great extent and wherever it gains admission into a garden it works much damage to the roots of the plants. Every root that crosses the tunnel the Gopher will eat and not only herbs and flowers but even fruit trees of many years' growth have been killed by this destructive animal. In such cases the extremity of the tunnel is always to be found among the roots of some tree, which acts at the same time as a defense and a larder, for the Gopher hides itself under their protection and eats away their tender shoots.

A great many things have been devised to exterminate this pest with some success. Gopher Dope works on a different plan. It is in a powdered form and about one-quarter ounce placed well down in each hole and also in the run ways will soon rid the place of gophers. It gets in their eyes and pouches and on their feet. They track it through their tunnels. They will not stay where it is used. It will not harm domestic animals or fowls. It must be used thoroughly and systematically, the Gopher given time to work in it and any new holes thoroughly treated. If this is done you will soon find the place free from them.

Do not irrigate for one week after the dope is used.

Gopher Dope is sold in 50c, $1.00 and $4.00 tin cans, and is for sale at grocery, drug and hardware stores, also at feed yards, and is absolutely guaranteed or money refunded.

Free on board cars at Los Angeles. Live agents wanted in every county.

Yours very truly,

B. & G. Disinfecting Co., 415-417 Laughlin Bldg., Los Angeles, Cal.
Home Phone A 9089

Crimson Winter Rhubarb and Berry Plants Our Specialty

1000 choice Navel Oranges, together with a few other Citrus Trees. April and May are best months to plant Rhubarb for heavy Crops next winter. It has never been equalled as a money maker. $1.50 per dozen, $6 per 100, $40 per 1000. Pedigreed plants.

J. B Wagner
The Berry and Rhubarb Specialist Pasadena, California

EUCALYPTUS SEED

Eucalyptus rostrata, the Red Gum
E. corynocalyx, the Sugar Gum
E. tereticornis, the Forest Red Gum
E. globulus, the Blue Gum
E. citriodora, Lemon-Scented Gum
E. cornuta, the Yate Tree
E. polyanthema, the Red Box
E. leucoxylon, Victorian Iron Bark
and Many Other Valuable Sorts

I shall be pleased to correspond with prospective buyers and give particulars as to prices on the seeds I am offering. Trial packets of any variety 15c each, 2 for 25c, or twelve for $1.25. Also young trees of many varieties for sale. Send for circular and cultural directions.

THEODORE PAYNE
NURSERYMAN AND SEEDSMAN
Home Phone A2480
345 S. MAIN ST., LOS ANGELES

Eucalyptus Seed

We are headquarters on all varieties of this seed. Be sure and get our prices on high quality stock. 80 varieties, your selection, 15c per pkt. Or we will mail postpaid, 1 pkt. each, E. Rostrata, Globulus, Tereticornis, Rudis, Corynocalyx, Leucoxylon for 50c with Cultural Directions.

MORRIS & SNOW
555 South Main Los Angeles

Eucalyptus

We have made a specialty of eucalyptus for the past ten years. We are no mushroom concern. We are prepared to accept contracts for raising eucalyptus for next season's planting. Take advantage of our **Low Prices on Contracts. Do It Now.** Twenty of the leading varieties to be seen at our nursery.

Saint & Warner
Sycamore Grove Nurseries
4584 PASADENA AVE., LOS ANGELES

GERMAIN SEED CO.

326-330 So. Main St.
Los Angeles, Cal.

Headquarters for Eucalyptus, all varieties, both in seed and plants. Write for catalogue and cultural directions. They are FREE.

For the Season of 1908-09

We Shall Have to Offer

Pedigreed Fruit Trees

SEVERAL NEW FRUITS AND NUTS OF IMMENSE VALUE TO CALIFORNIA

Eucalyptus Trees

BY THE 1000 OR 100,000
NO BETTER STOCK GROWN

Please send us your name and address, and you will get all particulars.

Leonard Coates Nursery Co. Inc.
Morganhill, Santa Clara Co., Cal.

SEED GRAIN

Black and Red Oats, Wheat, Barley, Bean Screenings, Etc.
constantly on hand and for sale at lowest market rates
Bray Brothers Buyers of Grain and Beans Members Merchants Exc.
220 Clay St., San Francisco, Cal.
Established in 1856. Correspondence Invited.

When writing advertisers, mention Cultivator

Irrigation and Forestry

GATHERING EUCALYPTUS SEED IN AUSTRALIA.

The following is a letter from Mr. R .S. Webb, a native Australian and an expert in the study of eucalyptus, who has gone to Australia to gather seed for the Johnson & Musser Seed Company, of Los Angeles:

"I received yours of May 16th safely. You say you hope I find the seed proposition as I anticipated, etc. Well, in reply to this, I would say I find the seeds are a little higher in price. Conditions here just now are splendid, never were better. Also, they are alive to the conditions in California on account of the numerous orders for seeds. The Forest Department here is jealously watching their seed trees and the exportation of seeds, etc., and are putting obstacles in the way of the collection from some of their best trees such as the Blackbutt, (Pilularis). This is the tree of trees and is the easiest to grow, and is the one we must grow on a very large scale. The Forest Department will not allow seeds to be got on government land from this tree, as they know the value of it. I am collecting with a Mr. Fitzgerald, who is considered the cleverest botanist here and the successor of Baron Von Mueller. We get our seeds from private property and, of course, have to pay to cut the trees down. I am living about forty miles out in the bush and work very hard with them. You should just see the trees; they are something grand to look at, and the seeds are all fresh off the trees and the best to be got in the world. We shall not get as many seeds as I thought on account of these conditions. I am sending about ninety-seven pounds by this boat. I am working myself with them and in this way getting them much lower. This tree I consider the best in the country for all general purposes. It grows almost as quick as the Blue gum and to the enormous height of 450 feet, straight as a shipmast. An ideal tree for us. The first thing I did was to go and see Mr. Perrins of the Botany Gardens and also Mr. J. H. Maiden, the great botanist. Then I went to the Forest Department and made all inquiries as to the best trees, etc. Then I went to the large lumber mills and saw the timber and made the fullest inquiries into all classes of their timber. The Jarrah, Rostrata, Terreticornis, Blackbutt, and all their different kinds. After a full investigation, I find it is pronounced on all sides that the Pilularis or Blackbutt is their finest tree for ties, bridge work and general use, (especially for telegraph poles). The turpentine (Lyncarpia) stands unrivaled for a pile or tie, beats Jarrah altogether for resisting marine insects and ants, etc. Tallow Wood (Microcorys) is another splendid wood and has a magnificent grain for finishing work. The Resinefera (mahogany) also beats Rostrata or Jarrah for furniture or general use. These four trees are ideal ones and will grow splendidly in the conditions existing with us. The Blackbutt is is how I expected in the first instant to get them so cheap. I expect to send another shipment by the Nanaka, which leaves here August 4th and gets into Los Angeles about September 2nd, so expect me also to return by that boat. I shall leave everything so arranged with these people so that we can get all future shipments just as we want them; in fact, to work as our agent here. They are first class people and thoroughly trustworthy every way, so it will be best for me to get back and start in with the growing. It will do all right to plant in September, especially for the Pilularis. This tree I intend getting all I possibly can of. I am bringing back some young trees and also some polished wood and anything that will be useful. I hope to see you all by September 4th, unless something unforseen happens."

* * *

We note above that Mr. Webb classes the Jarrah—Eucalyptus Marginata—with others which "will grow splendidly with us." We have yet to learn of a single case where the Jarrah has lived to any age in California. As to others Mr. Webb is doubtless correct.

Raisin buyers are offering 3¾ cents for 1908 raisins.

BEAUTIFUL OAKS OF COLUSA COUNTY.

MORE THAN 500 SQUARE MILES.

Three hundred and sixty-three thousand acres of land, hitherto untilled or upon which the productiveness was limited, was put under water or included in irrigation projects in the Inland Empire in 1907. This does not include the acreage of the projects at North Yakima, Lewiston, Sunnyside and others where the main ditches were dug before the beginning of last year; nor are the Twin Falls projects in Idaho, the Boise enterprises, the Jefferson valley plan or the numerous plants in the Boundary country included in the total. These would make the acreage more than 700,000.—Forestry and Irrigation.

A FEW ACRES OF TREES.

The importance of timber on the farm is becoming plainer each year. The uses and needs are many, and these increase as the farm becomes older. The one feature of fencing creates within itself almost a constant demand for timber for posts. Iron and stone are sometimes suggested as the coming fence post. This sounds as though the farmer was absolutely helpless in the matter of supply. The farmer need not look to any source outside his land resources for fence posts or fuel, if he decides that he will plan and produce these himself. The grove of quickly growing timbers will in a few years supply fence posts and fuel for all the needs of the farm. It is simply a matter of planting and preparing for tree growth.

It does not require the lifetime of a man to do this and reap the benefits.

There has been an astonishing neglect of opportunities lying at the door of a great number of landowners in the State. There is a vast acreage of land in California that is useless for raising cultivated crops, and of small value for pasture. The coast counties are covered by hills and mountains, steep, rocky and showing but scanty vegetation. Yet, it has been proved at hundreds of points that these lands will grow different varieties of trees—especially eucalyptus—that will in a few years from planting produce valuable timber.

Live Stock and Dairy

A FEW LATE IDEAS.

NEW TESTS for tuberculosis are under trial; at present there are two that are considered of importance to the dairyman. A further trial will prove if they are sufficiently accurate to be trusted before tuberculin is given up as out of date. One test is by the eye; this is used in human beings as well as in the cows. A small quantity of the medium is put into the eye; after a period the slight inflammation that follows shows the subject to be a victim of the disease. This test was suggested in the case of one of the Helm boys under trial for murder in Fresno last year. It was thought a jury would not convict a boy that was consumptive to prison for life. The idea was suggested, however, and if it was carried out it was not made a matter of public record.

Vaccination.

A form of inoculation with a virus is also under trial. This consists ot scraping the skin down to the quick and rubbing on the virus; after a certain time an irruptive rash follows, if the bacillia are in the animal system. These tests will not interfere with the use of tuberculin if the inspector is not satisfied with the reaction shown. The tuberculin test is not pleasant to make; indeed, it is very tiresome and disagreeable. Many of the most gentle old cows are quite rebellious when it comes to inserting the therometers. The breakage of thermometers is often a considerable expense. The excitement raised about diseased cows is a good way to make people interested; yet, infected human beings roam around and even serve eatables to crowds at places of public resort. The time is at hand when those having consumption that are not able to live without working will be provided with work that does not become dangerous to others. The cows are healthier than the people. I believe that there are few cities whose inhabitants would pass as well as the cows of Santa Barbara did the other day. Only two per cent reacted under the test. All of these may not have been affected with tuberculosis. Prof. Twitchell thinks there is a considerable loss of cows tnat react under tuberculin test from functional disturbances.

Pigs as Tests.

Again, the pig, a live one, not a blind pig, comes in for a tester. It has been suggested that to feed a pig with the milk of a suspected cow and to allow the pig to remain constantly with the cow, would furnish a fair test. If the pig remained healthy the cow could be presumed to be healthy. While the test was going on several other cases might develop of tuberculosis. Then think of the poor pig! Where, oh where, is the humane society!

Clean Milk.

After all chance of tuberculosis is weeded out of a herd, then a further duty to produce only clean milk is before the dairyman. It must be clean, wholesome milk, for milk may carry diseases other than those of the cow. As a medium of culture for bacterial growth milk is one of the best. Typhoid fever, scarlet fever and like diseases are traced to the family of the milkers and have been carried out to destroy many valuable lives by the milk. After the danger of disease is removed then there is dirt, simply dirt, that may make milk unwholesome by ferments that arise from its presence. Bowel disturbance and gastric trouble may arise from tainted milk.

Sources of Dirt.

Milk to be clean does not require a lot of fancy buildings, but it does require the buildings be kept clean. The dairyman, as a rule, furnishes cleaner milk than the ordinary farmer's cow for she gets the fag ends of everything including the dirt. The barnyards or corrals are a problem in the wet weather. Where money is plentiful a good pavement of cobble covered with asphalt, or a well graveled and oiled yard will solve the problem. These things cost money, however. The clean yards of the English stables are every where to be remembered, but these are not the work of one generation of people, but have been made by long years of repairing and building. These pavements look expensive to Californians, for, today the land owner is a dairyman, tomorrow he is a poultry sharp and the next year, goodness only knows what he may be doing as his new fad.

Barnyards.

The easiest way to keep the barnyard clean is to keep the cows out of it. Have the cow yards not right at the barn but near by; let the cows in at milking time only. A well raised and rounded pathway or road to lead to entrance door can be kept oiled and covered with ashes until it forms a solid walk. The cows will walk on this rather than in the mud and keep themselves clean. Nearly every barnyard is in a poor condition, if left to care for itself. A scraper can be used as soon as the first rains come to remove the manure-soaked earth and fresh soil scraped up around the barn. The walk is built as described and the cows kept from under the eaves of the buildings. The next winter the creamery will find a distinct improvement in the milk.

Finish the Job.

Corral scrapings furnish fine manure for the vegetable garden, Haul them there at once and spread them over the ground.

One source of loss of labor, and that is money, on a ranch is the half doing of a job. Finish whatever is in hand completely before doing the next thing. This does not mean that there may not be ten or twenty things in hand, but it means complete each one before stopping. There is truth in the old adage that "well begun is half done." Finish whatever is on hand before tackling a new job. If a load of manure is on the wagon, do not dump it any old place to get rid of it, but put it where it is to stay permanently. Then it is done with forever. The loss from half finished jobs is, on the ordinary farm, as great as that of the dairy man from poor cows. A little more thought, a little more care, this world would be a paradise instead of a load of worry and work.—M. E. Sherman.

CLAY BUTTERCUP 2d NUMBER 222132.

The above photograph is of the head of the famous milk strain shorthorn herd of John Lynch, Petaluma, Sonoma county. Another photograph of this same animal was given two or three years ago when it was but a few months old. It is a magnificent animal and from the milking strain of shorthorns which Mr. Lynch has specialized on for many years. One of the latest purchases of this ranch is Golden Horn by Cornplanter out of Kitty Clay 21st. This dam was out of winning shorthorn cow at the St. Louis Fair. Mr. Lynch writes he aims to have the very best dairy shorthorn line. The pedigree sent of Clay Buttercup II, is as follows: By Clay Buttercup 195881 out of Maggie. Clay Buttercup by imported Duke Buttercup 160769 out of Christmas Clay. Maggie by Favorite Billy 126738 out of Minnie. **Maggie the dam of Clay Buttercup II has a butter fat test of 6.20 per cent.**

Do Irrigation Work---Quicker and Easier

For Leveling Fields—For Cutting and Clearing Laterals

The photo is from an actual field-scene in New Mexico, where a 20th Century Grader is leveling seed-beds on the great truck-farm of Herman Blueher. He says: "Your 20th Century Grader has no equal for land-leveling, seed-bed making, ditching and for all kinds of irrigation work. I have reduced my force one-third since buying this machine." The

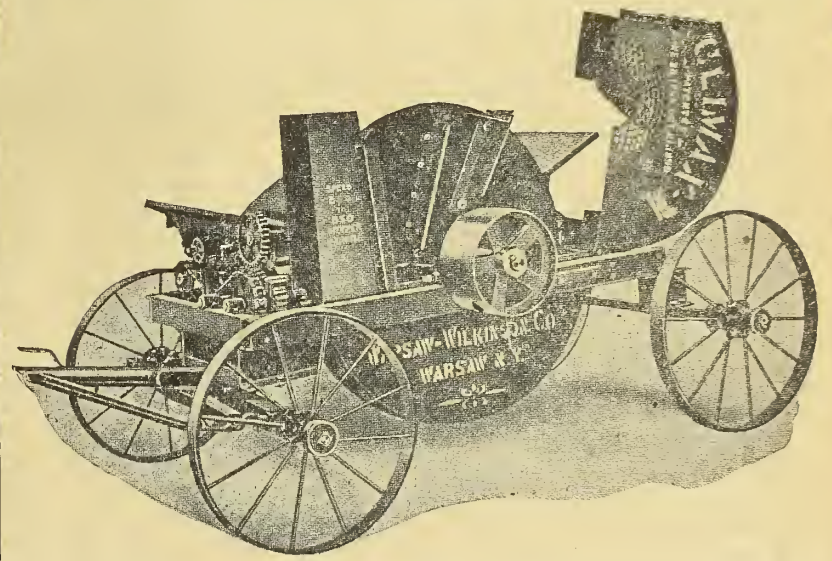
20th Century Grader

weighs only 600 lbs—light and handy—and is easily handled by one man and two horses. It is all steel and malleable iron. Price very reasonable. It pays for itself in one season. If your dealer hasn't it ask for name of nearest agent. Write now for new free booklet with large cuts showing every part.

Baker Manufacturing Co.

281 Dearborn St. Chicago, Ill.

Climax Ensilage Cutters



In the Climax Pneumatic Ensilage Cutter both the cutting and elevating are done by a large wheel which carries the knives on one side and the elevating fans on the other. Both the cutting and elevating, therefore, are done at one operation, in a much simpler manner and with an expenditure of much less power than in those machines where the elevating device is a fan attachment added to the cutter.

The convenience of having an ensilage cutter of large capacity on its own road wheels is obvious. We confidently assert that no other ensilage cutter is so easy to work and easy to move and set up as ours, or has such large capacity for power used. They are unequalled in simplicity, strength and durability, convenience and safety in operation, and the excellent quality and uniformity of the silage.

We received at the

St. Louis Fair the Only Award

for ensilage cutters of the side-wheel type, 15 to 25 tons of green corn per hour, where cut in one-half-inch lengths, other feed in proportion. For further particulars, call on or address

O. J. Weber Co. 555-557 South Los Angeles Street Los Angeles, California

Sugar-Beet-Pulp (Kow Breakfast Food) For Sale

At fifty cents per ton F. O. B. cars or wagon, fresh from factory. Conceded to he the cheapest and best Dairy Food in California. Write for freight rate if too far to haul.

Also ***MOLASSES*** at $1.50 per barrel.

Los Alamitos Sugar Company Los Alamitos, Cal.

Shorthorn Sale

At Woodland, Cal.
Saturday, Sept. 12th

66 Head Registered Shorthorns at Public Sale
23 Head of Cows and Heifers, 43 Head of Bulls

Busses will meet all trains. Lunch served. Sale to begin 12:30 P. M. Write for descriptive catalogue. Catalogue ready August 20th.

AUCTIONEER: GEO. P. BELLOWS, Maryville, Mo.
H. P. EAKLE, JR.
R. M. DUNLAP.

T. B. Gibson, Woodland, Cal., will sell on the preceeding day, Sept. 11th. Parties wishing can attend both sales.

Third Annual Sale
—OF—
SHORTHORN CATTLE

For Sale—70 Head of Shorthorn Cattle of the

Roselawn Herd

On Sept. 11, '08, at 12:30 o'Clock

At the Old Home, one mile south of Woodland, Yolo County, California. Write for Catalogue. Free Buss.

Mrs. W. B. and T. B. Gibson

Geo. P. Bellows, Auctioneer
Maryville, Mo.

H. P. Eakle sells 66 head the following day.

STROKE SELF FEED HAY PRESS

2 men can run it.
3 tons in one hour.
Easy draft.
Smooth bales.
Will save its cost.
Shipped on trial.
SATISFACTION GUARANTEED.

THE AUTO-FEDAN HAY PRESS CO. 414 E. 10TH ST. TOPEKA, KANS.
BRANCH OFFICE, 1521 W. 12TH ST., KANSAS CITY, MO.
Ask for Catalogue No. 28
1521 West 12th St., Kansas City, Mo.
Agent, John Schilling, Jr., Davies Warehouse 2nd and Central Ave., Los Angeles, Cal.

PASPALUM DILATATUM

King of dairying and fattening grasses. The great Australian drouth resister. Primest heavy seed direct from the grower, 4 lbs. (ample for trial) post free, $2.00. Full Information.

C. F. JULIUS
Central Bucca, Coffs Harbor, New South Wales

Live Oaks Farm

Frank A. Meacham, Proprietor.
Importer and breeder of RED POLLED CATTLE, SHROPSHIRE SHEEP, RAMBOUILLET SHEEP, HORNLESS AMERICAN MERINO SHEEP. Both sexes for sale. Take electric car at Petaluma or Santa Rosa for LIVE OAKS STATION. Address all mail to
Petaluma, Sonoma Co., Cal.

Berkshires--Shorthorns

My Berkshires took every blue ribbon and Gold and Silver Medal in the female classes. Choice pigs at low prices. G. A. Murphy, Perkins, Cal.

John Lynch Breeder of Registered **Shorthorns**
MILK STRAIN
Box 321 Petaluma, Cal.

PURE BRED BERKSHIRES

Young Stock For Sale

Wm. H. Bird Box 6, Compton Cal.

The Whiting Jersey Stock Farm Company

Is making the very best strains of blood fresh from the island of Jersey a specialty.
Whiting Jersey Stock Farm Co. Heber, Imperial Co., Ca

Geo. C. Roeding, Fresno, Cal, breeder of
Thoroughbred Holstein Bulls and Heifers
Thoroughbred Berkshire Boars and Sows

DRIED BLOOD FOR SCOURS.

A splendid tonic for calves. Costs about two cents per pound. For scours feed in milk. Give a teaspoonful at a feed and continue until the scours disappear. If calf is weak begin with smaller dose and increase. To prevent settling in pail keep stirred up while calf is drinking.

A Maligned Animal and a Neglected Industry

Written for California Cultivator.
BY MISS B. A. R. STOCKER OF ARROYO GRANDE.

THE milk goat industry is barely in its infancy in California. Our State Fair does not seem to know there are any goats except Angoras. Any of us could name two or three regular breeds. Yet these animals have been bred in many lands for centuries and have merits as pronounced as those of the Jersey cow.

Most any family in a small way that can keep a few hens and a garden, could keep two or three goats; and I can imagine few things within reach that would add more to their comfort and pleasure.

It can be arranged to have them come fresh at intervals of several months, and so keep up the supply of milk at all seasons, though if left to chance most of them will bring their kids in spring. Our best native does will give sometimes as high as a gallon of milk a day when fresh, gradually lessening in quantity till within a few weeks of coming in again. A common goat will begin with three or four pints, shrinking to a cupful in a few months. But a pure Toggenburg will still be giving two quarts ten months after being fresh. And such milk as it is! Cow's milk tastes sky-blue after it. Tea, coffee or chocolate tastes like a cheap adulterated article when instead of goat's milk cow's milk is used.

To keep a few goats a small enclosure is needed, with something, if only packing cases, for them to jump upon, for they need play and exercise to keep them in health, though staked out part of the time to forage.

For hay alfalfa is all right, but not grain hay. Seven or eight goats can be kept on the feed of one cow. Then for fresh succulent green stuff we can grow in this country all the year round some or other of these: Beets, carrots, cabbage, kale, dwarf Essex rape, rye, barley, millet, corn, potatoes (tops and all). The large cattle beets and Swiss chard furnish a supply of leaves for months together. Always break off the lower leaves. Some of our common weeds they are very fond of: Docks in every stage, sow-thistle, commonly called milk weed; burr-clover and knot-grass; bramble and orchard trimmings. Goats intelligently cared for ought to do better in California than in Switzerland, because of our open winters and cool summers.

Some who would love to keep a nanny goat may be deterred by the terror of the necessary evil—a billy! I remember an animal of this kind—who could forget him? A terrible old black pirate, shaggy with huge horns and yellow eyes, kept always on a heavy chain by a wagon shed in the China garden. None but the Mongolian could have stood him around. When a little doe went up that way the rope that was on her still carried the fragrance of the Celestial garden hanging on a wire fence ten days later.

Now we have a well bred animal ourselves who has no smell, and are getting one of Toggenburg blood with still further advantage of having no horns. After all, one is enough for quite a neighborhood.

The work around goats is light, clean and very fascinating. The goats are clean to daintiness themselves; and the milk pure and sweet. The well bred animals are quite beautiful. I believe our people will be won in increasing numbers to keep a few milk goats when they see some of the better specimens—not the shaggy-bearded brutes of doubtful gender, with horns half a yard long that they have seen tied to telephone poles in the outskirts of town, but sleek and fine as a wild roe, with big bag of milk carried high between the legs. Indeed, many now are inquiring for goats and have to wait in some cases till they grow. If you can only get one doe kid she will soon be the darling of the family, and you will have got your start. A man wanted four last fall and would not take one. The next comer snapped up the one and is still chuckling over the fine kids she brought him.

FISTULA AND POLL EVIL.

The word fistula is properly applied to sinuous pipes or ducts leading from cavities to the surface of the body, through which a discharge is constantly taking place. They are lined by a false or adventitious membrane, and show no disposition to heal. Fistulae may then exist at any part, but the name has come to be commonly accepted as applicable only to such discharges taking place from the withers, and we shall refer to this location when using the term.

Poll evil is a fistula upon the poll, and in no sense differs from fistulous withers except as to location. The description of fistula will apply then, in the main, to poll evil as well. Fistulae are particularly liable to occur at either of these locations from the disposition of the muscles and tendinous expansions, which favor the burrowing of pus and its retention.

In the earliest stage, when there is soreness, enlarged lymphatics, but no well-marked swelling, the trouble may be generally aborted. To do this requires both general and local treatment. A physic should be given, and the horse receive one ounce of powdered saltpeter three times a day in his water or feed. If the fever runs high, 20-drop doses of tincture of aconite root every two hours may be administered. Locally we will find much relief by pouring cold water from a height upon the inflamed spot for an hour at a time three or four times a day. Cooling lotions, muriate of ammonia or saltpeter and water, sedative washes, as tincture of aconite and opium, chloroform liniment or camphorated oil are also to be frequently applied. I have seen a number of cases presenting these initial symptoms of fistula thus aborted that required no other treatment than the avoidance of the original cause. When, however, the formation of pus is inevitable, this must be hurried as much as possible. Hot fomentations and poultices are to be constantly used, and as soon as fluctuation can be plainly felt the abscess wall is to be opened at its lowest point. In this procedure lies our hope of a speedy cure. If the parts are so laid open by the knife that the pus must escape as fast as it is formed, and where there is left no possibility of its burrowing between the muscles, forming pockets or sinuses, the parts rapidly and permanently heal without any mediation whatever, as though we had been dealing with a simple abscess of the withers, and not a true fistula at all.

Attention is again called to the directions given above as to the necessity of probing the cavity when opened. If upon a careful examination with the probe we find that there are no pockets, no sinuses, but a simple, regular abscess wall, the indication for treatment is to make an opening from below so that the matter must all escape. Rarely is anything more needed than to keep the orifice open and to bathe or inject the parts with some simple antiseptic wash that is not irritant or caustic. A low opening and cleanliness constitute the essential and rational treatment. If caustics are inserted, they cause sloughing of healthy tissues and favor the formation of sinuses by producing sloughs below the point of incision.

If the abscess has existed for some time and has not opened, its walls become thickened, the pus granular or inspissated, then, after an opening has been made by the knife and the contents washed and squeezed out as thoroughly as possible, the plan of treatment is materially different. There is enormous thickening of the walls, which must be destroyed and sloughed out by caustics. The best plan here is to make the first incision in the highest point of the swelling, introduce a piece of caustic potash (fused) one to two inches in length, carefully plug the opening with oakum or cotton, and secure the horse so he cannot disturb the parts by rubbing or biting them. The skin of the shoulder and entire leg must be thoroughly greased with lard or oil in order to prevent the caustic (should it escape) from excoriating the skin over which it flows. Twenty-four hours after the introduction of the caustic the plug is to be removed and hot fomentations applied. As soon as the discharge is again established we must make another opening with the knife or seton needle as low as possible, and keep this open with a seton. The object of making the first incision on top is to insure the retention of the caustic until it has attacked the entire inner surface of the cavity. If this is done the caustic causes sloughing of every portion of the diseased parts, leaving a healthy granulating surface underneath, which only requires that the depending orifice be kept open and the cavity washed out with a weak antiseptic solution once or twice a week to effect a cure.

It is to be inferred from the foregoing that, even though fully established, fistulae of the withers or poll are, in the majority of cases, curable. They often require much time and patient attention. The sinuses must be opened at their inferior extremity and kept open. At first caustic injections or applications must be thoroughly applied once or twice, after which mild stringent antiseptic washes and cleanliness complete the cure. In those cases where the sinuses or pipes are so directed that counter openings cannot be made, where there are diseased conditions of the bones, articulations, etc., that cannot be reached, the horse had often best be destroyed at once.—From Diseases of Horse by Department of Agriculture.

Prof. E. W. Major of the Agricultural College has selected some thoroughbred cattle for use on the state farm at Davisville.

The Gibson ranch near Woodland will soon have a sale of Shorthorns.

THE PRINCIPLES OF FEEDING ANIMALS.

It will be necessary to give the fundamental principles of feeding animals as stated by a few standard authorities. Allen says:

"The feeding of farm animals, like the use of fertilizers for crops, rests upon quite well-defined general principles. Our knowledge of these principles has been derived from the studies of the chemist and the animal physiologist, on the composition and functions of food and the way it is utilized after it is eaten. These studies have shown that the materials of the body are continually breaking down and being consumed, and that to keep the animal in a healthy and vigorous condition there must be a constant supply of new material. If this is lacking, or is insufficient, hunger and finally death result. To keep up this supply is one of the chief functions of food, but in addition to this the food maintains the heat of the body and at the same time furnishes the force or energy which enables the animal to move the muscles and do work, and also to perform the necessary functions of the body. In furnishing heat and energy the food may be said to serve as fuel. If, in addition to repairing the wastes of the system and furnishing it with heat and energy, growth is to be made (as in the case of immature animals) or milk secreted, an additional supply of food is required. To supply food in the right proportion to meet the various requirements of the animal, without a waste of food nutriments, constitutes scientific feeding. It is by carefully studying the composition of feeding stuns, the proportion in which they are digested by different animals and under different conditions, and the requirement of animals for the various food nutriments when at rest, at work, giving milk, producing wool, mutton, beef, pork, etc., that the principles of feeding have been worked out. In applying these principles in practice the cost and special adaptations of different feeding stuffs must of course be taken into account."

Butler and Kilgore state:

"What office do the nutriments perform in the animal economy? The ash, or mineral matter, furnishes a large part of the material for the bony structure of the body, and, to a far less extent, of the soft tissues. Most of our feeds and rations contain an abundant supply of the mineral elements, so little or no notice need be taken of them in feeding.

"Protein differs from all the other nutriments in containing the element nitrogen, and is largely the producer of flesh, ligaments, muscles, tendons, hair, hide, and to a greater or less extent all other portions of the animal body. The protein bodies are of the utmost importance in the animal structure. They compose the larger part of the animal machinery and are the exclusive source of its repair as occasioned by the continuous wear and tear of the system, due to the internal and external movements of the body; they are the basis of blood, and the source of casein in milk; and in the absence of sufficient quantities of fat and carbohydrates in the feed for the production of heat and energy, they are transformed into fats and perform the office of fats in nutrition. This latter transformation may also result from an excess of protein. The heat-producing power of protein is but little different from that of carbohydrates; the amount of fat it produces is probably much less, while, as a heat-producer, fat is worth about 2.4 times as much as protein. These facts, combined with the high cost of protein in feeds, render it usually uneconomical to feed protein for the production of fat to be either stored in the body as such, or to be used as fuel, since the fats and carbohydrates perform these offices and cost much less. It is to be remembered that the protein bodies are the 'flesh formers,' and though they can perform the offices of fat and carbohydrates in nutrition, fats and carbohydrates cannot take the place of protein.

"Fats and carbohydrates perform the same offices in the body—those of the production of heat to keep the body warm, and the force by which the animal mechanism is run. They are the 'heat and force producers,' and are consumed in the body as fuel, giving out heat, muscular, and other energy. For the production of heat and energy one pound of fat is worth about 2.4 times as much as a pound of carbohydrates. Fats give out about 2.4 times the heat that carbohydrates do. Besides serving as heat and force producers, carbohydrates are converted in the animal body into fats, and, together with the fats of the feed, are stored as such in fatty tissue. The value of carbohydrates for the production of fats is supposed to be in about the same proportion as the heat-producing powers of carbohydrates to fats.

"The carbohydrates, fed are not found in the animal body as such, but are converted into fats. There are, therefore, only four classes of substances composing the animal body, viz.: water, ash, fats and protein.

"The main and distinctive offices of the nutrients of feeds are: Ash, or mineral constituents, are bone-producers; the protein bodies are the flesh-formers; and fats and carbohydrates are the heat and force producers. The nutrients already located in the animal body perform the same offices as the corresponding ones of feed. In cases of a deficiency of nutrients in feeds given, the fats, or protein and fats, are drawn upon to assist in running the animal machine. Carbohydrates and fats, in being consumed, prevent the consumption of protein, but as soon as they become insufficient to supply the necessary heat and force for the body, protein substances, in the form of lean meat or muscles, etc., are drawn upon. A sufficient supply of carbohydrates and fats is, therefore, necessary to the protection of the animal framework. The following is a statement of the facts in a tabular form:

Feed nourishes and supports the body by supplying—1. The materials of which it is made. 2. The materials to repair its waste and wear.

By producing—3. Heat to keep it warm. 4. Force and energy for muscular and other work.

The offices performed by the nutricents are as follows:

PROTEIN.

Protein is the basis of blood, lean meat, tendons, ligaments, hair, skin, etc.; is converted into fats; is used as a fuel for heat and force.

FATS.

Are used as fuel for heat and force; are stored in the fatty tissue of the body.

CARBOHYDRATES.

Are converted into fats and stored in the body, or are used as fuel for heat and force.

MINERAL MATTER.

Forms a large part of bone and a very small part of other tissues.

Dalrymple says: "As a general proposition it may be stated that the foundation principles of nutrition are the same in the case of animals, and that the function of food is (1) to supply material to build up and repair the tissues of the body, and (2) to yield energy. Hence, the intelligent use of food is directed to supply the waste of the materials occasioned by the act of living and the performance of work. And, according to the amount of work performed, and, consequently, the amount of material (tissues) used up or consumed within the body, the amount and ingredients of the food have to be regulated. And, as well known, combustion, or the creation of heat, produces energy in some form, which takes place when the food is consumed or burned up within the animal body."

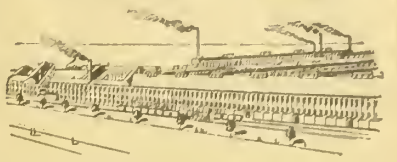
The investigator of animal nutrition today is busy compounding and balancing his rations. The history of animal industry shows that up to comparatively recent years all cattle feeding was done on the pasture—resort was had alone to nature. This was largely true even of the milch cow. Of course the work animal has from the earliest time been fed mainly on food gathered and more or less prepared for him by his master. Under present conditions, nature is only a starting point, animal feeding has become a fine art. When the pasture was no longer broad enough or rich enough for the ox, cow, sheep, hog, they were taken to the barnyard and fed there on stuff gathered and stored for their maintenance.

AN ARIZONA SHEEP RANGE.

Cream Separators, all sizes, all prices. O. J. Weber Co., 555-557 S. Los Angeles street, Los Angeles.

Wood Soled Boots and Shoes. Boots, $3.25; Shoes, $2.00. O. J. Weber Co., 555 South Los Angeles St., Los Angeles, Cal.

EXCLUSIVE
Tubular
ADVANTAGES No. 9
The Largest Separator Factory in the World Is Back of the Tubular.



This means that when you buy a Tubular you get the highest type of machine the most successful manufacturers can turn out—a separator so superior to others that the demand has made necessary the largest factory of its kind in the world to supply it.

You get a machine that has been selected by the greatest number of separator buyers—hence the greatest demand.

You get a machine built by the most skilled separator builders—better material and better workmanship than in other separators.

Then why buy the second best or inferior makes? Get the machine that is good enough to be guaranteed to leave 50 per cent. less butter fat in the milk than any other on the market or no sale. We have been making Tubulars 28 years—that's why we can make them enough better to offer them on such a strong guarantee.

A postal brings our catalog No. 260 containing in full this remarkable guarantee and explaining the reasons why the Tubular has no equal. Send for it today.

The SHARPLES SEPARATOR CO.
West Chester, Penna.
Toronto, Can. San Francisco, Cal. Chicago, Ill.

MORE MILK—MORE MEAT
IF YOU USE
LILLY'S
BEST
FLY
KILLER

I can positively testify to the merits of Lilly's Best Fly Killer. This is the first year that I have not had to fight grub in my cattle. I used it at first last summer having little faith, but the results quickly converted me. My cattle gave more milk, and kept in better flesh on less feed as a result, and I kept them in the stable all night.
A. F. CHAPMAN, Monohan, Wash.
For Sale by Dealers

CUTTER'S
Anthrax
and
Blackleg
VACCINES
Are given the preference by 80% of California stockmen because they give better results than others do.
Write for prices, testimonials and our NEW booklet on Anthrax and Blackleg
The Cutter Laboratory
Berkeley, California

HOLSTEINS
We Have For Sale a Number of Registered Young Bulls and Heifers $100
All our stock comes from the celebrated herd formerly owned by the Pierce Land and Stock Co., the premium herd of Holstein Friesians in California. Oakwoods Stock Farm Co., Lathrop, Cal.

VENADERA HERD
OF REGISTERED JERSEYS
I have for sale a number of richly bred young bulls, some of them from cows that have high official yearly records.
GUY H. MILLER,
Route 3, Modesto, Cal.

Thoroughbred Poland China Swine
Black Minorca and Barred Rock Poultry
High Grade Stock of Best Strains.
Young Stock For Sale
M Bassett Hanford, Cal.

California Cultivator

ESTABLISHED 1889

Subscription Price One Dollar per year, payable in advance. Dates of expiration of subscription accounts appear each week on the address label. John Jones 7-08 means July 1, 1908. Notify us by mail if you desire to discontinue.

Thursday, August 27, 1908

Address All Communications to
CULTIVATOR PUBLISHING CO.
115½ No. Broadway, Los Angeles.
733 Merchants Ex. Bldg., San Francisco.

Copy for Change of advertisement must be in office on Saturday preceeding date of issue. New advertising copy should reach the office not later than Tuesday to insure insertion.

CULTIVATOR PUBLISHING COMPANY
H. A. PERKINS, EDITOR AND GEN. MGR.

C. B. MESSENGER - - - - Associate Editor
FRANK H. THOMAS - - Advertising Manager
H. G. HUTCHINS - - Subscription Manager

EDITORIAL CONTRIBUTORS:

J. W. MILLS - - Deciduous and Citrus
JOHN ISAAC - - - Horticulture
J. B. NEFF - Walnut Culture and Irrigation.
Mrs. M. E. SHERMAN - Live Stock and Dairy
Q. A. LOBINGIER - - Vegetable Garden
S. S. TWOMBLY - - - - - - Poultry
W. E. FOSTER - - - - Pigeons
L. M. FALL - - - Law Queries
RALPH E. SMITH - - Plant Pathology
S. A. PEASE - Plant Diseases and Injurious Insects

Entered at the Post Office at Los Angeles, California, as Second-class matter.

Contents

FOLIAGE OF TWO EUCALYPTS, Cover.

SOME HARDY EUCALYPTS, 195.

CITRUS.—Gum Disease; Citrus Imports; Mango Culture; Amount of Rainfall; After California Weeds, 196, 197.

DECIDUOUS.—The Grosse Prune; Irrigation of Vineyards; Grape Growing Difficulties; Root Rots; Watching Growers' Interests, 198, 199.

IRRIGATION AND FORESTRY.—Gathering Eucalyptus Seed in Australia; More Than Five Hundred Square Miles; Acres of Trees, 200.

LIVE STOCK AND DAIRY.—A Few Late Ideas; A Maligned Animal; Fistula and Poll Evil; Principles of Feeding, 201, 202, 203.

EDITORIAL.—Press Information; Competent Inspectors; The Walnut Crop; Dry Farming; Southern California Fair; Institute Workers; California Live Stock Breeders, 204.

AGRICULTURAL NOTES OF THE PACIFIC COAST.—Northern, Central, Southern, the Coast, 205.

POULTRY.—Reliable Information; Chicks Eating Each Other; Probable Poultry Profits; Protect the Doves; Disease Caused by Close House, 206, 207, 208.

SMALL FRUITS AND VEGETABLES.—Blackberry Orange-rust; Cabbage Worms; Shasta County Onions; Greens, 209.

QUERIES.—Bermuda Grass; Galled Shoulders; Barley; Poll Evil; Peddling by Grower; Hard Milker; Cow Peas; Commercial Fertilizer; Lippia; Milk Fever, 210.

ORNAMENTAL GARDEN.—Improvements in Lily Culture, 211.

HOUSEHOLD.—Character Sketch; Ticket Scalper's Story; Recipes; Hair Tonic, 212, 213.

BEES AND THEIR CARE.—The Place of Bees on the Farm; Bees and Horticulture, 215.

PRODUCE MARKETS.—Los Angeles Market; San Francisco Market; Citrus Markets, 211, 215.

PRESS INFORMATION.

A vast amount of literature, carefully written editorial articles, interviews with leading men in large business concerns, and occasionally valuable articles along sociological and political lines are flooding the mails, addressed to farm papers and the editors thereof. In their general tone there is an evident argument that prosperity cannot return to the country until there is a cessation of the attack upon railroads and other public corporations. From an article recently received we quote the opening paragraph:

"Although the recent adversity came when the prosperity of the railroads was most pronounced, it was due to the attacks upon railroad credit by the administration, by national and state legislatures, and by railway commissions, which compelled the roads to stop all expenditures for improvement, as this attack upon their credit made it impossible for them to sell bonds or obtain money. The panic of 1907 was caused by the attack upon railway credit, which created a fear in the minds of the people which led them to distrust all securities."

No doubt can exist that the panic was caused by a fear in the minds of the peope which led them to distrust all securities, and possibly that fear was created by the action of the moneyed interests for selfish purposes. Many will not agree with the statement that it was due to the attacks upon raliroad credit by the National or state administrations. The "attack" made upon Standard Oil by the National administration, the "attack" made upon the great insurance companies by the state administration of New York, the "attack" made upon the railroads by the state administrations of various states in the South and Middle West undoubtedly weakened their financial credit for the time being. But shall it be said the attack was unjustifiable or wrong?

Why not face the square proposition and admit that "frenzied finance" was wrong, and that the promoters of the system must be driven from power and their apparently impregnable castles destroyed? If temporary disaster comes to all the people, is it not better so, than that the gradual absorption of the wealth of the country be continued in the hands of the pirates who were robbing the people generally in the insurance companies, in the trust banks of New York, in the railroad domination that precluded justice to the people and made rebates the test of business life?

Will the safe and sane and conservative business interests of the country consent and aid in an attempt to bring about a change or will they falter and side-step and try to maintain the conditions which have compelled government intervention? An exasperated and long suffering people will become more dangerous and remedies prescribed more heroic, the longer delayed.

In the meantime the rural prss is bcoming weary of filling waste baskets with prepared literature that carries in its opening or closing argument the statement that the National administration of President Roosevelt was responsible for the panic of 1907. The administration should keep after law breakers, let the results be what they may.

COMPETENT INSPECTORS.

The recent case of killing of several cows and injuring many others at the time of dipping for Texas fever ticks emphasizes the need for trained minds in county, state and government service. It has often been expressed by men who needed qualified inspectors and workers in large government propositions that the greatest embarrassment lay in the impossibility of securing competent help. The case in question in Orange county may not have been caused by incompetence. We do not know any of the particulars other than that the cattle were dipped for tick and later many died. The solution in which they were dipped was inspected later by government and state officials said to be competent to judge, but they have refused to make any statement as to whether it was faulty or not. But as the work was done under the supervision of a county official the presumption is that in some way that official is to blame.

This is spoken of at this time to call the attention of young men fitting themselves for life work to the need for trained minds to keep up the work which is continually growing greater every day. True it is often said that political pull is necessary to secure such positions even if one is qualified. But we believe civil service rules are prevailing more and more every day and that ability is winning more respect.

THE WALNUT CROP.

Regarding the coming walnut crop, Mr. J. A. Montgomery, secretary of the Walnut Growers' Association, of Southern California, writes: In reference to outlook for walnut crop will say that reports we receive would indicate a fair crop, some sections reporting outlook better than last year, other sections reporting not so good. If the walnuts now on the trees come to maturity the crop will probably be a slight increase over crop of 1907. We are receiving reports of sunburned walnuts, from various districts and the crop may be materially reduced from this cause.

The executive committee from the various walnut growers' associations of Southern California, will meet about the 15th of September to discuss the foreign and domestic crop and market conditions. This will no doubt lead to the local associations naming prices.

DRY FARMING.

Some months ago the Cultivator mentioned a particular example of dry farming. We refer to the results secured by Mr. Borof of San Fernando, by his method of preparing the ground prior to planting the seed. In other words he "cultivated his crop" before it was planted. We have seen other references to Mr. Borof's success on his ranch, and while it is to a certain extent due to excellent soil which retains its moisture, yet the thorough tillage is worthy of its proper credit. Mr. Musser of the Johnson Musser Seed Company has also secured some remarkable results by this thorough tillage.

The present is the proper time to take up this matter for next year's crop. Let the soil be prepared for receiving every drop of water which may fall during the coming season and then let it be so handled as to retain every particle of the moisture possible. Questions along this line sent to the Cultivator will be referred to experienced soil tillers and answers given as soon as possible.

SOUTHERN CALIFORNIA FAIR.

Circulars are issued announcing the holding of the Sixth District Agricultural Fair, or rather, a Southern California fair, on the grounds of the old Sixth District Association in the city of Los Angeles. It has been many years since a fair was held in Southern California, and the promise is made that this will be one of the old-time fairs, taking in all branches of agriculture and horticulture. Dr. J. A. Edmonds is manager of the association.

INSTITUTE WORKERS.

The next annual meeting of the American Association of Farmers' Institute Workers will be held at Washington, D. C., November 16 and 17,

At the same place, and beginning November 17, will be held the annual meeting of the Association of American Agricultural Colleges and Experiment Stations. The secretary of the Associations of Colleges and Stations writes: "It seems impossible to secure reduced railroad rates."

CALIFORNIA LIVE STOCK BREEDERS.

Secretary E. W. Major of the California Live Stock Breeders' Association writes us that the association will hold its fifth annual meeting at the pavilion at the State Fair grounds, Sacramento, Tuesday evening, September 1, at eight o'clock. At this meeting there will be addresses on matters pertaining to the live stock industry of the state. The annual business meeting will occur the same day at five o'clock.

Shop Talk

CALIFORNIA FRUITS.—We had the pleasure of a look a few days ago through the first pages of Professor Wickson's revision of his California Fruits and How to Grow Them. This book will be larger than the former edition and an entirely different appearing book. It is a book eight by eleven inches, of the size of the more recent horticultural cyclopedias and reference books. The pages are arranged in two columns instead of the usual single wide measure page. It will be profusely illustrated with half tone and other engravings. With these improvements, we understand, it is to be retained at its former price, $2.50. As soon as issued the Cultivator will announce it, that our subscribers may secure the latest edition of this valuable book.

CANDY BOOK—Orders are still coming in rapidly for the recipe book, "Home-made Ice Cream and Candy Book." It is surely a very attractive little book and is appreciated by **Cultivator** readers. Better join the crowd and send in your renewal for a year in advance according to the ad on another page.

SUNSET MAGAZINE.—All **Cultivator** readers should keep in mind the offer made last week giving the **Sunset** and the **Cultivator**, one year each, both for $2.00. This is a very reasonable and valuable offer and is good with renewals or new subscriptions. Better take advantage of it while fresh in mind and order at once through this office. The **Cultivator** makes no profit out of this offer, but makes it only to induce prompt renewal and to be of service to its readers. Cut out and mail the order blank found on another

Agricultural Notes of the Pacific Coast

Northern California

Roseville winery recently burned but it will be rebuilt.

Large quantities of barley are being stored at Red Bluff.

Marysville cannery took a large quantity of plums this season.

An orchard near Chico was seriously damaged by the recent forest fire.

Sugar beet growers about Hamilton report the crop exceedingly profitable this season.

Farmers of Cottonwood, Shasta county, are finding excellent hog feed in a big crop of acorns.

Grass Valley furnished the first Bartlett pears for shipment for Nevada county this season.

Oroville, Butte county, has issued a small booklet calling attention to her agricultural advantages.

Wineries are generally overstocked with last year's product, so that buying for this year's crushing is very uncertain.

Sebastopol, Sonoma county, will contribute several boxes of her best apples for government experiments in cold storage.

With $7 to $10 per ton as highest prices paid for wine grapes there are many discouraged growers in Sacramento valley.

Grape growers of St. Helena, Napa county, met recently and pledged 3000 acres in the campaign of education for wine consumption.

Pomona Grange of Sonoma county recently met at Two Rock. An address was made on the question of co-operative marketing.

The Contra Costa County Gazette claims that some of the alfalfa land in that county will produce five crops per year without irrigation.

Peach pits at Yuba City are selling at $6.50 per ton for fuel. They are claimed to be nearly as good as coal and are only half the price.

Red Bluff peach trees are loaded with immense crops. This is especially true of Muirs, which are bearing exceedingly heavy this year.

Hop growers of Northern California expect to organize and co-operate to the end that they may secure proper compensation for this year's crop.

Wine grape growers of the state recently held a meeting at Sacramento to discuss the possibility of securing better returns for their grapes.

Fruit growers in nearly all sections of the state are discussing the possibility of tariff revision and the necessity of watching fruit growers' interests.

Calaveras Big Trees and many other large forests of Northern California have been in danger from the fierce fires which have raged in the Sierra Nevadas.

The small dairy, used as an educational factor at the Agricultural College at Berkeley, will be transferred to Davisville to be used as a nucleus for a new and larger herd.

Petaluma recently shipped by the little steamer Gold the largest single consignment of eggs that ever left town. The lot consisted of 1460 cases, containing a total of 43,800 dozen, at a value of $16,000. The shipment was destined for Alaska. It required a quarter of a million hens a week to lay the eggs.

Central California

Sanger, Fresno county, shipped last week 25 cars of grapes.

Visalia was given a taste of a genuine Eastern thunder storm the first of the month.

A Tokay grower at Acampo has sold the fruit crop from his 18-acre vineyard for $4000.

Red spider has done much damage to deciduous vegetation in some sections of the San Joaquin valley.

The contest between Eastern wholesalers and the California Dried Fruit Association is yet unsettled.

San Jose and surroundings are making an effort to make the "Garden City" a "spotless town" by a campaign against weeds and rubbish.

Porterville irrigators have organized a local company to supply electric power for their pumps and light for their homes.

A Lodi inventor has placed on the market a grape capping machine for nailing tops on grape crates. It is said to be a great labor saver.

The Tule River Citrus Association, Porterville, is to make extensive improvements in its packing house before the next season begins.

Prof. Bioletti says that the Zinfandel grape is not fit to be classed with wine grapes, excepting as it is good for the manufacture of "dago red."

A Stanislaus county turkey raiser lost over thirty fine fat turkeys valued at $100, from the raid of a single coyote in his flock one night recently.

A burning cigar stub was the cause of a field fire near Fresno recently by which 600 acres of stubble and a combined harvester were consumed.

Some Fresno raisin growers maintain they have sold raisins at four cents, but all buyers stoutly maintain they have not made that price this season.

Melon growers of San Joaquin valley have all secured better prices this season than for some years. This is thought to be due largely to shortage of crop.

Deciduous fruit dryers are pleased with the lower rate on apricot pits, which has been granted by the Interstate Commerce Commission. The former rate was $1.00, which is now lowered to 80 cents.

G. Harold Powell and his corps of workers in Lodi, San Joaquin county, are gathering information as to methods of grape shipping and giving instructions to grape growers as to the best methods of packing.

The Lodi Fruit and Produce Company has just completed and permitted the public to inspect a new concrete building 50 by 150, basement and two stories for the manufacture of unfermented grape juice.

A Zante packing house is to be overhauled and put in the best of condition for handling the coming crop. These improvements are occasioned by the investigations of G. Harold Powell as to the manner of fruit handliug.

Sauta Clara valley orchardists have been repeatedly threatened with violence if they persist in employing Japanese labor and the sheriff of that county has issued warning to the farmers and given instructions to arrest any suspicious characters.

Southern California

Orange county is planting millions of eucalyptus trees this season.

Upper Yucaipe valley was visited by a severe bush fire last week.

Ventura apricot growers are holding their crop for 8 cents per pound.

Apricots have been shipped from Orange that were bought at 5 1-4 cents.

About one-fifth of the orange acreage of Orange county is given to valencias.

Santa Ana sweet potato growers are receiving about $2.75 per hundred pounds.

Riverside claims the highest priced car of orauges which on June 3 sold for $5.10 per box.

Riverside county has eight spraying outfits and one fumigation crew at work on red scale.

Silsbee, Imperial county, has established a nursery for the production of eucalyptus trees.

Fullerton Sweet Potato Growers' Association marketed over 12,000 sacks of spuds last season.

The government has appropriated $25,000 for studying the question of evaporation of the Salton Sea.

Riverside county's grain crop will be fully as heavy as that of last year and prices will be larger.

Interest in the growing of cotton near El Centro is increasiug and quite a planting is promised for another year.

Imperial Valley has shipped a number of cars of honey this season and already has an enthusiastic beekeepers' association.

A San Diego olive grower visiting Imperial valley maintains that conditions are right there for a fine production of olives.

An Oxnard shop has invented and is manufacturing a self-dumping beet bed which is claimed to be a remarkable labor saver in the handling of sugar beets.

Orange county production of chilis this year will be 20 per cent lower than that of last year. But very little of it will be dried. The price for the canneries will be from $22.50 to $25.00 per green ton.

The recent decision of the Interstate Commerce Commission to grant to Florida citrus growers a lower rate, brought forth expression from the committee that in no case would the rate from California be raised.

Already the Imperial melon growers are looking forward to next season and endeavoring to formulate some plan by which the profitable cantaloupe may be made to bring profit into the pockets of the grower.

The power walnut gatheriug machine is promised to be a complete success. The machine is operated by a gasoline engine and pump connected with a four-inch hose, which by suction draws up the walnuts from the ground.

Claims to the amount of $470,000 have been filed by the ranchers in Imperial Valley against the California Development Company, the Mexican Auxiliary Company, Water Company No. 1, and the Southern Pacific Railroad, for damages owing to floods at the time of a break in the Colorado levee.

The Coast

Bellingham, Washington, fair is being held this week.

Walla Walla, Washington, apple orchards will yield a half million boxes of fruit.

The heaviest crop of cherries ever harvested at Cove, Oregon, was gathered this year.

Some farms at Pullman, Washington, averaged 50 bushels of wheat per acre this season.

This year's wheat crop of the state of Washington is estimated at about 60,000,000 bushels.

Walla Walla, Washington, reports the greatest acreage of corn ever raised in that section.

Oregon State Fair Association has set aside Friday, September 18, as Agricultural College Day.

Farmers near Garfield, Washington, are organizing for a regular campaign against Jim Hill mustard.

Lake View, Oregon, is appealing for better transportation facilities to move its immense crop of apples.

Two threshing machines were destroyed at Umatilla, Oregon, by explosions caused by smut in the wheat.

Western Oregon hop men have greatly benefited by a rain which came about the middle of the month.

Hundreds of harvesters are in operation at Lewiston, Idaho, having started on the grain about August 1.

An area of 165 square miles in the heart of Eastern Oregon grain section was laid waste by hail storms recently.

Seven barns on the grounds of the Walla Walla, Washington, fair grounds were recently destroyed by fire.

Burning forests near Asotin, Washington, have caused the destruction of a large number of sheep being pastured there.

Fruit growers along the Columbia, tributary to Wilbur, have received good returns for their large fruit output this season.

Posibilities of irrigation at Grant's Pass, Oregon, are being realized, and outside capital is entering to encourage its extension.

Idaho and Eastern Oregon woot market which has been depressed so long begins to show life, and a number of sales have been made.

Shipments of green fruit from Pullman, Washington, have met with indifferent sales owing to financial conditions of Eastern markets.

Grant's Pass, Oregon, is busy marketing one of its finest crops of apples. It has been found that spraying for codling moth has been very effective this season.

Farmers of Quincy, near Wenatchee, Washington, are planning for water for irrigation. Heretofore dry farming has been the method of raising crops.

Many raids of coyotes on sheep herds near Albany, Oregon, have been so exasperating that an organized movement is to be made for their extermination.

Hop growers of Oregon and Washington have combined and agreed to gather only a portion of the coming crop as it is deemed prices will be too low if the entire crop is picked.

PER 2 BUSHEL SACK **$1.90** PER 2 BUSHEL SACK

Buy the World's Famous Egg Food No. 4

MIDLAND

IF YOU WANT EGGS
YOU WILL FEED NO OTHER.

Used by the largest and best breeders in the country. Thousands of poultrymen are using it, and it is the acknowledged standard of the world. Haphazard feeding is no longer profitable. Try Midland Food and be convinced.

Petaluma Incubators and Brooders

The acknowledged standards of perfection. All poultrymen who have used these machines have supreme confidence in their ability to hatch and breed. Hence their ever increasing popularity. Winners of the Gold Medal at the St. Louis World's Fair for the greatest hatch, with 40 different makes of incubators in competition. How's that?

St. Louis, Mo., Dec. 8th, 1904.—Petaluma Incubator Co., Petaluma, Cal: My dear Sir—The awards have been held up owing to a controversy between the Exposition officials and the national commission, but today I am able to state the award of a gold medal on your Petaluma Incubators has been confirmed. You are at liberty to make use of this in any way you see fit and in due time the diploma will be issued and the medal obtainable. Congratulating you upon this evidence of the merits of your incubators, in which there was very great competition, I beg to remain, yours very truly, J. A. Filcher, Commissioner.

And Now Comes New Reward for Merit

Read the following telegram received from the Lewis & Clark Exposition at Portland:
"Petaluma Incubators and Brooders just awarded Gold Medal at Lewis & Clark Exposition."

WRITE FOR CATALOGUE 47—A BEAUTY

Petaluma Incubator Co.

Main Office and Factory, Petaluma, Cal., Box F.
Los Angeles, 636 South Main Street.
San Francisco Office and Salesroom, 83 Market St.

When writing advertisers, mention Cultivator.

Coulson's No. 3 Condition Powder

Is just the thing for molting hens. It acts as a tonic and digestive. Keeps the hens laying longer into the molt and quicker after it. Our FREE Booklet, "THE RIGHT WAY" gives full particulars and special offer. Manufactured only by

Coulson Poultry and Stock Food Company
Petaluma, California

Poultry Supplies

Best of All Kinds at Lowest Prices

West Coast Seed Co.

707 So. Spring St., Los Angeles, Cal.

Mammoth Bronze Turkeys---S. C. White Leghorns

From our large, vigorous White Leghorns, the largest eggs produced by any Leghorn breeder in the West. $1.50 for 15, $7.00 for 100 and $60 for 1000.
To make room for young stock we must dispose of a large number of this year's breeding birds. They are two years old and the pick of our flock and must be sold at once. Write us your needs. The price is right.

STUHR-WILLIAMSON POULTRY COMPANY
378 Bandini Ave. Home Phone 1490 Riverside, Cal.

Black Langshans Well, we won again at Los Angeles. Two firsts, one second, one third on five birds shown. Best stock ever in show room in California. Eggs, $2.00 to $5.00 per 13, $10.00 to $20.00 per 100.

White Rocks Large and vigorous. Improve your stock with a setting or get a fine flock with an incubator lot. Eggs, $1.50 to $2.50 per 13, $8.00 to $12.00 per 100.

S. C. White Leghorns Order eggs now, we have plenty of them. Have had all winter, great big white ones. Eggs, $1.00 to $2.00 per 13, $6.00 to $10.00 per 100.

Phone East 915 **Foster's Poultry Yards, 128 W. Avenue 41, Los Angeles**

When writing advertisers, mention Cultivator.

Profit in the Poultry Yard

We solicit short articles of a practical nature from the fancier and utility breeder, giving their experience with poultry. All inquiries pertaining to feed, management, disease and its prevention will be answered through these columns.

RELIABLE INFORMATION FOR THE POULTRYMAN.

UNDER the heading of Another Good Poultry Bulletin, A. F. Hunter in the American Poultry Advocate, summarizes and comments on bulletin 115 of the West Virginia Experiment Station, as follows:

Both summary and comment are worthy of careful consideration.

This experiment was begun November 1st, 1906, and carried through to October 31st, 1907. Six hundred Single Comb White Leghorn pullets were put into the nine pens of a house 180 feet long by 16 feet wide, built with the Maine Station curtain-front pens and curtain-front roosting closet; the pens were 20x16 feet each, the middle compartment of the house being used as a feed room. The house was built of rough oak boards roofed with three-ply tarred roofing paper, and cost, complete, $700.

The pullets averaged about five months old at the beginning of the experiment, and rather few eggs were laid the first two months. There was one slight outbreak of roup, due to the birds becoming overheated from the attendant shutting down the curtain in front of the roosting closet before the weather had become really cold. A few died from this trouble, some from an unknown digestive trouble—total deaths, 54. These, however, were replaced by other similar pullets, so as to keep up the number to 600.

On pleasant days during fall and winter the fowls were allowed to run outside the house in one large flock where they had free range. It was thought at first that perhaps the fowls might crowd into certain rooms at night and thus cause trouble. This difficulty was entirely avoided, however, by having the small openings through which the fowls pass outside, open in front of the house and in the rear, so that the fowls in one section pass out in front of the house, and the fowls in the next section pass to the rear of the house, and so on. This leaves a space between each opening of 40 feet, and the fowls are much better able to find their way back to their proper division than though all of them were let out on one side of the house. Also when the pullets were first placed in the house care was taken to let out only one pen at a time until the fowls became thoroughly accustomed to returning to their proper roosting room. During warm weather the fowls had free range except for about three weeks in spring

Amount and Cost of Feed Consumed.

	Lbs.	Cost
Corn meal	3441	$ 42.88
Wheat bran	5434	71.74
Wheat middlings	2932	39.82
Oil meal	950	18.72
Wheat	10509.6	152.21
Corn	8952	103.81
Beef scrap	2443	57.70
Green cut bone	178	1.33
Ensilage	1536	3.75
Rye	1120	16.80
Ground oats	337	5.73
Oyster shell	1510	8.30
Mica crystal grit	1400	7.70
	Gals.	
Skim milk	205	4.10
Total		$534.59

The number of eggs produced during the year was 67,757, which were valued at the retail price prevailing in the local market and the total value of the eggs was $1,458.87; an average of $2.43 per fowl. The period of lowest prices, 20 cents per dozen, extended from the middle of March to the middle of June; the highest prices, 35 to 40 cents per dozen, was from October 1st into January.

Concluding Statement.

If we deduct from the total value of the eggs the cost for feed, then there remains a balance of $924.28, which must cover the cost of caring for the fowls, the death losses, the depreciation in the value of the fowls, the interest on the investment and profit.

It is difficult to estimate accurately the cost for labor, as the man who cared for these fowls did other work, but an active man could undoubtedly attend to five or six times as many fowls as were in this experiment. If we assume the lower number, also that it costs fifty dollars per month for a man to do the work, then it would cost ten dollars per month per house or one hundred and twenty dollars per year.

During the year fifty-four hens died. At eight dollars per dozen these would amount to thirty-six dollars.

If we assume that the 600 pullets were worth four hundred dollars at the beginning of the test and that they depreciated in value during the year twenty-five per cent, then this depreciation amounts to one hundred dollars.

Assuming that the house and fowls represent an investment of eleven hundred dollars, then the interest at six per cent amounts to sixty-six dollars, and the account stands as follows:

INCOME.

For eggs	$1458.87
	$1458.87

EXPENDITURES.

For feed	$ 534.59
For labor	120.00
For fowls which died	36.00
For depreciation in the value of fowls due to age	100.00
For interest on investment	66.00
For profit on 600 hens	602.28
	$1458.87

The total profit from the 600 fowls was $602.28, or practically one dollar per fowl. The total expense for the year was $846.58, or $1.42 per fowl. There were produced 5646 dozen eggs at an average cost of fifteen cents per dozen, and during the year nine per cent of the fowls died from roup or other diseases. The fowls averaged 113 eggs each. It is possible that this somewhat low egg production could have been increased by some other system of feeding, but whether the increased egg production would have more than paid for the increased cost of labor is a question for future experiments to determine.

Some Comments Upon This Bulletin.

Part of the foregoing is quoted verbatim from the bulletin, part is condensed, and there are some interesting points brought out in it. We are very pleased to have the detailed statement of pounds of food consumed, and the cost prices. The charges of $120 for labor, $100 for depreciation of the fowls from the low valuation given them at five months of age, $66 for interest on investment in house and fowls, and $36 for fowls that died are aids to getting at the exact net profits, and after all these charges are put in there is a good dollar apiece profit for the year.

The outbreak of roup, caused by

shutting up the birds in the roosting closet too soon, while it was yet warm weather, comparatively, points its own moral. We believe that there were two or three mistakes made in the plan of the house, and that they followed too closely the Maine Station plan, without considering the milder climate.

In the description of the house the bulletin says:

"In order to maintain fowls in a healthy condition it is necessary, among other things, to furnish them a dry house in which to roost and pure air to breathe. This is particularly true in winter when the houses, as usually built, are apt to become damp, if warmly constructed, and the air impure.

"One of the most important advantages of the curtain-front house is that the house is perfectly ventilated all of the time. During stormy weather when the curtains are down the air circulates freely through the curtains, and when the weather is fine the curtain front is open and there is no tendency for the moisture present in the breath of the fowls to condense on the walls of the house and thus cause dampness. Also, when the front is open the sun has unrestricted entrance, which is a distinct advantage, for poultry house windows are usually so dirty as a result of the dust bath that sunshine has difficulty in lighting up the interior.

"Considering this kind of poultry house from a financial point of view, it is cheaper than the old type of house because windows can be replaced in part by cheap duck curtains. In addition, the scratching shed is abolished, the roosting pen and scratching shed being combined, thus economizing in space and lumber.

"The curtain-front house remains dry and cheerful in all sorts of weather. It is true that it is a cold house in winter when the curtains are open during the day, but fowls, when properly hardened, can endure a considerable degree of cold without injury, and this is especially true if they are in a cold atmosphere during the day time when they are obliged to scratch vigorously for their grain."

POULTRY BREVITIES.

Many a hen otherwise well fed fails to lay because of a lack of sufficient water.

* * *

Without pure air in the poultry house a poultry man cannot stay long in the business, unless he has a large bank account to fall back on.

* * *

The great value of green food lies in its ability to aid in the digestion of other foods thereby promoting good health and increasing egg production.

* * *

More than 65 per cent of every egg is water and water makes up 55 per cent of a hen's body. Without a sufficient supply of water the hen can neither digest food properly nor produce eggs.

* * *

Chicks Eating Each Other.

Can you tell me what to do to prevent my small chickens from eating each other?

I have been much annoyed during the past season by my incubator chicks picking at the toes of one another until they bleed, and in some cases, they have picked at a member of the flock until he has been killed and eaten.—E. K. C.

This trouble may be due to lack of animal food. Oftentimes chickens are so hungry for animal food that they will attack each other; when the habit is once developed it frequently becomes a vice and hard to break. Supply the small chicks with plenty of animal food in way of meat scrap, good grades of which can be bought for $3.25 per hundred. If small chicks have this before them after they are ten days old they will not be apt to develop the vice of cannibalism.—S. S T.

* * *

Trouble With Three-month Old Chicks

I have a flock of 36 Brown Leghorn pullets three-months old that have been very active and in excellent health until about a month ago when the combs began to lose color. They have not been as active and are not growing well, although I feed them all the wheat they will eat and they have the range of three or four acres.—Mrs. H. M., Hanford.

From the description it is rather hard to say just what the cause of this lack of condition is in this flock of young birds. Maybe such a condition could arise from several causes. If we name some of these possible causes our correspondent may be able to decide for herself as to the more probable one in case of these chickens.

1. It may be due to an illy-balanced ration. At various times in these columns I have mentioned that no one grain supplies the food constituents needed by the system of a growing bird in the right proportion. It seems that these birds have been fed largely on wheat, an excellent food in itself when combined with other foods supplying the necessary element in which it is lacking. These birds should have meat scrap, dried blood, skim milk or other substances rich in the material in which wheat is lacking, viz., protein. The owner should see that they have mineral matter in way of bone, a supply of clean water and access to a hopper containing charcoal. But the chief deficiency is animal and mineral matter. We assume that they get sufficient green food, as they have free range.

Again, these birds may be suffering from an attack of roup. This disease often develops in a flock of young birds in a mild form not acute enough to cause much mortality, but enough to check growth and cause a generally unhealthy condition.

If they have a bad odor about the head and exude from the nostrils when you press on the side of the head above the nostril it may be assumed that roup is present. Refer to back numbers of the Cultivator for treatment.

If these birds eat well and still are losing flesh they may be suffering from what is known among poultry men as "going light." This is tuberculosis of the fowl, contagious, and there is no remedy but the hatchet for afflicted birds. The treatment is prevention by avoiding the introduction of affected birds into the flock and disinfection of all houses where such birds have been kept—these are some of the possible causes of the condition of the flock under consideration.—S. S. T.

Here is a short hard fact on the cost and profit of keeping hens. The West Virginia Experiment Station has gone through a year of work with 600 hens. The cost of feed per hen was 89 cents; total of feed and labor $142. The average of eggs per hen was 113 valued at $2.43. As will be seen each has returned a net profit of $1.01.—Hoard's Dairyman.

Yards need some sort of shade in hot weather.

PROBABLE POULTRY PROFITS.

Several subscribers, evidently amateurs, have asked me as to the possibility of profit in poultry as a business venture, or for a livelihood. So many considerations are involved that one would need to write a book to cover the ground completely. I have a few paragraphs, says a writer in Farming.

Near any fairly good market there are possibilities of good living profits. Remoteness from markets means increased risks in selling through others. The probabilities depend largely on the man—or woman. Study the available markets, see which promises best, and what is most in demand. I know of some localities where I would bend all my energies to the production of fancy brown eggs and large roosters; others where I would push for fancy white eggs and small broilers. And either would be a winner in the right location. See the point? Make a friendly call on several successful poultrymen (for there are some besides pessimists,) observe their buildings, their appliances, their methods of feeding and handling. Ask all the questions you can think of about the business. Adopt all good methods when feasible, adapting them to your own circumstances.

The most promising road to success lies along a combination of eggs and market stock. Let the fancy business be an after consideration. Market poultry and eggs go hand in hand, for the surplus cockerels go as broilers, and hens past their usefulness must be marketed. Begin with one breed; study that thoroughly. Begin small and grow into a larger business. Too many want to go into poultry on a large scale. In no other branch of live stock do returns come so quickly. To illustrate:

We had a brood of ten chicks hatched in late March. In about nine or ten weeks, the five cockerels sold for fifty cents each as broilers, enough to pay for eggs and feed to raise the pullets to laying size. In six months the pullets were ready to lay, at a time when the price of eggs was high and on the up grade. In less than a year the performance could be repeated. Suppose this brood were multiplied by 100, a number which one hustling man could care for, do you see the possibilities? But suppose, through neglect or otherwise, half that brood had been lost, what a difference in results! But again let me advise increasing moderately.

Yes, there are great possibilities in the poultry business on small capital, with the probabilities in favor of the careful, painstaking, observing man, with an almost unlimited faculty for attention to details.

I have had in mind in the above simply fowls. That will be enough for a starter. One thing at a time. Ducks, turkeys, guineas, possibly pigeons, may be added later.

TESTING EGGS.

A perfectly fresh egg placed in water will lie upon its side; if the egg is a few days old the large end of the egg will slightly rise in the water; the whole egg being tipped at an angle with the bottom of the dish. This angle increases with the age of the egg until an egg that has been kept some time will stand upright in the bottom of the dish. This does not indicate that the egg is spoiled, but that it is old or "stale." If it is spoiled it will float in the water. Another method of testing eggs is to hold them between the eye and a strong light, in which case the egg, if fresh, will appear transparent around the sides with the yolk showing dark in the center.

High Priced EGGS

Are what all poultrymen like to get during the fall and winter; but without the very best of health in the flock and a good variety of sound, wholesome feed it is hard to get such eggs.

Nature requires that hens have a rest just prior to and during the molting period; the result is a scarcity of eggs, with higher prices, and a larger profit for those who can overcome the difficulty. The one that can get eggs during the fall will be just that much ahead of his neighbors and others who fail to do so, which in the end is the difference between success and failure.

COULSON'S EGG FOOD is the feed that will turn failure into success by enabling you to secure eggs in the fall and winter while prices rule high.

Improvements have been effected in the composition of the **EGG FOOD** during the past year, so that it is now richer in the various nutrients required by the laying hen, and is a better feed than ever before.

"THE RIGHT WAY," our booklet fully describes **COULSON'S IMPROVED MASH EGG FOOD** and other balanced rations for poultry and gives full directions for feeding and care of poultry from the time they are hatched, together with care of sick chicks. If you have no copy of it, you should drop us a line today; a postal card will bring it to you.

We have agents selling our poultry foods in nearly every town in California. If you cannot obtain what you want from your dealer, write to us and we will tell you where to get it.

Coulson Poultry & Stock Food Co.
Petaluma, Cal.

Germain Seed Co.
Los Angeles
Distributing Agents for Southern California

Egg-More

Not a strong tonic and stimulant, but a highly nitrogenous Poultry Food very rich in protein. A little fed daily with good grains will keep hens healthy, make them molt early, feather out quickly and lay lots of eggs when they are scarce and high. If not sold by your dealer, we will prepay freight on 25 lbs., $1.90; 50 lbs., $3.60; 100 lbs., $7.00. Send for free Booklet with testimonials.

$50 Cash Premiums

$20 first; $10 second; $5 third; fifteen $1 each. Easily earned in an hour or more by any boy or girl, man or woman, but only one in each family, without any cost to you and no peddling or canvassing. And to each one competing, we will also give a useful article. Send postal for particulars mentioning this paper, to

West Coast Mill

707-709 So. Griffin Ave., Los Angeles, Cal.

Trap-Nested White Wyandottes

That won 22 ribbons out of 25 and 6 Silver Cups and a carving set and a cut glass vase. All the National White Wyandotte Club Ribbons. Second on 10 pullet pen, contest open to all breeds. Mammoth Bronze Turkeys, winners of 5 blue ribbons, all at Los Angeles County Poultry Association Show, December 7, 1907. White Wyandottes were judged by H. Berrar of San Jose, Cal., and W. W. Browning of Ogden, Utah. Hens and Pullets, $15, $20 and up.

MISSION VIEW POULTRY RANCH, MRS. C. D. HUBBARD, SAN FERNANDO, CAL.

Home Made Ice Cream and Candy

Appeals to Everyone in the Family

Has been going since the very day of publication. Full of all that is known about Home Made Ice Cream and Candy. Nearly Three Hundred Formulas.

Make 60 cent Chocolates for 15 cents

Taffies Nut Candies Butterscotch Everything

A 50c Book **You Get It Free With the Cultivator** For 1 Year's Subscription

Paid in advance. For old or new names who pay for the coming year. Enclose a $1.00 bill and ask for the "Candy Book." But remember, you will not receive the book unless the remittance pays for at least a whole year from this date. Address

Cultivator Pub. Co., Los Angeles, Cal.

Is Your Dog or Cat Sick?

You may lose your valuable dog or cat at this season of the year, when a simple remedy would effect a cure. We have that cure in the Celebrated CLAYTON'S DOG & CAT REMEDIES. In short, we have a cure for all ailments that "Fido" and "Tabby" are heir to.

Write for treatise on diseases of both. It's FREE.

Germain Seed Company

326-330 So. Main St., Los Angeles, Cal.

F. E. Baldwin's

WHITE LEGHORNS

THEY LAY
THEY PAY
At Every Pop
THEY SHOW
THEY GO
To the Very Top

First Prizes Everywhere Shown. Bargains *now* to make room. Send for Prices and Free Booklet.

46 Washington Ave. - San Jose, Cal.

Now is the time to hatch **BANTAMS**

Golden Sebright, Buff Cochin, and Light Brahma Eggs, $2 per 15. Prize winners.

M. E. Dillingham Box 67, San Gabriel, Cal.

White Wyandottes Exclusively

Good, White, Typical Birds. Stock and Eggs For Sale
W. A. SEYMOUR, R. F. D. No. 1, Anaheim, Cal.
Take Santa Ana Electric Line to Harper Station

Poultry Ranch Wanted

Anybody having a small chicken ranch to sell might find a buyer by writing Box 585, Ontario. Give full description, price and terms in first letter

Fowls that are expected to lay must have plenty of exercise. If they have nothing to do they will eat and become too fat.

DISEASE CAUSED BY CLOSE HOUSE.

Last autumn a friend, having raised a thrifty flock of pullets, built a snug house, close and warm. It had the proverbial glass windows on the south side, with a view to the comfort and happiness of those pullets, and incidentally with a view to securing those much-desired winter eggs. A fine house those pullets should have. As the nights began to grow cool, he moved the flock from their open-front airy coops to this hen palace. Visions of baskets upon baskets of hen fruit cheered him on. But, anon, he came seeking eggs, and found none. Instead he found numerous sick birds, drooping, wheezing, some with swollen eyes and decidedly roupy tendencies. This was certainly discouraging. And he had been so good to them, too. Aye, there's the rub. He had been too good. The change to that close, warm house after spending all their lives in those airy coops, had done its work. Too great a change! Too little fresh air. Ventilation should have been provided, or better still, cloth instead of glass should have been used in those windows. Fresh air is cheap and conducive to heath. Why not have more of it? I know how this change affects pullets, for I had the same trouble years ago when I didn't know better. And there are others.

PROTECT THE DOVES.

A friend has sent me following, clipped, we think, from a Pasadena paper and written by Dr. Hunt of that city:

Since, permitted by an unfortunate game law, gunners are now shooting doves, some words upon the habits of these beautiful and gentle birds may perhaps be of interest. No ranchman can accuse doves of spoiling any fruit; here is a negative virtue. But, according to Wm. Dutcher, a high authority upon birds, "Recent investigations made by the Biological survey, U. S. Department of Agriculture, of the food of the dove, prove this bird to be of incalculable value. * * * Its principal and almost constant diet is the seeds of weeds. These are eaten at all seasons of the year. They constitute sixty-four per cent of the annual food supply, and show very little variation during any month. Some of the seeds eaten were so minute it would seem that none but the smallest of birds would eat them, and then only when driven to do so by lack of other food.

"Some instances of the enormous number of seeds that individual birds consumed will be of interest. In one stomach were found 7500 seeds of the yellow wood-sorrel, in another 6400 seeds of barn grass or fox-tail. * * * The three doves in question benefited the farmers, on whose land they fed, by destroying 23,100 prospective weeds at one meal.

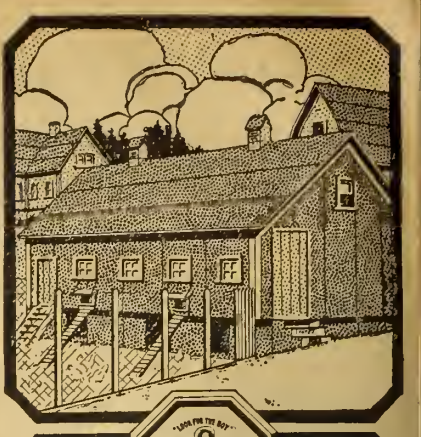
"Is there a farmer in this land who would not welcome as a friend the man who would offer to uproot and kill 23,100 weeds? Yet because the doves go about silently and unobtrusively, and make no loud boasts about the good they are doing, they are thought of little or no value. In many sections of the country this valuable, harmless and gentle creature is considered a semi-game bird" (Shame on California! "and is shot during a large part of the year.

Would it not be true economy for ranchmen to post their land with the muslin "No Shooting" notices to be obtained gratis from Mr. W. Scott Way, Glendora, Cal., or the Pasadena Humane Society, and to see that these notices are respected?

"It is a question for the ranchers to settle whether they will permit anyone to kill on their land birds that annually destroy tons of the seeds of pigeon-grass, ragweed, smartweed, bindweed and many other noxious plants, and are thus worth so much as helpers on farms. The matter resolves itself into a question of figures, i.e., dollars and cents to the farmers. If three doves at one meal destroy 23,100 weed seeds, and thus prevent the growth of the same number of prospective weeds, how much good will all the doves on a farm, or in a State, or in the country at large, accomplish? Or, to present the case in another way, how much will it cost in time, labor and actual cash, to destroy what the doves would eat if they were protected and encouraged to remain on the ranches?

"The farmers in the United States spent in 1899, the enormous sum of $365,305,921 for labor; how much of this was paid for killing weeds, and how much of it could have been saved if no doves had been killed, but all had been protected and permitted to perform their work?"

It is greatly to be hoped that there may be a new game law shortening the dove season which now opens before nesting time is really over, a time when all creatures are entitled to protection. As they lay but two eggs, sometimes only one, there is no possibility of their too rapid increase. But there is no reason why the dove should ever be considered in any sense a game bird, nor why it should not be accorded complete protection, along with the mockers and song birds.



Profitable Poultry

A high or low death rate is usually the difference between successful and unsuccessful poultry raising.

REX Flintkote ROOFING is used for roofs and sidings on profitable poultry plants, because it keeps the houses warm and dry, with even temperature and humidity.

As a result, fewer chickens are lost and the layers are more productive in poultry houses covered with

REX FLINTKOTE ROOFING

This roofing is fire-resisting, rain and snow-proof, and very durable. REX Flintkote ROOFING affords more kinds of protection to your buildings and their contents than any other roofing. Everything needed in laying comes with the roll—any laborer can lay it.

SEND FOR FREE SAMPLES

Let us send you free samples to test, and our roofing booklet. Our valuable poultry book, "Making Poultry Pay," sent for 4c. in stamps.

J. A. & W. BIRD & CO.,
89 India Street, Boston, Mass.
Pacific Coast Agents: W. P. Fuller & Co., San Francisco, Sacramento, Oakland, Stockton, Los Angeles, San Diego, Portland Seattle, Tacoma, Spokane.

Laying hens are the paying hens.

Poultry needs a varied bill of fare.

Yards should be as large as possible.

Pick out the cull chicks and market them.

Poultry pays when a hustler is behind it.

Try and keep the chicks free from lice.

Wash out drinking vessels before refilling.

Fowls kept in yards need plenty of green feed.

Lazy people never make a success with poultry.

Setting hens want good feed and plenty of water.

Eggs intended for hatching should be of an even size.

Resolve to take better care of the poultry and do it.

Either you keep the poultry or the poultry keeps you.

Often the grit hopper becomes empty. Better look!

Air-slacked lime dusted freely on the chicken yards is one of the best preventives of gapes in young chickens.

Small Fruits and Vegetables

BLACKBERRY ORANGE RUST.

This trouble is very prevalent in some sections of the country, the cloudy, rainy weather seeming to favor its development. J. C. Whitten, of Missouri Experiment Station, says it is caused by a fungus which starts in the young canes below ground, pushes upward in the new tissues of the cane as it lengthens and then ripens its spores again about this time of the year, forming the red rust from which the disease takes its name. The red, rusty looking powder is the spore masses being shed from the under part of the leaves. The disease is perpetuated by means of these spores, which answer to seeds. They usually get down into the ground, however, and enter the plant below ground, so the fungus gets its start below the soil, where it is not possible to prevent it by means of spraying.

Though it is not feasible to get out the thing by means of spraying, one can in a measure keep it out of a blackberry plantation. The first thing to do is to dig up and destroy all the infected plants as early as possible. When this can be done just before the red spores begin to shed, so much the better. It is best to dig out the infected plant root and branch, as part of the fungus will remain in the portions of the plant below ground.

Plants which are shaded are more likely to be infected than those which are not. For that reason it is helpful to prune any overhanging trees sufficiently to let in sunlight where it is feasible. In order to avoid shade it is also well to remove the old canes as soon as they have fruited this season, so they will not shade the young canes which are getting ready to fruit next year. In late winter and spring pruning of the fruiting canes it is best to cut side branches back to from four to six inches in length until you get the patch free from the disease. In other words, prune so as to let in a little more sunlight than normally would be done for a season or two.

While especially in a small home plantation, it seems like a sacrifice to dig out parts of the planting, it pays to do it, as infected plants will not bear any fruit and will only stand in the way and help to communicate the disease to those which are not infected.

CABBAGE WORMS.

Paris green, one rounding teaspoonful. Common flour, one quart.

Mix the two thoroughly together and put in a small cheesecloth sack which anyone can make in a very few minutes. Shake this sack over the cabbage plants, causing the Paris green and flour to sift through and fall upon the cabbage leaves. This is best done early in the morning or in the evening when there is a little moisture upon the leaves to cause the powder to stick where it falls. A very light dusting is all that is necessary to distribute enough of the poison to kill the worms that feed upon the leaves. This poison should not be used later than ten days to two weeks before the time that the cabbages are to be gathered.

Unless used in unreasonable excess, there will not be poison enough deposited upon the edible part of the cabbage head to do any harm. In fact, all these outer leaves are removed before the cabbages are cooked for food. It is also true that the leaves that form the outer part of the cabbage head one day will spread and become loose outer leaves a few days later. So, if the poison is not applied very near to the time that the cabbages are to be gathered, there will be no poison whatever upon the edible parts. For best results the first application should be made as soon as the heads begin to form. Then one or two applications later would be all that is necessary.

In large fields it might be better to use the Paris green in the form of a spray of water. In which case a little soap should be added so that the liquid will spread over the leaves and not roll off. If used as a spray, mix one pound of the Paris green in each one hundred gallons of water. Arsenate of lead may be used instead of the Paris green, in which case five pounds of the poison should be used for each one hundred gallons of water.—C. P. Gillette, Agricultural College, Colorado.

The bean section of Ventura county will be better supplied with threshing machines than in the past. One of the greatest losses there has been from lack of machines to thresh the beans before the rain or wind damaged them.

In harvesting beets pull out and cut the tops or twist off. Don't cut the top of the root off.

SOME SHASTA COUNTY ONIONS.

Mr. A. P. Henning of Cottonwood, Shasta County, sends down a few onions, busters, some of them nearly 6 inches in diameter, each top entwined and embraced, sufficiently, it would seem, to smother its life, with morning glory vine. But nothwithstanding that Shasta County soil has conquered and given a big growth. Mr. Henning writes:

"I am sending you by express a sample of onions grown in morning glory land. If you can beat it in Los Angeles I'll gladly pay for the sample. I had tried a good many things that utterly failed on this same ground, but these "Gibralter" onions hold the fort. They have only been hoed twice and plowed twice, and the glory has entwined itself pretty well, as you will see by the sample I am sending you. If any one is doubtful of this story all they have to do is visit the patch and if they don't find it a fact we will pay their expenses of the trip, only we would have to limit it to thirty days, as we expect to have them out of the ground in that time."

A more desirable crop would be something which would smother the morning glory entirely. If that cannot be, then try "Gibralters."

THOSE ARE PUMPKINS.

"GREENS."

Many people who are successful with their family gardens for most of the summer vegetables either neglect or fail of success with the various things commonly known as greens. As these all make very wholesome dishes, especially to those who eat little fruit, it would be well if they gave more attention to them. What I refer to especially are lettuce, mustard, spinach, turnip greens, etc.

I notice that in very few farmers' gardens are any of these things to be found in the fall, though most people raise them in the spring. We don't like to be without something green from the garden any month in the year.

I especially recommend spinach as a kind of greens that may be eaten by many people who do not find anything of the cabbage kind digestible. To me personally the slightly bitter taste of turnip greens and mustard is more pleasant than spinach and fully as digestible, but many do not find them so. So that while these other greens are popular and sell well in most markets the demand is not so good as for spinach, nor the price so high. But getting a stand of spinach often proves to be difficult. I have found the safest plan to sow just before a rain if it can be done and cover lightly. Or if sown when the ground is as moist as can be handled and the soil firmed, the seed will come up.—G. R.

Vegetable growers near Stockton are planning an educational campaign with restaurants and hotel keepers by which they hope to induce better and more general preparation of vegetable dishes for the table.

Now Is the Time to Plant

Cover Crops: Canadian Peas, Vetch, Fenugreek, Burr Clover

Onions: White, Burmuda, New Queen

Cabbage: Winningstadt

Our Seed is the Best

Johnson & Musser Seed Co.

113 N. Main St., Los Angeles, Cal.

STRAWBERRY PLANTS

Strong one-year-old plants for August planting; Brandywines, $2.50 per M. Klondike, Lady Thompson, A-1, Excelsior and Midnight, $3.00. A full line of this season's plants later. New catalogue ready in September, giving full description of our improved strawberry plants and other small fruit.

G. H. HOPKINS & SON Burbank, Cal.

Burbank Crimson Winter Rhubarb

Plants and Seed for sale in any quantity. Warranted the genuine article. Orders filled promptly

A. L. Fratt, Ventura, Cal.

Mushroom Spawn

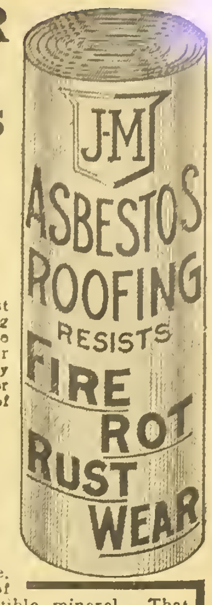
Spawn manufactured by a practical grower. Call at my place and see mushrooms growing. Finest varieties grown.

Arndt's Mushroom Farm

3751 So. Normandie St. Los Angeles, Cal.

Get OUR Roofing Samples and Prices FIRST

We are the largest manufacturers of Roofing Materials and can give you the most for your money. We have many valuable suggestions for the man who thinks of building or repairing.



J-M ASBESTOS ROOFING

is permanently durable, because it is made of asbestos—an indestructible mineral. That is why it does not require coating or painting to preserve it. No assessments for repairs every year or two.

ASBESTOSIDE

is the most durable siding material known. Keeps out the heat in summer and the cold in winter. Gives an attractive appearance without the expense of painting.

Write Us for Catalog 39 and Samples

H. W. Johns-Manville Co.

203 East 5th St., Los Angeles, Cal.

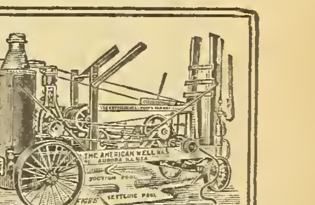
Water Pipe Cheap

25 CAR LOADS NOW BEING UNLOADED

250,000 feet of this shipment is second-hand pipe, practically as good as new, and is now on sale at a big discount by the Adams Pipe Works, 2025 Bay street. Sizes and prices: ¼ inch 1½ cents per foot; 3-8 inch, 2 cents per foot; ½ inch, 2½ cents per foot; ¾ inch 3½ cents per foot; 1 inch, 4¾ cents per foot; 1¼ inch, 6 cents per foot; 1½ inch, 7 cents per foot; 2 inch, 9¾ cents per foot; 2½ inch, 15 cents per foot; 3 inch, 18 cents per foot; 3½ inch, 20 cents per foot; 4 inch, 32 cents per foot.

Oil well casing prices and sizes: 2 inch, 7 cents per foot; 2½ inch, 9 cents per foot; 3 inch, 13½ cents per foot; 3¼ inch, 15 cents per foot; 3½ inch, 17 cents per foot; 4 inch, 18 cents per foot. All pipe is carefully inspected, new coupling and new thread are put on every piece, every joint is guaranteed to be first-class, serviceable pipe. This pipe is sold in any amount; small orders are given the same attention as large ones. Mail orders promptly filled. To reach the Adams Pipe Works, take car marked Pacific Boulevard, starting east on 7th St. from Broadway. All lines will transfer to East 7th St. new line. Ask conductor to let you off at Bay St., and go east half-block. Phones, A1917, Broadway 1 64. Los Angeles, Cal.

$10 a day may be earned by a man using our machinery. Some earn more. FULL LINE for prospecting for water, coal, mineral, oil, etc. Any DEPTH, any DIAMETER. PUMPS also. Free catalogue.



THE AMERICAN WELL WORKS

AURORA, ILL., U. S. A.

BRANCH OFFICES

Chicago, Ill., First National Bank Building
New York, N. Y., 2-4 Stone St.
San Francisco, Cal., 305 Market St.
New Orleans, La., J. H. Menge & Co.
R. B. Whitacre & Co., 205 Robert St., St. Paul, Minn.
Dallas, Texas Joplin, Mo.

Pacific Seed Co.

C. Bagnall, Prop.

GROWERS AND IMPORTERS OF

Grass, Vegetable and Flower Seeds

All Kinds of Bulbs and Onion Sets

609 J St., Sacramento, Cal.

Send for Catalogue. Please mention Cultivator.

When writing advertisers, mention Cultivator.

Queries and Replies

Questions to be answered in this department should be received at this office one week before reply is expected. Write plainly on one side of the paper and sign full name and address. Unsigned communications receive no attention.—Ed.

Bermuda Grass.

Kindly advise me where I can buy the seed of Bermuda grass.—E. G., Ceres.

This is the first request, we believe, of this kind which has ever come to the Cultivator office. There are some sections of the Southern states where Bermuda grass is sown as a pasture grass, but in California it is so universally considered as a pest, and as a serious pest, that the usual inquiry has been, "How may I get rid of it?" The seed sown will scarcely ever germinate, so that it is seldom used in the Southern states for propagation. The method there of starting a field of it is to mow with the machine in a pasture already covered with it. This freshly cut grass is run through a feed cutter and cut into pieces about an inch long. These are sown over the prepared ground and harrowed in, very much as seed would be.

Warranted to Give Satisfaction.

Gombault's Caustic Balsam

Has Imitators But No Competitors.

A Safe, Speedy and Positive Cure for Curb, Splint, Sweeny, Capped Hock, Strained Tendons, Founder, Wind Puffs, and all lameness from Spavin, Ringbone and other bony tumors. Cures all skin diseases or Parasites, Thrush, Diphtheria. Removes all Bunches from Horses or Cattle.

As a Human Remedy for Rheumatism, Sprains, Sore Throat, etc., it is invaluable. Every bottle of Caustic Balsam sold is Warranted to give satisfaction. Price $1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars, testimonials, etc. Address

The Lawrence-Williams Co., Cleveland, O.

Peckham Says—

Increase Your Income $2,000 a Year

I want every man or woman who is reading my ads. to keep in mind that buying 20 or 40 acres of our Corcoran land is an investment, not a speculation—yet you get returns equal to those from successful speculation—and all the while you are secured against loss by the finest farm land in the world.

There is no question like finding "gold," or striking "oil" about our Corcoran proposition. The LAND is there for all time; the water is there for all time to nourish and fertilize it; you don't have to dig the ground deeper than to plant the seed—there is no chance known to man for a single crop failure—and you can easily make $2000 a year.

George C. Peckham & Company

203-4-5-6 Union Trust Bldg., Corner Fourth and Spring Sts.

Phones: Main 3221, F5392.

Galled Shoulders.

In answer to a query by F. N. of Holtville, regarding galled shoulders of his horses, Mr. M. H. Ovaitt of Pomona sent us the following: "If Mr. N. will open the sweat pad on the side that lies next the collar and pull out all the stuffing at the spot over the sore, scrape the spot on the pad to soften it and put on a good layer of axle grease, the sore will get well."

It will be remembered that this is contrary to Dr. Whittlesey's advice, for he said in all cases to keep grease from the shoulder while the horse is working. However, we give the above and thank our subscriber for sending it in.

Barley.

Is this weather too hot to sow barley for pasturage in September? If too hot for barley, then what could be grown? Our place is in the foothills, a sandy loam.—A. L., San Bernardino.

If you have sufficient water to put the ground in moist condition and the ground is thoroughly pulverized after irrigation, you should be able to get good early pasturage by sowing your barley now. It would probably be necessary, however, to leave the land so as to irrigate after the seed comes up. Your further question regarding peaches coloring will be referred to Mr. Mills.

Poll Evil.

Please give remedy for poll evil.—S. R. M., Thermal.

We refer you to live stock department of this issue, where there is an article on poll evil and fistula.

Peddling by Grower.

Can city authorities legally demand a license from a farmer who peddles his own products? It is often demanded by the former, yet farmers invariably denounce it as unconstitutional. If such a license cannot legally be collected what course should the farmer pursue to obtain his rights.—Subscriber, Newport Beach.

This query has been referred to attorneys who say that each city has authority to control its own license laws. However, one attorney believes that if tested every farmer has the right to sell his own products without paying license. The city of Los Angeles demands license of all, whether growers or simply peddlers of farm products. We believe if we had products to sell we should test the matter by refusing to pay a license for selling anything produced on our own farm in this state.

Hard Milker.

I have a Jersey heifer; freshened a few days ago; has good shaped udder and large teats, but is a hard milker. Is there a remedy?—A. L. S., Imperial.

This does not give particulars enough. This heifer may simply be nervous or she may have small teats. If she is simply a cow that does not milk easily we usually give such an animal her calf and when it is a little too old to take the milk, give her another one to raise, and then let her dry off naturally. When she comes in again the hard milking quality is gone as a rule.

Cow Peas.

Please inform me how many cow peas per acre are required for green cover crop. Also how much vetch seed; and which would you advise planting in a one-year-old peach orchard, simply for fertilizer, and to keep the ground from packing?—J. S., Sanger.

We would surely plant the vetch or else Canadian field peas, as the cow pea, or more properly it is a bean, does not do at all well in this state, especially during the winter season. The vetches and the Canadian or field peas have succeeded very well. As to amount of seed and other factors we expect to give an article on this topic within the next few weeks in the Cultivator.

Commercial Fertilizer.

What is the proper kind of commercial fertilizer to promote the growth of lemon trees? Also to increase the crop of fruit?—J. B., Corona.

The answer to that question would depend on several different things which could only be determined by an examination of conditions. In a general way we would say if the mechanical condition of the soil is perfect, that is, if it has sufficient humus to give it life and put it in the proper condition for admitting the air and water, then the application of a complete fertilizer would be the simplest answer to the question. Too often, however, farmers feel that the commercial fertilizer which contains all the elements that the plants need, is all that is needed to put upon the soil to bring a big profit. The farmer must learn that the simple chemical content of the soil is but the first step in fertilizing trees. The temperature of the soil, admission of air and water, subsoil and other conditions, are fully as important as is the chemical content. We would refer the inquirer to an article appearing in the Cultivator of May 14 on "Maintaining Fertility in the Orchard," by Frank L. Palmer. It will give far more information than is possible in this column. As to the need of a lemon crop, the analysis of the fruit might show it to require a slightly different proportion of the three principal elements than would other crops. But we believe this slight difference is altogether too fine to be of much practical value to the everyday farmer.

Lippia.

I wish to inquire about the lawn plant, Lippia repens, recently mentioned in the Ornamental Garden Department. Where can the turf be obtained and when should it be started?—W. H. K., Lemon Cove.

Almost every nurseryman and plant dealer in the State should be able to supply you with Lippia repens, as it is becoming very common. Or, if a neighbor in the same section has a lawn of it and will permit the taking of a few plants, one may with a plant trowel take sufficient for a small lawn in a few moments and leave only small holes here and there, which will soon fill as the surrounding plants which are left will grow and cover. The quickest results we have seen with covering after planting was when the plants were put out early in the spring. The warm weather started the growth at once and in a short time the entire surface was covered with a new growth. Some which were planted in January took root and grew during the cool part of the season, but the growth was, of course, much slower than later in the season. If planted now and given plenty of water it will be thoroughly rooted before the cooler weather comes.

Anthrax Cure, Milk Fever Outfits. See O. J. Weber Co., 555-557 S. Los Angeles street, Los Angeles.

Milk Fever.

My cow recently calved one morning. The calf stayed with her all day and the next morning she came in and ate as usual and was milked. At noon she was down and never got up again. Did not seem to suffer much pain, but her eyes were set. She was a full-blooded Jersey and a fine butter cow. Had all the hay she could eat. Was in ordinary flesh.—F. A. C., Gridley.

We think you have given pretty nearly a perfect description of milk fever as it ordinarily affects a heavy milking cow. Had you used the air pump treatment charging the udder full of sterilized air we doubt not you would have an excellent cow doing service yet. The application of this remedy is exceedingly simple and the few dollars which the apparatus costs should impel every dairyman to have it on hand for just such an emergency. Even the common bicycle pump has been used in such emergency, with best results.

WHITTIER FARMERS' CLUB.

After an excellent luncheon served at the East Whittier Woman's Club House on Wednesday, August 5, an excellent program was given during the afternoon, and another step taken toward organizing a farmers' club. Mr. J. M. Randall acted as chairman of the meeting and Mr. Patridge as secretary. After excellent music Mr. Randall called the meeting to order and gave a short talk on the advantages of the farmers' clubs. F. W. Knight, manager of the Lemon Packing House, gave some excellent points on the manner of handling citrus fruit. One of the points which he made was that there should be no farming by proxy. In other words he had noted that the best fruit which came into the packing house was from the ranches of those farmers who lived with their trees, rather than from those owned by non-residents.

The principal talk of the afternoon was given by Prof. R. S. Woglum and illustrated with charts. It was treated of more largely on the first and citrus pages of last week.

Professor J. H. Norton of the state experiment station force, who has recently been transferred to California, gave a short talk on purchasing commercial fertilizer.

Geo. M. Lambert, of East Whittier, representing the vegetable growers, talked principally on the advantages of the greatest care in selection of the best of seeds. He advocated saving one's own seed, which should be selected from the first and choicest of the crop. He said seed men often bought most of their seed, sometimes from unprincipled growers who sold the finest and best fruit and saved seed from the culls.

Professor Ramsey gave a talk on tomato blight and urged that tomato growers either reduce the acreage or be prepared to spray, immediately after every rain, the entire patch and to do it thoroughly. Or else he must spray at stated times regardless of the weather. To be safe he thought three times during the season would be necessary.

T. L. Gooch, of Rivera, gave a talk

on walnut bleaching by a new electrically treated salt water process. He had nuts which were well and uniformly bleached and stated that the Los Nitos Growers' Association was preparing to use the method this season.

Professor Smith spoke of the black smut and blight on walnuts. In referring to the walnut blight he warned growers not to feel assured from this season's immunity that the disease would not return next year. The disease is affected by weather conditions and the weather this year has favored the formation of the honey dew or smut, while unfavorable to the blight.

The organization of the club was not perfected. The chairman of the organization committee reported recommending it, but also that a set of by-laws be drawn up before the election of officers be held.

BALING HAY FROM THE FIELD.

I have made quite a success of baling alfalfa from the field and have been able to top the market with the last three cars I shipped. The only trick I find in baling alfalfa from the field is in the drying process. The hay must be very dry before baling. I use the Dain side delivery rake when the hay is about one-half cured, and this should lay from one to three days before it is safe to bale directly from the field. The time depends largely upon wind and the kind of haying weather we have.

Moldy alfalfa is rank poison to horses and of not much value for cattle. It is best to get the hay perfectly dry even if some of the leaves are lost, for as long as the hay is green and damp alfalfa mold will grow when summer heat prevails. Never store green or damp alfalfa in a shed or it may burn down by spontaneous combustion.—Field and Farm.

The soil is the stomach of plants. In the soil the food is received and digested. On the quantity and quality of food put in the plant's stomach depends its welfare, just as much as you depend upon the food in your stomach.

San Francisco offers great opportunities. Prepare for them by taking a course in the San Francisco Business College, 733 Fillmore St., S. F.

Lodi winery is crushing 600 tons of grapes a day.

The Ornamental Garden

IMPROVEMENTS IN LILY CULTURE.

THE growing of lilies in the United States is rapidly becoming an important industry. Large quantities of bulbs have in years past been imported from Bermuda, Japan and other countries, and the demand for the flowering plants seems on the increase. Various lines of work have been undertaken and carried out by Mr. Oliver, chiefly for the purpose of securing new types of lilies by hybridizing and crossing and to demonstrate the practicability of growing lilies in the United States directly from seed.

One of the most promising hybrids has resulted from crossing the Philippine lily (Lilium Philippinense) and the Bermuda lily. The Philippine lily takes two months to come into bloom from the period of planting the bulb, while the Lilium longiflorum and its various forms require in the neighborhood of five months. Therefore, it would be a great saving if the time taken to force a good Easter lily could be reduced from one to two months. With a view to bringing this about the hybridization of the Philippine lily and the harrisii variety of the Lilium longiflorum has been effected. The result of the cross is a flower longer than that of harrisii, but not as broad, and a little shorter than that of the Philippine lily. The segments of the flower of the harrisii are from 5 to 6 inches long. Up to this time we have had to depend upon the Philippine Islands for the supply of the Philippine lilies, and they arrive early in the spring when we can not use them for forcing. By growing them in California we can get them in the fall in good time for forcing into flower during the winter. The plants so far grown in California do not show signs of the lily disease.

The second line of work in connection with the production of lilies has been under way for the past four years. It consists, first, of selecting plants which show freedom from disease as manifested by spotted leaves and distorted flowers. The varieties selected are those well known under the names of multiflorum, harrisii and giganteum. When these plants come into bloom the flowers are cross-fertilized, with certain purposes in view. The seeds from these plants are sent to California and other places about the end of the summer. They are planted out in the field in the following spring and in a year from that period the growth made by the seedlings is so great that hundreds of plants have been recently produced bearing in the neighborhood of thirty flowers to a stem. As one would naturally suppose, disease is not anything like as prevalent in these California-grown plants as it is in Bermuda and Japan, the present sources of supply of bulbs used in the United States. So far as the work has gone the results have been very encouraging, especially in Southern California, so that we are reasonably certain that the supply of bulbs will in due course of time be produced within our own borders.

There is a large tract of country with soil suitable for lily growing in the southwestern portion of California, from Santa Barbara down and extending inward for several miles. The bulbs can be harvested by the first of August. Some of those produced during the past season from two and three-year-old plants are very large and satisfactory. Among some bulbs recently received by the Department of Agriculture, was one which measured 14½ inches in circumference; others closely approximated this size. It would seem that the method of reproduction by seed, saving desirable types from the seedlings and propagating those only by division and not from scales, is the true solution of the problem confronting the Easter lily industry in the United States. Should it be found practicable to fix any of the varieties so that they will come absolutely true from seed, then the method of procedure will be facilitated.—Yearbook of the Department of Agriculture, 1907.

A PUBLIC PARK IN COLUSA.

When planting trees and shrubs on the lawn keep in mind the habits of the trees. Remove all broken roots, when trees are set, with a sharp knife. Make the top smaller than the roots.

Classified Liners

Rates 1½ cents per word per issue. No ad accepted for less than 25 cents. Our classified columns are the clearing house for the readers of the Cultivator. Here you can insert an ad for the small sum of 1½ cents per word per issue, and be sure that it will be read by thousands.

MACHINERY.

WE CARRY A GENERAL LINE OF MAchinery, gas engines, air compressors, boilers, engines and pumps. 40 car loads of screw pipe and casing can be cut to lengths, also all kinds and sizes of fittings. Several hundred iron fence posts. R. KELLY MACHINERY CO., corner of Mission road and Macy street, Los Angeles, Cal.

FOR SALE—SECONDHAND PIPE AND oil well casing, all sizes, any amount; boilers and engines; gas and distillate engines; pumps, etc. Get our prices before you buy. A. CANNADY & CO., 1029 N. Alameda St., Los Angeles, Cal.

FOR SALE—25-H. P. FAIRBANKS-MORSE Gasoline Engine. Good as new, also pump. BAILIE & BRANDT CO., 943 N. Main St, Los Angeles, Cal.

ADDISON DEEP WELL PUMPS WITH gasoline engine, new, and one engine slightly used, at a bargain. 117 BRUNO ST., Los Angeles, Cal.

FOR SALE—MEHRING MILKING MAchine with extra parts and covered pail, all in good order. WM. H. BIRD. Box 6, Compton, Cal.

FOR SALE—2 AND 3 IN CENTRIFUGAL pumps at a bargain, new; also gasoline engine. BAILIE & BRANDT CO., 943 N. Main St., Los Angeles, Cal.

FOR SALE—GASOLINE ENGINES, 6-H. P. International. S. J. CORNELL, 1136 Irolo St., Los Angeles, Cal.

FARM LANDS FOR SALE.

RANCH FOR SALE—105 ACRES AT $40 AN acre; 85 acres in cultivation; nearly all of remainder can easily be put in cultivation; 45 acres level land; 800 full bearing apricot trees; 5-room dwelling; good large barn; fruit drying plant; 5 miles north west from Moorpark; half mile of school; land suited to beans, hay and corn. For further information apply to WM. ROBINSON, Moorpark, Ventura county, California.

FOR SALE—1 TO 10-ACRE TRACTS ON CAR line, between Riverside and new cement works; good for chicken ranches, alfalfa or gardening; will sell on easy terms; plenty of water on each tract. C. C. POND & N. R. BELL, Riverside, Cal.

ORCHARD HOMES FOR SALE—FIVE acres and upwards; fine citrus and deciduous fruit lands on easy instalments and low interest. Write us today. Wyatt & Wilson, WINTERS, Cal.

EGGS FOR HATCHING.

EGGS FROM MY PRIZE WINNING BARred Rocks; won all firsts, all seconds but one, and all specials on Barred Rocks at L. A. C. P. A. Show, 1907. Eggs from best pens, $3 per 15; $12.50 per 100. Stock for sale. CHAS. E. SMITH, Gardena, Cal. San Pedro Interurban car to Smith's Crossing.

POULTRY

BUFF ORPINGTONS—WOULD YOU LIKE the very best at the price of common stock? Sullivan's COMMONWEALTH STRAIN you may have at HALF PRICE FOR THE BALANCE OF THE SEASON. Write us and learn the reason; get record and illustrated catalogue FREE.—MR. & MRS. W. S. SULLIVAN, Agnew, Santa Clara Co., Cal.

WANTED—MALE HELP.

NINETEEN JOBS GOING AT PRESENT—Electricity, plumbing, bricklaying taught in few months; tuition back after two months; advanced students paid wages. Free catalogue. UNION TRADE SCHOOL & CONTRACTING CO., 120-126 E 9th St., Los Angeles, Cal.

DOGS.

SABLE AND WHITE COLLIE PUPPIES—Sires, Brandane Wishaw Squire and Glen Fana Bounder, litter brother to Aufield Model. Dams, Ormskirk Gloriana and Presidio Nellie. $10 to $25; 2 to 8 months. GLENALPINE KENNELS, Grandville, Cal.

TREES.

FOR SALE—1,500 EUREKA LEMON TREES and 1,000 Washington navel orange trees, true to name. Also street and ornamental trees. Clean, healthy stock only offered. GEO. B. WARNER, SANTA ANA, CAL.

WANTED—ORDERS FOR EUCALYPTUS trees for spring delivery. Write for prices. Seed of the Rostrata and Sugar gum for sale. ENCINITAS FLORAL & PRODUCE CO., Encinitas, Cal.

NURSERY FOR SALE.

OLD ESTABLISHED NURSERY BUSINESS for sale. Good stock. Good location. Good reasons for selling. Address THE AUBURN NURSERIES, East Auburn, Cal.

Campaign Song Books, '08

Republican "Taft Vote Getters" 50c, 3 for $1.00
Democrat "Bryan Electors" 50c, 3 for $1.00
Doz. lots, $3.00. ED. S. EVES, O'Neill, Neb.

An interesting feature of the September Century will be a discussion of "The Future Wheat Supply of the United States," by Edward C. Parker, assistant in agriculture at the Agricultural Experiment Station, the University of Minnesota. Mr. Parker will present with authority existing conditions in the United States and outline some of the many means at hand to meet the future demands for wheat. He declares that the science of agriculture is still in its infancy, and that the limit of its present possibilities will be set aside by a new limit set by each succeeding generation.

What MORE Could You Desire in A Savings Bank?

20,000 Depositors
Strong Directorate
Capital and Surplus
Over
$900,000
Resources
$10,000,000

GERMAN AMERICAN SAVINGS BANK

Tallest Building in Los Angeles

SPRING & FOURTH STS.

Heart of the Business Center

Model Banking Facilities

6% INTEREST PAID
STATE MUTUAL
BUILDING & LOAN ASSN.
223 S. SPRING ST., LOS ANGELES, CAL.

ESTABLISHED 1889
Largest Association in California
Assets [Jan 1, 1908] $2,002,111
No Admission or Withdrawal Fee
Only 30 Days' Withdrawal Notice
Money to Loan for Building
OFFICERS AND DIRECTORS
DR. W. G. COCHRAN, President
A. E. POMEROY, Vice President
J. M. ELLIOTT, Vice President
W. D. WOOLWINE, Vice President
C. J. WADE, Secretary

D. M. CUTHBERT, Loan Inspector.
Send for Booklet and Statement
Mention This Paper

Your Eastern Trip

SOUTHERN PACIFIC

May be arranged so that you may travel by way of

New Orleans and the Sunset Route

San Francisco and the Ogden Route

Portland and the Shasta Route

Enjoying the balmy air of the South or the cool and bracing air of the North.

Personally conducted excursions every day from Los Angeles via all routes without change to principal eastern points.

Southern Pacific

Household Department

A CHARACTER SKETCH.

I knew a man who thought he knew
it all;
He knew how earth became a rolling
ball.
He knew the source and secret of
all life;
He also knew how Adam came to fall.

He knew the causes of the glacial
age,
And what it was tnat made the deluge
rage.
He knew—in fact, he knew most
everything;
In his own mind he was earth's great-
est sage.

His knowledge was of such stupendous
girth
It took in everything upon the earth
And in the heavens; but, most
strange of all,
He didn't know a thing of real worth.

He knew where people go when they
are dead,
He knew all wonders ever sung or
said.
He knew the past and future; but
for all
He didn't know enough to earn his
bread.

He was a marvel of omniscience,
He knew the secret of the hence and
whence.
He was a bundle of great theories;
The only thing he lacked was common
sense.

A TICKET SCALPER'S STORY.

I'M A ticket scalper. It's not much of a business and doesn't give a man much of a position in the world, but a scalper has a human heart, just like any one else. A scalper may feel inclined to bestow that heart upon a woman. I had that inclination once, but I'm never going to have it again. Women are the most ungrateful creatures in the world. A woman who would treat a man as one of 'em treated me isn't fit to live on the face of the earth.

One day a pretty, melancholy-looking girl of perhaps twenty-two came into my office and said she wanted to get to her mother, who was lying sick in Cincinnati. She said she was broke and wanted a ticket for about nothing. I had half a mind to give her a ticket, charging up the amount to myself, but that would be giving a stranger something like $10, and, while, as I said, a ticket scalper has a heart, he isn't the kind of a man to give things away that he can't afford to give. I was looking among my old stock for something pretty cheap when I came across an unused half of an old excursion ticket, the limit of time of which had long ago expired. It occured to me that if the girl worked on the sympathies of the conductor as she had on mine she might induce him to pass her through on it. I told her what I was thinking about and that if she was inclined to try it on I would give her the ticket free of charge. She asked if there would be anything dishonest in such an act, and I told her I didn't think there would be; there would be no misrepresentation. If the conductor wouldn't accept the ticket the worst he could do was to put her off at the first stop and she would be just so far on her journey. If she got stranded in a strange place she could get on the next train and go farther on the same ticket, and so on.

She said she wouldn't do that, but if the conductor would let her go through on the ticket she would do so. The ticket had been paid for by some one, and she didn't think the road had a moral right to refuse it. I agreed with her as to that, and she accepted the ticket with heartfelt thanks and tears in her eyes. She looked hungry, and I asked her if she was going through without anything to eat. She said she'd have to, and I felt so sorry for her that I asked her to go out to a restaurant and filled her up with oysters, beefsteak and a lot of other things. I remember the bill was $3.50. Her train went at 12:05 o'clock, so I took her to the theater. If you want to love any one, just do something for 'em. The more I did for this poor girl the more I thought what a lovely home she could make for me. By the time I left her at the station I would have bought her a good ticket, but I'd spent all my money. I told her to keep up her courage and she'd go through all right. She said that I was one of nature's noblemen and I would be rewarded for my kindness to her. As the train moved away she waved her hand to me out of the coach window, looking at me with tearful eyes.

It wasn't a week before I received a note from the attorney of the road over which I'd given the girl a ticket stating that they had a case against me for swindling and must either shut up my shop or they would send me to state prison. I went at once to the attorney's office and asked to know what it meant. He showed me the ticket I had given the girl with a sick mother and asked me if I'd sold it to a deaf and dumb girl. I denied the charge and admitted I'd given it to a girl who could talk as well as I could. Then he told me how the ticket had been used.

The girl had poked it at the conductor when he came around, and he told her it was no good. She began to talk to him with her fingers, and seeing her condition, he had given her a pencil and paper on which she wrote that a ticket scalper had sold the ticket to her for the regular fare. The road was trying to get a case to scare us scalpers, and the conductor, backed by the passengers, who were indignant at such treatment of a poor deaf and dumb girl, passed her through, but he stipulated that she should give the name of the scalper, which she did willingly, expressing the hope that they would punish him soundly.

Well, I told my side of the story, and when they sent to the address the girl had given them for corroboration of her side they found there was no such street and number in existence. The officers of the road believed that the poor girl shrank from appearing against me and had, therefore, thus concealed her abode. But, not having any evidence against me, they didn't prosecute me, though I remained under a cloud with them.

Not long ago in looking over a newspaper my eyes were attracted to an item headed, "Working the Deaf and Dumb Racket." The item stated that Mary Moyers had been arrested for traveling on railroad trains on worthless tickets and pretending to be deaf and dumb. She represented that the tickets were sold her by ticket scalpers, thus exciting the sympathy necessary to get herself passed and often to draw forth a contribution from the passengers. I sent the clipping to the officers of the railroad she had swindled, and they wrote me a note of apology.

But I don't want any more women in mine.—Field and Farm.

Increase the poultry population.

A SUMMER IDYL.

A boat and a beach and a summer
resort,
A man and a maid and a moon;
Soft and sweet nothings and then at
the real
Psychological moment a spoon.
A whisper, a promise, and summer is
o'er,
And they part in hysteric despair
(But neither returns in the following
June,
For fear that the other is there.)
—Cotton Seed.

Oldest and Largest in the Southwest

SECURITY SAVINGS BANK

Los Angeles, California

CAPITAL AND RESERVE $1,200,000.00
TOTAL RESOURCES OVER $20,000,000.00

We Pay Interest

4% on Term Savings and on Six Months Certificates of Deposit

3% on Ordinary Deposits

By special arrangement 'Ordinary' accounts may be checked against without presentation of a pass book, and 3 per cent. interest will be paid on the minimum monthly balances.

STUDY AT HOME

READ—THINK—ACT

We are teaching over 3000 students at their homes, in Collegiate, Commercial and Normal subjects.
No interruption of regular work.
To study with us is a pleasure.
Lessons carefully examined and corrected, and promptly returned.
Send for complete catalogue.
We want local representatives throughout California.
Help yourself by helping us.

Modern School of Business and Correspondence, San Jose, Cal.

WRITE TODAY DEPT. D

No Place Like the Country

for lack of good home entertainment. My Portable Billiard and Pool Tables fill the gap. Good, clean enjoyment for all. All sizes. Prices to suit your purse. Catalog?

C. Ridderhof, Laughlin Bldg., Los Angeles

FARMERS' BOOKS

Order Through the Cultivator

FEEDS AND FEEDING.—By Prof. W. A. Henry. Is a thorough, accurate and reliable handbook for students and stockman, giving most practical and useful knowledge on plant growth and animal nutrition, feeding stuffs, feeding animals and every detail pertaining to this important subject, indispensable to every owner of live stock. 658 pages. 6x9 inches.
Cloth $2.00

AMERICAN GRAPE GROWING AND WINE MAKING.—By George Hussmann of California. With contributions from well known grape growers, giving wide range of experience. The author of this book is a recognized authority on the subject. Illustrated. 269 pages. 5x7 inches.
Cloth $1.50

STANDARD OF PERFECTION.—By the American Poultry Association and used as the standard for judging all shows. The thing for dealers in fancy stock.
Cloth $1.50

PERFECTED POULTRY OF AMERICA.—This is the most recent publication, and is one of the finest poultry books ever issued. It contains full page illustrations of all breeds and varieties of poultry, turkeys and water-fowl. On many of its pages are represented the feathers from each section of the fowl. Gives the information necessary for the selecting of the best specimen in your flock.
Cloth $2.50

A. B. C. AND X. Y. Z. OF BEE CULTURE.—By A. J. and E. R. Root, the leading authority on Bee Culture Its reputation is known to all Beekeepers. 536 pages.
Cloth $1.50

CAMPBELL'S SOIL CULTURE MANUAL.—By H. W. Campbell. The originator of the "Campbell System of Dry Farming." A complete guide to scientific agriculture as adapted to the semi-arid regions. Of great value to all Western ranches. 320 pages.
..... $2.50

Cultivator Publishing Company

RECIPES.

Some Warm-Weather Salads.

"One of the prettiest of the luncheon or supper salads is made by cutting the top from a green pepper, removing the seeds with a knife or a stick—they burn the skin if touched with the fingers—and filling the basket thus made with chicken or lobster salad," says Christine Terhune Herrick in the August Woman's Home Comanion. "Each peppor may be placed on a lettuce leaf and crowned with a spoonful of mayonnaise. Another salad is prepared by hollowing a tomato and filling it with dice of cucumber, or peeling a cucumber, cutting it in half lengthwise, scooping out the inside and replacing this with dice of tomatoes. Serve either tomato or cucumber on a lettuce leaf, and garnish with cucumber ribbons. These are made by shaving the peel from the outside of a cucumber and then slicing this. Take a slice—it should be rather thick—and with a sharp knife cut this in a spiral, as you would pare an apple. The shaving must be very thin, as it is not long before the seed center is reached, and only the flesh of the cucumber will serve for the ribbons. Cucumber boats filled with shrimps are a satisfactory dish for a cold supper. Mayonnaise is served with this, or a good boiled dressing. The cucumbers halved and filled with other sliced or dried cucumbers, served on lettuce, garnished with cucumber ribbons and with strips of the scarlet sweet pepper cut very thin, make a good dish."

Canned Corn.

Cut and scrape from cob fourteen cups of nice sweet corn. Add one cup of salt and two cups of boiling water; cook well three-fourths of an hour, stirring often to prevent burning. Put up in glass jars, just as you would fruit, and store in cool, dark place.

When needed for use, turn the corn into an earthen dish and cover well with boiling water, let stand one hour; then turn off the salt water and cover again. Turn off again and season with milk and butter; add one tablespoonful of sugar, let come to a boil and serve.

A Salad.

For walnut and celery salad, shell enough nuts to make two cupfuls of the meats and boil them in salted water with a slice of onion, half a dozen pepper corns and a blade of mace for ten minutes, then turn them into a dish of cold water and remove the skins. Cut crisp celery into small pieces; for the stated amount of meats have three cups of celery. Wipe the nuts with a soft cloth and mix them with the celery and a mayonnaise dressing. Serve each portion upon delicate lettuce leaves. This is a very delicious salad.

HOMELY HINTS.

To prepare the juice of cucumbers which is so often advised for the skin, slice perfectly fresh cucumbers very thin, skins and all, put in a porcelain-lined kettle and cover with a very little water, only enough to prevent burning. Cook slowly till soft and mushy and strain first through a fine sieve and then through a cloth.

In boiling puddings, always place a bit of a stick in the bottom of a saucepan when boiling custard or any sort of a pudding containing milk to keep it from burning. This is why stick cinnamon is excellent for flavoring custard, as it serves a double purpose.

In Making Fruit Cakes.—The tops of fruit tarts should be pricked with a fork before baking, in order to keep a symmetrical shape.

Turpentine is excellent for removing paint stains, but a homely aid is hot vinegar, which will answer the requirement, and is always near at hand.

A good way to obviate the unpleasant effect of certain kinds of ink on pens is to keep several old nails or tacks in the ink bottle.

Add an ounce of gum arabic, dissolved and strained, to a gallon of starch water. This gives a crispness to the curtains quite like the dressing they have when purchased.

Before using tin pot lids rub them all over with fresh lard and heat thoroughly. Any new tin treated in this way will never rust, no matter how much it is put in water, also the steam, when cooking, will not affect the lids.

Do not keep turpentine in a warm room. I am told that turpentine sometimes explodes if kept in a warm place. It is well to be careful, therefore, and put it away in a safe, cool place where it will have no inducement to fly out of its confines.

HAIR TONIC.

Massage the scalp well every day and get it loosened up and flexible so the hair may receive its rightful nourishment by the blood circulating freely at the roots. This will stimulate the growth and arrest the splitting and breaking. This splitting at the ends always indicates poor nourishment, and nothing but massage will relieve the trouble. Apply this tonic as directed: Sulphate of quinine, thirty grains; acetic acid, two grains; resorcin, 120 grains; water, four ounces; oil of eucalyptus, two drams; tincture of cantharides, three drams; alcohol, twelve ounces. Mix, shake until dissolved, and filter. Apply to the roots of the hair every night.

* * *

For treatment for the hair that has been destroyed by the present practice of ratting there is nothing better than scalp massage and the application of a good hair tonic and electrical brushing. This sort of coaxing will produce a new growth and will cause the old one to take new courage to brace up and behave.

AN UNHAPPY COMPARISON.

A country minister had just received his first call to the charge of a small church, and his wife, of course, was highly excited—so much so that she was obliged to tell everybody of the good news.

One day she met a farmer's wife and began the conversation

"Do you know, Mrs. Cross," she said, "my husband has just secured the incumbency of a church, and I can't tell you how delighted I am. I"—

"Yes," replied the sympathetic old lady, "I quite understand your feelings. I felt just that way when our pig took the gold medal at the cattle show."—Pearson's Weekly.

VERY PLAIN.

Two country women, mother and daughter, were at the circus for the first time. They were greatly taken with the menagerie. At last they came to the hippopotamus and stood for several minutes transfixed in silent wonder. Then the mother turned to her daughter and said slowly and solemnly: "My! Ain't—he—plain?"

The Oldest Savings Bank in California

FOUNDED IN 1857

The Savings and Loan Society

101 Montgomery St., Cor. Sutter St., San Francisco

CAPITAL FULLY PAID $1,000,000.00

Exclusively a Savings Bank whose policy is for ***Conservatism*** and ***Safety,*** the result of ***50 years experience.***
Deposits may be made and withdrawn by mail.

San Francisco Savings Union

Founded June 18, 1862 Northwest Cor. California and Montgomery Sts., San Francisco

Conducts a Savings Bank Business Exclusively

Capital Paid Up, $1,000,000.00. Surplus, $1,183,632.60.
Total Assets, $27,508,850.00.

E. B. POND, President.
W. C. B. de FREMERY AND C. O. G. MILLER, ... Vice-Presidents.
LOVELL WHITE, Cashier. . . . . R. M. WELCH, Asst. Cashier

DIRECTORS: John F. Merrill, Wm. A. Magee, W. C. B. de Fremery, H. C. Breeden, Jacob Barth, Fred H. Beaver, Wakefield Baker, C. O. G. Miller, E. B. Pond.

Every facility afforded for opening accounts and making deposits and withdrawals by mail. Correspondence invited.

Paid Semi-Annually

7%

Assured Profit

We offer you Cane Sugar Lands in Mexico. Perfect title. Give 50-year contract to cultivate for you, guaranteeing 7%, paid semi-annually, until crop profit exceeds this amount. Offer these lands for cash or on easy terms.

A Life Income from Land

Sugar Plantations produce the greatest continuous yield of any known crop. Tropical Mexico stands today unmatched in soil, climate, water. We own over 9000 acres in the heart of the best section—near Tampico. You become a land-owning profit-sharer in this project. We do all the work for you.

Sugar Plantations the Most Profitable Crop in All the World

GOOD LIVE AGENTS WANTED

One Acre Should Produce $203.52 Annually
Five Acres Should Produce $1017.60 Annually
Ten Acres Should Produce $2035.20 Annually

Free Trip to Property Communities or syndicates buying 50 acres or more, may send representative to property at our expense

Tampico Sugar Company

Los Angeles California

References: Citizen National Bank

501 Union Trust Building

Clubbing Order Blank

_____ 1908

CULTIVATOR PUBLISHING CO.,
115½ No. Broadway, Los Angeles

Gentlemen—Enclosed find $2.00 for which please credit my **Cultivator** subscription one year from _____ 190__ to _____, 190__, and also send **Sunset Magazine** one year to the following address :

NAME P. O. ADDRESS

_____ _____

SIGNED _____

ADDRESS _____

The Produce Markets

Los Angeles Markets

LOS ANGELES, Aug. 26, 1908.

Butter.

The butter market seems to have lost all interest and the quotations prevailing for several weeks still stand almost unchanged. Actual selling price of extra is 57½c. Lower grades show a rather weak tone.

Wholesale quotations now are:

Creamery ex per roll	55
Firsts	52½
Dairy	25
Cooking	22
"Butterine"	15@20

Cheese.

Cheese is still weak though an effort is made to strengthen it by holders of large stock.

Southern California	14½@17
Northern fresh	14
Longhorn	17@18
Eastern singles	16½
Cheddars	17
Imported Swiss	28@28¼
Swiss	17½
Oregon	15
Limburger	18

Eggs and Poultry.

Eggs are showing little interest at present and quotations are exactly as last week.

Eggs local candled	35
Eggs case count	30
Firsts fresh	33
Eastern fresh	25@26
Eastern fresh jobbing price	23@26
Storage	26

Poultry is showing more interest and a slight advance in quotations is observed.

Wholesale prices..

Hens per lb	12@13
Young roosters per lb	17
Fryers	15@17
Broilers per lb	15@17
Roasters	18
Old Roosters	7
Turkeys	16@20
Geese	10@11
Ducks	11@12
Squabs	1.25@1.50

Live Stock.

The following quotations are f. o. b., Los Angeles, on all stock.

Hogs from 175 to 200 pounds	6
Prime steers	4¼
Heifers	3½@3¾
Calves per lb	4½
Sheep ewes per head	3.75@4.00
Lambs per head	3.00@3.25
Wethers	4.00@4.50

Potatoes.

The potato market seems to be in the hands of one or two who are forcing the price down to an unreasonable figure. There is no call for potatoes to sell as low as they have been for the past few weeks and some claim the wise potato man will hold for a short time at least. Some Highland fancys were thrown on the market last week at $1.10 in an apparent endeavor to break the market.

Wholesale prices are:

Sweet potatoes per lb	2½
New potatoes per ctl	1.30
New potatoes choice	25@75
Northern Burbanks fy	1.25
Highland fancy	1.30

Onions.

Wholesale quotations are:

Bermudas per 100	1.00@1.10
Silverskin new	1.00@1.15
Crystal wax per crate	1.00@1.20
Northern Red	90@1.00
Australian Browns	1.00@1.10
Danvers	1.00@1.15
Garlic	9@10

Vegetables.

The following are commission house prices; deduct freight and commission to secure farm prices.

Asparagus per doz	9
Artichokes per doz	40
Beets per doz	25@30
Bell peppers per lb large	3@5
Bell peppers box	40@50
Beans limas per lb	3
Beans string	2@2½
Cabbage sack	75@85
Cabbage red per lb	2
Celery per doz green hothouse	1.25
Corn per box	40@45
Chili peppers per lb	1@1½
Cucumbers per box	25
Cauliflower per doz	1.40
Carrots per doz	25@30
Egg plant per box	20
Green onions doz bunches	20@30
Horseradish	12½
Lettuce per crate	60@75
Mint per box	40
Okra	6
Peas sugar per lb	6½
Parsley	30
Parsnips	35@40
Rhubarb per box	1.25
Radishes per doz	15@20
Summer squash per box	25
Celery	15@20
Spinach per doz	16@17
Turnips dozen bunches	25@30
Tomatoes lug box	35@50

Citrus Fruits.

Valencias	3.25@3.35
Grapefruit seedless	3.00
Grapefruit seedlings	1.75@2.00
Lemons fancy	2.25
Lemons choice	1.75
Limes 15-lb box	75

Fresh Fruits.

Wholesale prices on the market are:

Red Astrachans new	75
Astrachans packed box	1.35@1.50
Bellefleurs	1.10
Alexandria 4-tier	1.20
Gravenstein 4½-tier	1.35
Crab apples	1.10
Apricots cold storage	50
Cantaloupe st	90@1.00
Cantaloupe locals large crate	2.25
Casaba crate	2.00
Figs per fig box	1.00
Grapes Thompson seedless	50
Grapes seedless Sultanas	50
Grapes Concord per crate	1.00@1.50
Muscats per lug box	75@90
Grapes Malaga	50@75
Rose of Peru	50@75
Grapes Black Hamburgs	90@1.00
Nectarines	1.25
Pears per box	1.15@1.35
Pears lug box	75@85
Plums Sonoma	50@60
Plums Kelsey	50@75
Plums egg	50@60
Hungarian prunes	85
Peaches per lug box	50@65
Peaches clings	50
Pineapples per lb	7
Quinces	75
Raspberries per box	6@8
Strawberries per box	4
Extra fancy	10
Blackberries per box	5
Loganberries per box	5
Watermelons per lb	1@1¼

Dried Fruits.

Wholesale prices are:

Apricots	7@9
Evap. apples fy per lb	7½@8
Figs loose white	6
Figs blk	4
Peaches	6@7
Pears	11½@12½
Nectarines	14
Prunes	4@4½

Beans Dried.

Wholesale prices:

Limas per ctl	5.50
Pink No. 1	3.55@3.85
Lady Washington	4.85
Small white	5.00
Black eyes	3.80
Garvanzas	4.80@5.00
Lentils	9@10
Bayou	3.80

Nuts.

Almonds IXL per lb	14@15
Pecans polished	10½
Peanuts Virginia	8
Peanuts California	7
Walnuts No 1 SS	14

Honey.

Wholesale quotations:

Extracted Water White	7
Comb W W	16
Comb white	15

Hay.

Price paid to producers f. o. b. Los Angeles are as follows:

Barley No 1	13.00@15.00
Barley No 2	10.00@13.00
Alfalfa northern per ton	11.00@12.50
Alfalfa local	12.50@14.00
Plain oat No 1	15.00@17.00
Wheat No 1	13.00@16.00
Wheat No 2	12.00@14.50

Grains.

Wholesale selling price f. o. b., Los Angeles.

Wheat new per ctl	1.85
Wheat in 100-lb sacks	1.90
Kaffir corn	1.80
Barley	1.55
Corn Eastern sacked	2.00
White oats	1.90

Feed Stuff.

Selling price F. O. B. Los Angeles as follows:

Cracked corn	2.05
Shorts	1.80
Bran	1.65
Oil cake meal	2.50
Feed meal	2.10
Rolled barley	1.55

Bean market is not so strong as desired. Some sales in Ventura county have been made at $4.60.

San Francisco Markets

SAN FRANCISCO, Aug. 25, 1908.

Butter.

Butter market is very weak and featureless. All along the line a quiet tone prevails. An advance of a half cent was made the last of the week, which is now lost and an extra 1½ cent with it. The buying interests will not bid up to present quotations.

California extras per lb	23½
California firsts	23
California seconds	22
California thirds	20
Fresh packing stock	20½
Packing stock No 2	19

Cheese.

California young American fy	13
Firsts	12½
California flats fy	11½
Firsts	10½
Young America fy	14½
Eastern fy	16
Oregon fy	13

Eggs and Poultry.

Eggs have shown a gradual decline during the week. At this writing a very weak condition prevails with little promise of pronounced immediate change.

Official quotations of the S. F. Wholesale Dairy & Produce Ex. are:

Fresh ranch extras	35½
Eggs firsts per doz	32½
Eggs seconds	26½
Eastern selected	27
Eastern firsts	25
Eastern seconds	23
Hens per doz	3.50@5.50
Hens extra	6.50@7.50
Young roosters	5.00@6.00
Old roosters	3.50@4.50
Fryers per doz	4.00@5.00
Broilers per doz	3.00@3.50
Geese per pair	1.50@1.75
Goslings per pair	1.75@@2.00
Ducks young	5.00@6.00
Hen turkeys per lb	20@21
Gobblers live	19@20
Spring turkeys	22@24
Pigeons young	1.50@1.75

Live Stock.

San Francisco prices gross weight:

Steers No 1	3¾@4
Do second quality	3¼@3½
No 1 cows and heifers	2¾@3
Second quality	2¾
Hogs 100 to 225	6½
Hogs 225 to 300 lbs	6
Calves per lb	3½@4½
Lambs spring	4½@4¾
Wethers No 1	4
Ewes No 1	3½

Potatoes.

Wholesale market quotations:

River Whites fy	70@1.00
River Whites poor	50@65
do per box	1.00@1.15
Early Rose new	75@85
Salinas Burbanks	1.35@1.50
Sweets per lb	1½

Vegetables.

Wholesale quotations:

Asparagus per lb	7@8
Asparagus No 2	4@5
Bell peppers per box	40@60
Celery per doz	35@50
Cucumbers per box	25@@40
Chili peppers per box	35@45
Corn per sk	75@1.75
Egg plant per box	30@60
Green peas per lb	2@5
Lima beans	5@6
Squash per box	30@40
Onions green per box	70@75
Okra per box	45@60
Rhubarb per box	50@65
Tomatoes River large box	35@60
String beans	2@4
Wax beans	2@4
Garlic new	4@5

Onions.

Onions red per sk	60@75
Onions yellow per sk	60@70

Citrus Fruits.

Valencias facy	2.50@4.00
Grapefruit seedless	2.00@3.50
Lemons ch	1.25@2.00
Lemons fy	2.00@3.00
Limes	4.00@5.00

Fresh Fruits.

Some Turlock cantaloupes went begging this week and spoiled in hand of receiver.

Apples green per box	25@50
Apples fy Gravenstines	75@1.00
Apples Astrachans	50@75
Crabapples	50@60
Blackberries per chest	2.00@3.00
Cherries white per drawer	35@60
Cherries Royal Annes	3@6
Cherries Black	3½@6
Currants per chest	5.00@7.00
Figs per crate one layer	55@65
Grapes per crate seedless	40@60
Grapes sweetwater	30@45
Grapes Muscats	40@60
Grapes sweetwater	30@45
Grapes Rose of Peru	30@45
Grapes Tokays	40@60
Huckleberries per lb	9@12
Loganberries	4.00@6.00
Cantaloupes Turlock	1.25@1.50
Cantaloupes River	30@60
Nectarines red	75@1.00
Nectarines white	60@75
Pears Bartlett per box	40@65
Pears other varieties	40@50
Pears per ton	15.00@20.00
Plums lug box	40@50
Plums Damson	65@75
Plums per ton	10.00@12.00
Peaches lug box	40@60
Peaches baskets	35@45
Aligator pears per doz	7.00@9.00
Raspberries per chest	8.00@11.00
Raspberries per lb	7@9
Strawberries per chest	6.00@8.00
Longworths per chest	6.00@8.00
Watermelons per doz	1.00@2.00

Dried Fruits.

1908 prunes being contracted for at 4@4½ cents for Santa Claras and 4 for outsides.

Apricots show remarkable firmness and have advanced materially. In fact all dried fruits are showing much interest.

New crop contracts, 25-lb. lots—Apricots per lb.: Choice, 8½@8¾; fancy, 10½@11.

PEACHES—Choice 7½@7¾; extra fancy 9@10.

Apples (evap.)	4½@6
Figs white	2¼@3½
Nectarines	10@13
Plums pitted	12@15
Peaches st	5@5¼
Peaches ch	5¼@5½
Peaches fy	6@6½
Pears	5@5½
Prunes 4-size bag basis	3½@3¾

Nuts.

Walnuts S S No 1 new crop	12½@13
Walnuts No 2	10@10½
Almonds nonp	11@12
Almonds IXL	10@10½
Ne Plus Ultra	10

Beans Dried.

Limas	4.90@5.00
Pink	3.25@3.40
Small white	4.60@4.75
Large white	4.60@4.75
Lady Washington	3.45@3.50
Black eyes	3.40@3.60
Red kidneys	2.75@3.00
Garvanzas	3.50@3.75
Bayo	3.10@3.20
Horse beans	2.25@2.40

Hops.

Hops new crop	9@13
Hops old stock	3@6

Honey.

Clear white comb	15½@16
Amber	12@14
Extracted w c	7@8
Extract light amber	6½@7
Beeswax No 1 per lb	28@30
Beeswax No 2 per lb	25@27

Hay.

During the past week hay arrivals have decreased a bit, the total receipts being 3180 ton compared with 3890 the preceding week. As a result the market here is a little stronger. The light arivals are caused by nothing else but a car shortage and this car shortage is felt to quite a severe extent in many of the larger hay districts. The hay is in the fields and the raisers as well as the purchasers are anxious to have their hay market and thereby be out of danger from any possible early rains. There is no doubt but that if hay could be brought here as it was ordered, the market would be considerably weaker for under present trade conditions, heavy arrivals would not be absorbed here except at lower prices, which consumers are anxiously looking for.

The situation regarding alfalfa hay is somewhat stronger especially throughout the country for many raisers claim that their fourth and fifth crops will be very light owing to the present lack of moisture on the one hand and on the other hte possibility of early rains which would prevent the later crops from being harvested. The dairymen are beginning to realize this fact and are, therefore, beginning to seek their yearly stock of this feed, the consumption of which is becoming greater every year.

Choice wheat hay	16.00@17.50
Good wheat hay	14.00@15.50
Other grades same	11.00@13.50
Wheat and oat	11.00@16.00
Tame oat	11.00@16.00
Wild oat	10.00@13.50
Stock hay	8.50@10.00
Alfalfa	9.50@14.00
Straw, per bale	45@75

Grains.

Wheat No 1	1.67½@1.70
Barley new	1.30@1.35
Corn large yellow	1.80@1.85
Oats white	1.45@1.55
Oats gray	1.40@1.55
—Rye new crop	1.45@1.52½

Feed Stuff.

Bran per ton.....29.50@31.00
Feed cornmeal per ton.....39.00@40.00
Cracked corn per ton.....40.00@41.00
Rolled barley per ton.....30.00@31.00
Oil cake meal per ton.....36.75@38.25
Cocoanut cake per ton.....25.00@26.00
Middlings.... ....32.00@35.00

Citrus Market

LOS ANGELES, Aug. 26, 1908.

Valencias are commanding good prices and cleaning up in good condition. But few remain.

Lemons have been in good demand owing to the hot weather and good prices prevail.

Citrus fruit shipments since Nov. 1, 1907, are 28,142, of which 4329 were lemons. To same date last season 26,762 of which 3159 were lemons.

NEW YORK, Aug. 20.—Four cars Valencias and one mixed car of citrus fruit sold. The market is very strong. Weather cool and favorable.

VALENCIAS—
Blue Seal ACG Ft Ex..... 4.25
Red Shield ACG Ft Ex..... 3.25
Green Crown ACG Ft Ex..... 2.95
Don Quixote ST Ft Ex..... 3.80
Success O R Speich & Co.....4.30
Our Popular xc Speich & Co.... 3.60
Lion Head xfy LL Lyon Sons.. 4.15
Tiger Head xc I L Lyon Sons.... 3.35
Orchard or Nat O Co..... 4.50
Standard S D Nat O Co..... 4.05
GRAPEFRUIT—
Orchard o r Nat O Co..... 4.10
Our Popular xfy Speich & Co.... 3.95
Isis fy Red Lemon G a..... 4.65

BOSTON, Aug. 20.—Three cars sold. One on track. Weather favorable. The market is strong and higher.

VALENCIAS—
Pointer ACG Ft Ex Azusa..... 4.65
Sweetheart High Ft Ex High... 4.75
Eagle High Ft Ex High..... 4.25
Yankee Doodle High Ft Ex High 2.60

NEW YORK, Aug. 24.—Four cars of Valencias and three mixed cars of citrus fruit sold. The market is very strong and active, with a brisk demand. Weather cool and favorable.

VALENCIAS— Avg.
Blue Seal ACG Ft Ex.....$4.65
Red Shield ACG Ft Ex..... 3.45
Green Crown ACG Ft Ex..... 3.30
Pet S A Ft Ex..... ..... 4.30
Parrot SA Ft Ex..... 3.70
Hawk S A Ft Ex..... .... 3.50
Squirrel A H Ft Ex..... ..... 4.00
Cerrito fy LVW Brown..... 4.70
Swastika ch LVW Brown..... 4.25
Rose xfy R O G A..... 3.90
Standard..... .... 2.75
Orchard o r N O G..... ..... 4.60
Standard st N O G..... ..... 4.05
Sierra Vista fy..... ..... 4.00
Sierra Vista ch.... ..... 3.55
HALF BOXES—
Squirrel A H Ft Ex..... ..... 1.80
GRAPEFRUIT—
Squirrel A H Ft Ex..... 3.15
Palm Tree A H Ft Ex..... 2.45
HALF BOXES—
Orchard o r N O Co..... 3.20
Cerrito seedless fy LVW Brown 3.75
LEMONS—
Columbia..... .... 2.10

CINCINNATI, Aug. 24.—Weather warm. Market is weak and declining. Two cars sold .One on track.

VALENCIAS—
Hawk S A Ft Ex..... 3.15
LEMONS—
Montecito Sweetwater Ft Co..... 3.60

PHILADELPHIA, Aug. 24.—Four cars Valencias sold. Weather cloudy Market is lower. One car on track.

VALENCIAS—
La Mesa Riv Ft Ex..... 4.10
Golden Riv Ft Ex..... ..... 3.31
Plain End Riv Ft Ex..... 2.50
Parrot SA Ft Ex..... 3.02
Purity fy Tustin Pack Co..... 3.30
Old Oak ch Tsutin Pack Co..... 3.18

For Mehring Foot-Power Milking Machines see O. J. Weber Co., 555-557 S. Los Angeles St., Los Angeles, Cal.

Aurora fy o r E Peycko Co largo withdrawn. 3.44
Climax xc E Peycko Co..... 2.76

ST. LOUIS, Aug. 24.—Weather cool. Price low on account of the quality of the fruit offered. Four cars sold. Seven on track.

VALENCIAS—
Palm Tree A H Ft Ex..... 3.40
Navajo A H Ft Ex..... 3.25
Victoria A H Ft Ex..... 3.90
Navajo A H Ft Ex..... 3.25
LEMONS—
Palm Tree A H Ft Ex..... 2.90
Commercial A H Ft Ex..... 1.85
Commercial A H Ft Ex..... 1.45
Orchid fy Altland Ft Co..... 2.90
Buscada Altland Ft Co..... 2.70

PITTSBURG, Aug. 24.—Two cars sold. Five on track. Weather favorable. The market is easier on large sizes.

VALENCIAS—
Searchlight S S Ft Ex..... 3.20
Blue Seal A C G Ft Ex..... 4.15
Red Shield A C G Ft Ex..... 3.20
Green Crown A C G Ft Ex..... 2.85

BOSTON, Aug. 24.—Four cars sold. Ten on track. Weather is favorable. Market easier.

VALENCIAS—
Royal Knight o r R H Ft Ex.... 4.40
Parrot R H Ft Ex..... ..... 3.95
Golden Orchard Ind Ft Co..... 4.15
Rose xfy R O G A..... 3.80
Plain.... .... 2.75

CLEVELAND, Aug. 24.—Weather cool. Market is firm on good stock. Three cars sold. Five on track.

VALENCIAS—
La Mesa Riv Ft Ex..... 3.75
LEMONS—
Arab S A Ft Ex..... ..... 4.05
Duck S A Ft Ex..... ..... 2.85
Squirrel A H Ft Ex..... 4.15
Palm Tree A H Ft Ex..... 3.55
Commercial A H Ft Ex..... 2.20

FARMERS' GAIN FROM PROTECTING BIRDS.

The brief survey of the subject possible here only imperfectly sets forth the nature and importance of the service of birds to agriculture. Nevertheless, it must appear that to the question "Does it pay the farmer to protect birds?" only one answer is possible. Even from the point of view of an investment for profit the time and expense necessary for their care and protection are richly repaid. There is the added consideration that without the music and companionship of birds the world would be the poorer. Anything that adds to the attractiveness of the farm and increases the interest of farm life is worthy of cultivation, even if no actual return is received in dollars and cents. Happily the farmer who protects birds secures a double return—increased profit from his crops and increased pleasure of living.—Yearbook of the Department of Agriculture, 1907.

A SHOWING OF FINE HORSES.

After the state fair last fall the Cultivator remarked on the fine showing made by the La Fayette Stock farm. We are now in receipt of a letter from the management of the California branch that there will be another large exhibit at this state fair. Mr. Campbell, the Sacramento manager, has just received 150 Percheron, Belgian and German coach stallions and mares. Many of these are already prize winners from Europe. Mr. Campbell says they are "Decidedly the highest class of horses we have owned." The horse lover will find in this one exhibit sufficient to pay for a visit to the coming fair. This branch of the La Fayette farm is now in Sacramento permanently.

Kern county is making an effort to hold a fair this fall.

Bees and Their Care

THE PLACE OF BEES ON THE FARM.

The last decade or more has been notable for the great advances made in all departments of human life. In this general and insistent advance, in the broadening of ideals and in the increase of knowledge and its effective application, the farmer stands in the very front ranks and the most effective agencies in this advance have been Farmers' Institutes and our very numerous and ably edited and conducted farm journals. As a result of this advance, industries, which formerly were insignificant, have in some cases developed into gigantic proportions as for instance in the case of the egg and poultry business. There is one source of income, whose home is on the farm and whose possibilities are undreamed of, which as yet has received but scant or no attention at the hands of either our institute workers or our farm papers who have very little more conception of the possibilities of bee culture than our forefathers had in the days of the box hive and the straw skip when the swarming season was marked by the ringing of tin pans and tooting of horns and when most of the crop of honey was secured by brimstoning the bees and then crushing the comb and allowing the honey to drain off. The honey thus secured was mixed with pollen and other impurities and would not today be allowed on the market. The crop was then necessarily small and the results always uncertain. Dating, however, from the introduction of the movable frame hive greater progress has been made in bee culture than in any other department of animal industry until today the bee is more responsive to intelligent hadling than any other creature.

Trebled the Yield.

Our continually extending knowledge of the work has also greatly increased our returns until today we have almost trebled the yield of honey per hive and it has been as greatly improved in quality as it has been increased in quantity. There is today no food purer or more healthful or delicious than a nice quality of extracted honey.

A number of large bee keepers have from time to time advocated the passage of a national law which would deprive the farmer of the right to keep bees and limit this privilege to specialists. I am a specialist in bee culture but I have been and always shall be opposed to the passage of such a law. There is no probability ,however, that such a law will ever be enacted. Great as the industry has become yet there are probably two colonies of bees kept by farmers to every one kept by specialists, and the amount on the farm should be increased many times over.

Two Hours a Week.

Wherever conditions are favorable for bees they should take their place as part of the farm stock. Farming is a busy life but two hours a week during the summer months will cover all the work necessary to care for 12 or 15 colonies of bees and they will net in a good year from $100 to $120 and from thirty to fifty dollars during a poor year and if you figure up the returns you thus receive for your time you will find there will be nothing else to compare with bees in return for investment and labor.

Otherwise a Waste.

While bees are thus gathering the honey which would otherwise go to waste on the farm they are also greatly increasing the yield of everything which they visit more especially if it be an orchard or a clover field, where the yield of fruit or seed, as the case may be is very greatly increased by their visits.

Before investing in bees, however, it is very necessary to get rid of the idea that you can succeed with them without preparation. There is little success in the world worth having unless we are willing to pay the price. Get a good work on Bee Culture and familiarize yourself with the most up-to-date and successful handling of bees. Make yourself familiar with all the processes of the hive then get a couple of colonies of bees and as you study the subject you will familiarize yourself with the work and you will soon acquire the requisite knowledge and skill for handling bees and making them pay.

Fascinating.

As the work of beekeeping is as fascinating as it is profitable a great many farmers cannot resist the temptation of running the number of their colonies up to forty or fifty swarms. As the swarming as well as every other operation connected with the colony is under the beekeper's control and is attended to at his convenience, bees can be so increased and cared for without any interference with the regular work of the farm that that number of bees will frequently net in returns as much clear profit as will forty acres of land under ordinary cultivation in a fair season.

The greatly increased production of honey by farmers might lower its price somewhat but not as much as many beekepers fear. This is one of the arguments against any great extension of beekeeping outside of specialists, but it is largely a false alarm. The consumption of honey is increasing at much greater strides than its production and it will continue to increase. If the day should ever come when the use of honey should supplant the use of all the commercial syrups today in the market it would mean an untold blessing to the country and a great saving in doctor's bills.—North Dakota Farmer.

BEES AND HORTICULTURE.

Their relationship is interdependent; the bees want and will have the nectar. The bloom of fruits and flowers needs to be pollenized; thus both interests are mutual. Bees never visit trees only when in bloom and it is then they obtain the nectar and pollen, at which time they distribute the pollen from one blossom to another, thus causing cross-fertilization, making them the greatest boon to the horticulturists, florists and seedsmen. But, says, one, the law says I must spray for moth and other insect pests. True, but the law also says you shall not spray while your trees are in bloom, to the destruction of your neighbor's bees; and the man that will do this, thus depriving himself of as bounteous a crop of fruit as he otherwise would have, may be classed with the robber farmer who sells his lucerne hay for less than the actual cost of the component fertilizing contents. A hint to the wise should be sufficient.—Deseret Farmer.

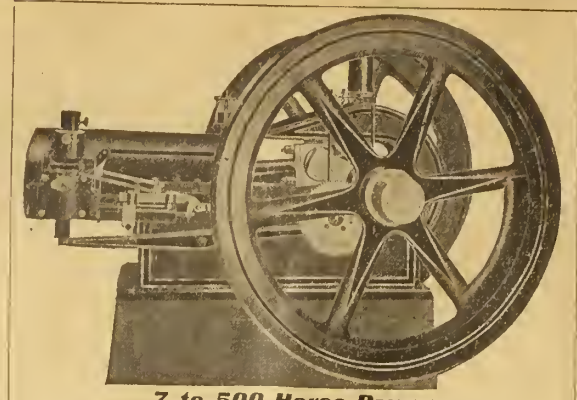
The Popular

Western

Built In the West Best For the West

FACTORY AT YOUR DOOR

LONGEST LIFE LEAST FUEL FEWEST PARTS ALWAYS GOES



7 to 500 Horse Power

Irrigation Plants Designed Constructed Installed

U. S. GOVERNMENT TEST

35 H. P. Western Engine Been Run 2 Years

RAN 87 DAYS DAY AND NIGHT

With One 20-Minute Stop to Lace a Belt

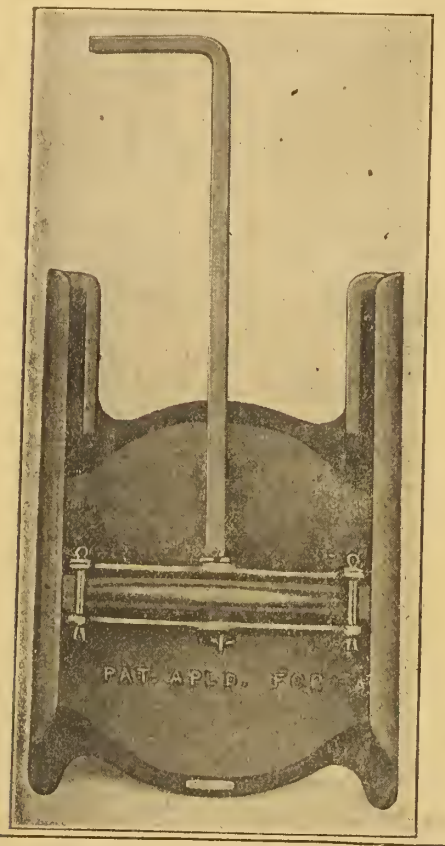
Send for the Copy of Test

Western Gas Engine Co.

Works and Office:

908 to 932 No. Main St. Los Angeles, Cal.

Send for Catalogue.



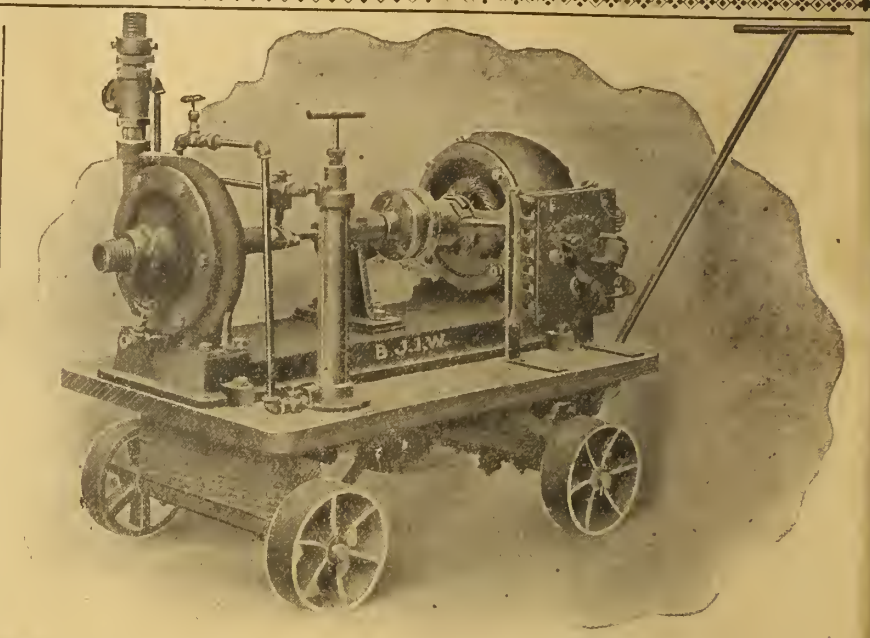
Pomona Pressure Gates

A Great Aid in Irrigation

These gates are made similar to the ordinary slide gates except that there is a locking device interposed to lock the cover in any desired position or to press the two faces together to make a WATER TIGHT joint, from either direction when closed. The parts are very simple, only a tapering screw with a split tapering nut socket. By turning the handle to the right tightens, and to the left loosens the cover or it may be removed entirely.

Pomona Mfg. Co.

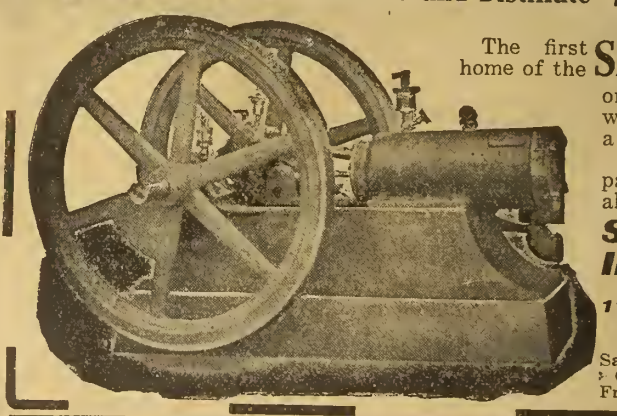
Pomona, Cal.



Jackson Wine Pump Direct Coupled to Motor and Mounted on Truck. Write for Bulletin 25.

Works: Carlton Station West Berkeley **Byron Jackson Iron Works** Branches: San Francisco Los Angeles Portland

Samson Gasoline and Distillate **Engines**



The first home of the **SAMSON** engine is a large one. It's second home, which is everlasting, is a happy one.

They may be compared with the sea—always ready to roll.

Samson Iron Works

Office and Factory: 1100 to 1198 Aurora St. Stockton, Cal.

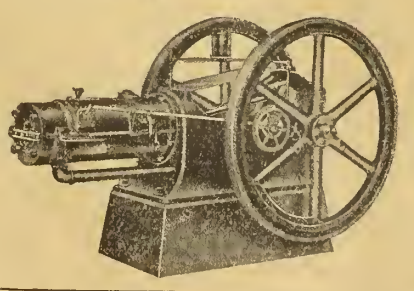
BRANCHES: San Francisco, Cor. Market and First Sts. Fresno, 920 J St.

Commercial Gas Engines

are Better Engines than you have been using.

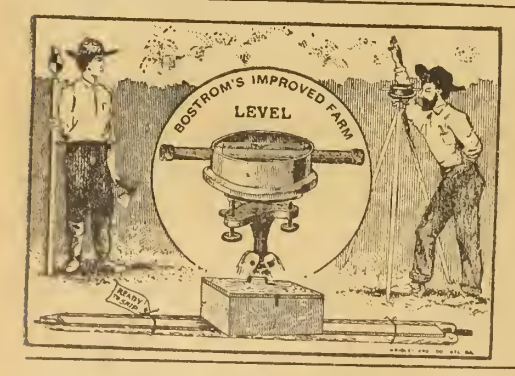
See One Buy One

So will your neighbors. Send for Bulletin No. 11



Commercial Engine Company

953-955 No. Main St., Los Angeles, Cal.

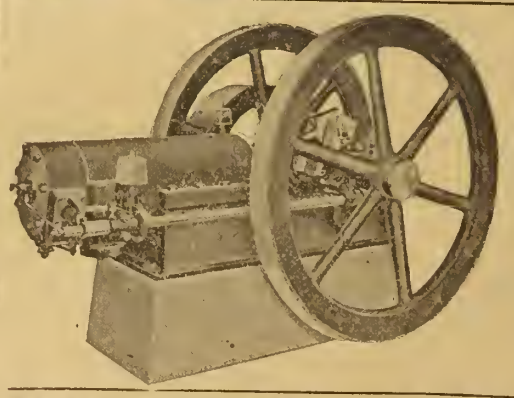


BOSTROM'S IMPROVED FARM LEVEL

Used for irrigation and drainage work. Cheapest and best level yet invented for farm use. Has the latest patented improvements in simplicity and usefulness. Can be operated by any one. Price including telescope tripod and target rod $15.00.

PALACE HARDWARE COMPANY 581 Market Street, San Francisco.

Coast Agents. Send for Circular.



HERCULES DISTILLATE ENGINE

Heavy, Strong and Simple in Construction

The Right Engine at the Right Price

Horizontal and Vertical; All Sizes. Buy direct from the manufacturer and save agent's commission. Send for our new Catalogue C.

The Hercules Gas Engine Works

Alameda, Cal.

Wine Tank

Tanks Tanks

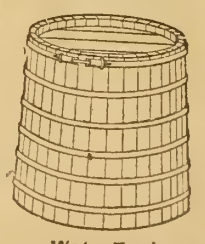
WINDELER'S PLANING MILL AND COOPERAGE

GEO. WINDELER, Prop

Water Tanks, Wine Tanks made from carefully selected stock by careful and expericnced workmen. "Tanks that are well made last a long time." It will pay you to get my prices before buying.

Geo. Windeler

144-154 Berry St. San Francisco, Cal.



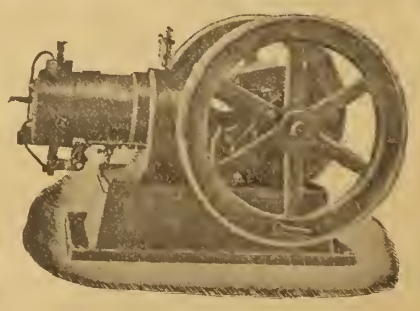
Water Tank

ARNOTT HARNESS $10.00 to $80.00

Everything guaranteed. Money back if not satisfactory. Factory in Los Angeles. California leather for all uses. Send for No. 10, eighty page FREE Catalogue.

ARNOTT & COMPANY 112–118 So. Los Angeles St. Los Angeles, Calif.

Olds Gasoline Distillate Engines



For all purposes, Stationary, Portable and Spraying. All sizes from 2 to 100 H. P. Simple, durable, warranted, are giving fine satisfaction to purchasers on the Coast. Prices and circulars mailed on application to

The Compressed Air Machinery Company

Dealers in all kinds of machinery

34 to 40 Jessie St., San Francisco, Cal.

SEND FOR BULLETIN NO. 15

When writing advertisers, mention Cultivator.

When writing advertisers, mention Cultivator.

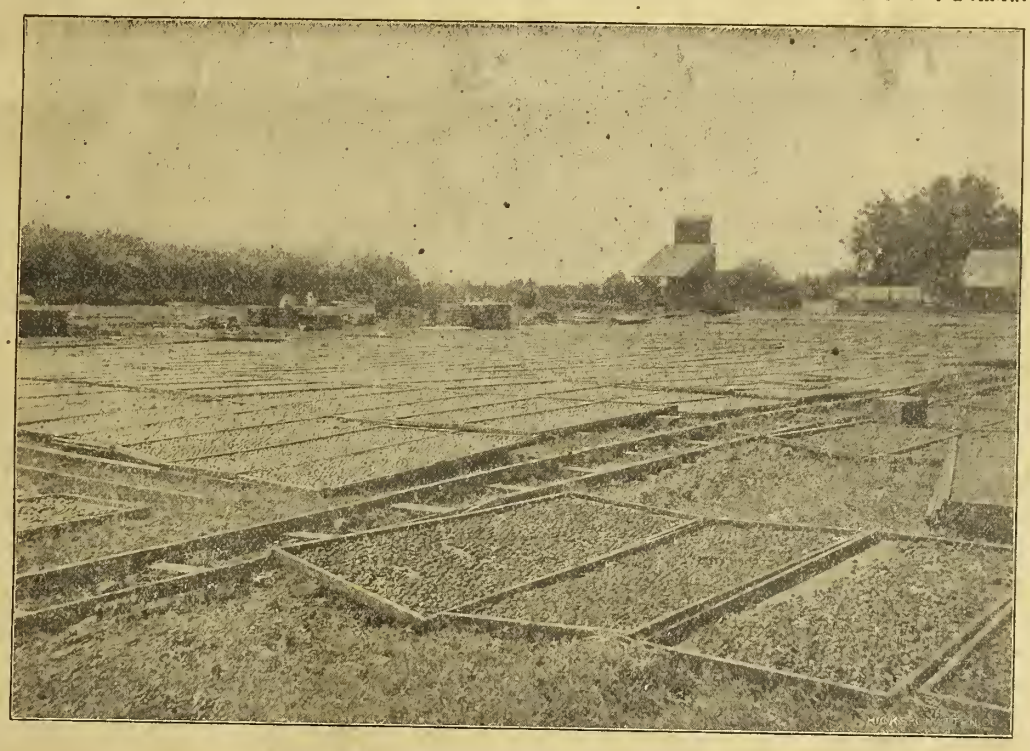
630.5
C A 3 Ck

California Cultivator

Published Weekly — One Dollar a Year

Los Angeles — September 3, 1908 — San Francisco

Sacramento Valley Deciduous Fruits



A COLUSA COUNTY PRUNE DRYING SCENE.

ONE OF COLUSA COUNTY'S APRICOT ORCHARDS.

Aermotor Gasoline Engine

Complete with Gearing ready to Attach to Your Pump

$45.00

Will pump all the time, wind or no wind, and deliver as much water as an 8 ft. Aermotor in a good wind.

From 225 to 1600 gallons per hour, depending on height water is to be raised.

Air cooled, uses Gasoline or Distillate.

A reliable, durable engine at a very low price. **Can You Afford** to be without one.

Send for Special Circular.

Tanks Towers Pumps Distillate Engines

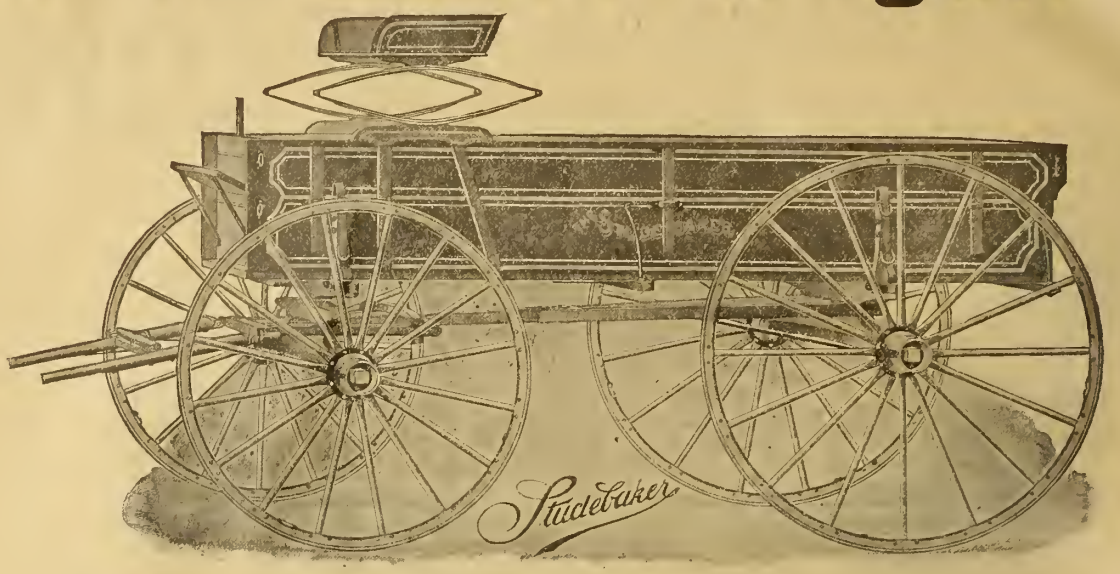
Smith-Booth-Usher Co

Machinery and Supplies

Successors to
S. J. Smith Machinery Co. and L. Booth & Sons
212-214 S. Los Angeles St., Los Angeles
Home, Ex. 1090—Sunset, Main 1090

Many people purchase prize pullets. Moral—Raise them.

Studebaker Wagons

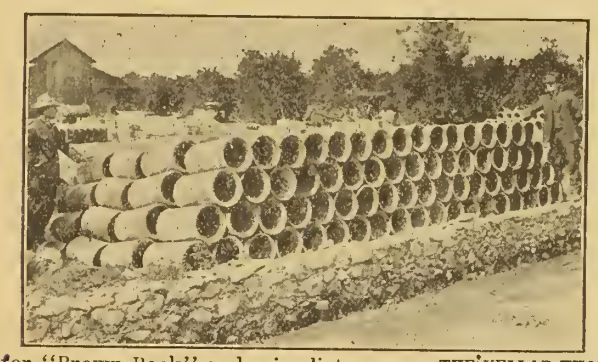


You are now marketiug your crops of hay, grain, fruit or vegetables. You need a wagon. Get the best.

We can furnish the exact wagon needed for every condition. Write for catalogue or call at our store and learn about the best wagons made.

Newell Mathews Co.

Wagons, Carriages & Implements
200 North Los Angeles Street
Los Angeles, California



From photograph showing amount of

Ten-Inch Pipe

made by four men from 10 bbls. of cement in 9 hours — 280 two-foot joints, or 560 feet. This pipe was made with the

"K T" Moulds

An equal amount can not be made with any other tools in the same period of time. Write for "Brown Book" and price list.

THE KELLAR-THOMASON MFG. CO., Covina, Cal.

Wood Pipe

Made from California Redwood or selected Washington Douglas Fir

2 Inches to 10 Ft Diameter

National Wood Pipe Company

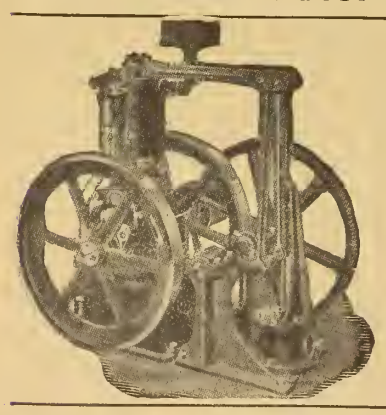
San Francisco Office
318 Market Street
Los Angeles Office:
404 Equitable Bank
Northern Office:
Olympia, Wash.
Salt Lake City:
Dooley Block
Address Nearest Office as Above.

Alamo Gas and Oil Hoisting and Stationary Engines

Best in price, appearance and quality. Self-starting and small operating cost. A complete line of repair parts and accessories always on hand. Complete pumping plants installed and we are prepared to construct all kinds of mining machinery on contract. Write for catalog and prices.

Harrison Machine Works

719-721 N. Main Street **Los Angeles, California**



A Handy Little Engine

Just the thing to run the feed cutter, the pump, the churn, the grinder, or anything on the ranch. It's well named

The Little Wonder

Write or call on

Wm. Gregory

602 No. Main St. Los Angeles, Cal.

GOPHER DOPE

Gophers destroy annually a large per cent of the crops, trees, lawns, etc., and they are a great nuisance to land owners all over the country.

The Gopher drives burrows or tunnels of very great extent and wherever it gains admission into a garden it works much damage to the roots of the plants. Every root that crosses the tunnel the Gopher will eat and not only herbs and flowers but even fruit trees of many years' growth have been killed by this destructive animal. In such cases the extremity of the tunnel is always to be found among the roots of some tree, which acts at the same time as a defense and a larder, for the Gopher hides itself under their protection and eats away their tender shoots.

A great many things have been devised to exterminate this pest with some success. Gopher Dope works on a different plan. It is in a powdered form and about one-quarter ounce placed well down in each hole and also in the run ways will soon rid the place of gophers. It gets in their eyes and pouches and on their feet. They track it through their tunnels. They will not stay where it is used. It will not harm domestic animals or fowls. It must be used thoroughly and systematically, the Gopher given time to work in it and any new holes thoroughly treated. If this is done you will soon find the place free from them.

Do not irrigate for one week after the dope is used.

Gopher Dope is sold in 50c, $1.00 and $4.00 tin cans, and is for sale at grocery, drug and hardware stores, also at feed yards, and is absolutely guaranteed or money refunded.

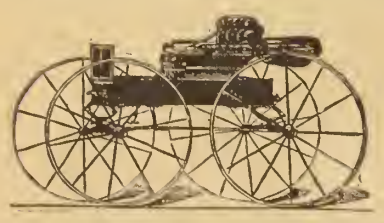
Free on board cars at Los Angeles. Live agents wanted in every county.

Yours very truly,

B. & G. Disinfecting Co., 415-417 Laughlin Bldg., Los Angeles, Cal.

Home Phone A 9089

Terrible Accident at 110 and 112 North Los Angeles Street



Hard Times make us Want money, so we have decided to throw on the market

50 Surreys at Greatly Reduced Prices **For Cash**

We have Surreys with tops and without tops; rubber tires and steel tires. If you are going to need a two-seater don't fail to call and examine our stock before you purchase. No trouble to show goods.

This Sale Lasts Only 30 Days

Los Angeles Vehicle and Implement Co. 110 and 112 North Los Angeles Street Los Angeles, California

The Cheapest Way

EFFECTIVE DURABLE LIGHT OF DRAFT

Stockton Reversible Gang Plow

This is our regular Plow with Land Shifter and Rear Lever. Land Shifter simple and durable. It is in easy reach of operator and there is no danger of wheel running over foot.

Houser & Haines Mfg. Co

Stockton, Cal.

California Cultivator

Vol. XXXI.—No. 10 Los Angeles, California, Thursday, September 3, 1908 Subscription $1 a Year

Revise Our Horticultural Laws

Chas. A. Chambers of Fresno, Speaking at the Pacific Coast Nurserymen's Convention, Gives Suggestions as to Needed Changes

SOMETHING must be done by the nurserymen of the Pacific Coast to obtain a uniform set of laws under the direct supervision of the State quarantine officers in the respective States governing the proper inspection of nursery stock. Various counties throughout the West have enacted laws of their own, which, to say the least, in many instances are laughable in the extreme.

These county laws very often conflict with the general State laws and according to the attorney-general's rulings the county ordinances are very often unconstitutional. This is especially the case when the county horticultural commissioners or inspectors condemn shipments of nursery stock, simply on general principles and for no other plausible reason.

I contend and always will contend that where a shipment of nursery stock is free from disease or insect pests of any character, the shipment should be allowed to be received and delivered to consignee, no matter from what point it was shipped, providing, of course, it is duly and properly inspected before shipment and a clean bill of health is issued by the horticultural inspector at shipping point.

A nurseryman in good standing uses every care and precaution in the first place to see that his cuttings and scions are taken from good, healthy, growing varieties, for it is as easy to propagate nursery stock from healthy parent stock as otherwise. When due care is exercised and every precaution is taken to this end, there is very little danger of delivering to planters stock other than that which is in every way healthy, thrifty and first class.

I am quite sure the average nurseryman regards his reputation above everything else and makes it a point to cary out this policy in the preparation of his stock, and where this can be verified and confirmed by the inspector at the point of shipment, I see no reason why any nursery stock should be condemned if a few gnats or ants are seen on the shipment when it is unpacked.

Speaking from experience I have made to certain localities shipments which have been turned down by the receiving inspector, because the trees in the car happened to be a little heated and shriveled at the tip ends. The "wise" inspector made the statement that the stock was affected with blight which he called by some long, compound, cathartic name, when in reality there was nothing wrong with the trees except as noted above. This heating is bound to happen to trees at times, especially when there is delay in transit or the packing material in some manner creates heat. What the inspector should advise in a case of this character, is to instruct the reeciver to unload stock, heel same in the ground and water well, when this condition in nine times out of ten will be remedied.

We have at various times had to call on the State quarantine officer to act as referee in cases of this kind. We could not convince some "wooden-headed" county inspector that the stock was not blighted but simply heated, and in every instance the State officer made Mr. 'Woodenhead' stop, and put him wise on what the important inspector does not seem to comprehend. This goes to show that the average county inspector does not know what a diseased condition really is, and as a consequence, nurserymen not only have stock returned at their expense, but it is heralded in the local press that a shipment of nursery stock from so and so has been condemned.

This sort of advertising gives an innocent nurseryman a bad name. It is, therefore, time that we should come together and have our quarantine laws regulated. I will cite an instance showing how little some inspectors know when stock is really diseased. Last year we made a shipment of peach trees to a northern county. The tip ends of these trees were a little shriveled caused by heating. The shipment was rejected by the receiving inspector, although the shipment when it left Fresno was duly inspected by the local commissioner and a clean bill of health given. What was the result?

The shipment was returned after we had spent several dollars telephoning consignee assuring him that the stock was free from disease of any character. We also telephoned the inspector and had our local inspector do likewise, but we could not, to save us, convince him that the trees were in prime order. The inspector went so far as to send a few tops of the trees to some supposed-to-be entomologist, and to our great amazement the entomologist gave it as his opinion, although he was not absolutely sure of it, that the trees were blighted. So far so good. Now here comes the funny side.

We received these very same trees back from consignee, heeled them in our tree yard, watered them well and in a few days this heated condition was overcome and the trees were as bright and clean looking as they were when standing in the nursery row. What became of these trees? This is funnier still. It seems the person who ordered the trees in the first place from us, placed a duplicate order with another nurseryman, inasmuch as our poor, blighted (?) trees could not pass inspection. This nurseryman did not have the stock and bought some of us. We filled his order with the very same trees and the nurseryman in turn shipped to our customer, who had previously rejected the stock, and I'll be hanged if they did not pass inspection at the other end of the line without one whimper. In your fancy can you conceive anything more comical. I can cite several instances of pretty much the same nature, but as this happens to be the best, I am relating it, simply to show what peculiar people we have to deal with in this world.

I am of the opinion that all inspectors that try to be important and who know absolutely nothing as to whether stock is healthy or diseased, but act simply on the general principle plan, should be fumigated and have their whiskers, if they possess a set, sprayed with lime, sulphur and salt, to impress them that they need a little purifying themselves. I move that the State quarantine guardian, when he runs across one of these important inspectors having no knowledge of existing conditions, do the spraying and in addition have him removed from office for incompetency and substitute some one with average intelligence. I am aware of the fact that all counties do not possess an entomologist, but they do possess fair-minded people qualified to carry on the office in a straightforward way, and when they do not know positively whether nursery stock is infested, they will take the trouble to learn from some one that does know, instead of taking it upon themselves to reject a shipment, just because a root looks a little crooked or there is a small dab of rust on the bark.

I again repeat, what we need is a uniform State law to regulate all shipments of nursery stock, setting forth what the nurserymen must comply with when making shipments and receiving them. These instructions should be given by the State quarantine officer and the various county inspectors should be made to enforce these regulations and no other. If stock has to be fumigated let the State officer say so, and I am sure that the nurserymen will comply with any halfway sensible law in each and every instance. The way the matter stands, nearly every county has a different condition for the nurseryman to comply with and it is next to impossible to satisfy the whims and notions of many of the county ordinances covering shipments of nursery stock. If nursery stock is affected in any way, it should be condemned and the law is all right when it is carried out fairly, but to simply condemn nursery stock without any apparent reason, just because a shipment when it reaches destination happens to arrive when the inspector's liver and kidneys are out of order and he takes his grievance out on the nursery stock, should be remedied.

We have in California, in Edward M. Ehrhorn, the State quarantine guardian and entomologist, a very practical and well posted man, and all his rulings when any question has arisen, have been fair to all parties concerned. At any rate we are always ready to leave matters in dispute to Mr. Ehrhorn, with every assurance that we will get a square deal. His judgment in all matters that confront him is good and sound.

From now on the nurserymen of this coast should use their best endeavor to have a uniform set of inspection laws passed, governed by the State officers and have them in turn instruct the county commissioners how to carry them out and thus do away with special farcial laws enforced by county ordinances. This is the only remedy: I am also in favor of making it compulsory for every one applying for the position of horticultural inspector, to take an examination held by the State quarantine officer, to ascertain whether the applicant possesses enough good, hard, common sense to carry on this office in a business-like manner and is otherwise fitted to give all matters that demand his attention in this particular position careful consideration.

The system of giving this office to some pet of the administration simply to repay a political debt should be done away with. All the nurserymen request is, that some one is appointed who has good judgment, a practical and broad man free from prejudices and petty methods. When such a man is appointed he should be kept in office regardless of his political affiliations. When this is done the nurserymen will receive a fair and square deal.

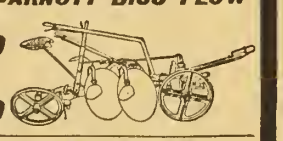
In conclusion, I do not wish to infer in this article that all horticultural inspectors and commissioners are not of the right calibre to carry this office. For we have in this State, as well as in the Western States generally at this time, men qualified to fill this office, competent in every way and who are always ready to give a nurseryman a square deal and nothing more, and it would be very gratifying indeed if the various counties would always appoint men with good sound judgment to fill the position of horticultural commissioner.

EVERYTHING FOR THE FARMER

ARNOTT ORCHARD CULTIVATOR

Acknowledged the BEST
Five feet wide.
Spring teeth if wanted.
Horizontal lift.
No neck weight.
Steel and Malleable Iron.
Dust proof wheels..... $45.00

SANDERS-ARNOTT DISC PLOW



SINGLE $60.00
DOUBLE $80.00

COLUMBUS WAGONS

Three inch Skein.
Four inch Tire. Brake and Pole.
$80.00

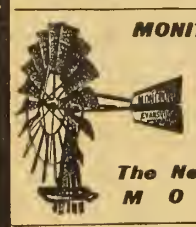
PACIFIC OROHARD TRUCK

3¼x10 Skeins. 28x30 in. wheels..$32.50

LEATHER TRIMMED

Guaranteed Twelve Months
$65.00

MONITOR WINDMILL



8 ft.....$30.00
10 ft..... $45.00
The New 8 and 10 Foot MONITOR

MONITOR ENGINE
Simple Economical
2 H. P....$180
4 H. P. $250
6 H. P. $350

Catalogue No. 9 Sent Free on Application
Address Department G.
ARNOTT & COMPANY Inc.
112-118 South Los Angeles Street
QUALITY ARNOTT GUARANTEED
Los Angeles California.

THE "BOSS" Tree Protecter

Made of Yucca Palm

Is cheap, durable and quickly put on the tree. It prevents Rabbits from destroying your trees. A sure protection against frost, sun-burn, grasshoppers or dry winds. Can be easily removed; will last for years.
Send for samples.

Prices

12 inch long,	$ 9.00	per 1000
14 inch long,	10.00	per 1000
16 inch long,	11.50	per 1000
18 inch long,	12.50	per 1000
24 inch long,	15.00	per 1000
30 inch long,	17.00	per 1000

Agents Wanted Everywhere

YUCCA MANUFACTURING COMPANY
1380 Willow Street Los Angeles, Cal.

When writing advertisers, mention Cultivator

With the Citrus Growers

THE PROPER TIME TO USE STABLE MANURE.

THE best time to apply stable manure is, perhaps, when it can be had. There may be a particular time when the results are best, but when two to three cents a foot must be paid, it is economy to get it into the soil or in the orchard and dried out as soon as possible. Every odor that can be detected from a load of manure indicates that nitrogen in some form or other is passing off. If the manure is left in a pile it continues to send off odors for a considerable time. When scattered and dried the odors cease, and if worked into the soil with a disk cultivator there is very little loss.

It is well known that when stable manure is applied to growing grain, the stimulating effect is almost immediate. If it is applied to citrus trees out of their growing season, it will lie there till the growing season arrives and no doubt some of its valuable elements are lost, some nitrogen and soluble potash. but the amount is small in any case and only when an undue amount of water is applied is there leaching that takes them beyond the reach of the roots.

It is known that nitrogen produces rapid growth and if given in excess produces sappy tissue. It is a pretty well settled fact that if an excess of nitrogen is applied before the fruit is matured it tends to make the texture of the fruit soft. This is one reason why some growers are cautious about the time of application of stable manure, but the material is so scarce and expensive in California that there are at this time few groves indeed where this condition exists. When a grove is in need of humus and nitrogen, stable manure must be heavily applied for a number of years before any deleterious effect is noticeable in the fruit. With the exception of where the fruit shows a tendency to grow soft through an excess of nitrogenous materlal, we would not hesitate to put on stable manure whenever we could get it. Its action as a mulch begins as soon as it is applied. Its mineral ingredients cannot get away in the atmosphere and its nitrogen cannot get away through the same channel unless fermentation takes place. Fermentation stops as soon as it is spread out to dry, while if the manure is placed in piles and constant care is not given it, fermentation sets in and great loss is entailed in a few weeks. If the manure is left in piles till the theoretical time arrives for it to be spread in the grove, there is no doubt but that much of its nitrogen is lost.

Will citrus trees be forced into new growth out of season by the application of a nitrogenous fertilizer? The general opinion is that they will. The fact of the case is, all live plants are constantly absorbing soil fluids, if you may call them such, the soil waters with their soluble contents. Were this not the case, they would die as is demonstrated when a branch is cut off. It is removed from the circulating system aud cannot get its supply of sap.

There are certain natural and well defined periods of growth when the plant takes on new growth. With deciduous trees, this period extends from the beginning of spring till various periods during the summer months provided the climatic conditions are proper. The duration of these periods also depends on the age of the plants.

With citrus trees, there are three well defined periods of growth during the time between February and October. There are always spasdomic growths of isolated branches, but we refer to the vigorous growth that extends all over the tree and makes its chief increase in size.

We are sure that nitrogenous fertilizers will not force a general growth out of season, if climatic conditions are favorable to a normal growth. or the trees are in a normal condition. They will, however, be fed and stimulated by the fertilizer at the time of normal growth. These points have been pretty well demonstrated.

Such being the case, stable manure may be safely applied right after the fall growth of citrus trees is made or any time during the spring or summer when its chief effect will not come on the fall growth, in the case of groves situated where frost is liable to do damage. Where there is no danger from frost there will be no danger of ill effects from stable manure applied at any time, except it be in the case of fruit that is liable to be soft.

SMALL GROWERS SHOULD WAKE UP.

The highest prices on navels this season have been realized by the National Orange Company, L. V. W. Brown and C. E. Rumsey of Riverside, says the Press of that city. Their success is admittedly due to the high grade of their pack and that has been in large measure determined by the careful attention they have given in the grove and in the packing-house to the suggestions of G. Harold Powell of the Department of Agriculture, who has been investigating the marketing problem in this State for several years. The Chases, who control the National Orange Company, and Messrs. Brown and Rumsey are all owners of large acreage; and it is a significant fact that no small grower has done as well as they have. The reason why is undoubtedly that their fruit has been more carefully handled, more attractively packed, has been uniform in grade, and has reached the eastern markets in better condition.

The Arlington Heights Fruit Company, that handles the fruit from the groves of the Riverside Trust Company, is another concern that has applied the improvements suggested by Mr. Powell and has realized fine prices as a result of better methods of production and packing. C. C. Chapman of Fullerton is another large producer who has made a fine showing, especially on Valencias; and he has always been prompt to make use of the results of scientific study of the orange question.

Are we to infer from this that only the big grower and shipper can take advantage of the best information available as to scientific methods of producing and packing fruit? We should be reluctant to admit that; but it is evident that the small grower needs to be waking up.

Some of the associations connected with the Exchange have been making a showing on their fruit that compares favorably with the returns of the few leaders we have named; but the managers of the associations have found it difficult to arouse the small growers to the importance of improved methods to such an extent as to secure the co-operation necessary to complete success.

There are those who believe that

Nitrate of Soda

Nitrate Sold in Original Bags
NITRATE AGENCIES CO.
64 Stone Street, New York
140 Dearborn Street, Chicago, Ill.
Keyser Building, Baltimore, Md.
36 Bay Street, East, Savannah, Ga.
305 Baronne Street, New Orleans, La.
Holcombe & Co., 50 Clay Street, San Francisco, Cal.
Address Office Nearest You
Orders for All Quantities Promptly Filled—Write for Quotations

SAMSON WIND MILLS

Have double gears, removable bearings and center lift, which double the life of the mill. They will last longer, pump more water and give better satisfaction than any other WIND MILL.

This is an up-to-date Sub-structure, Tank and Wind Mill outfit complete; substantial, economical and attractive. We build all kinds. Write us or our general agents for full information and prices, description &c., before purchasing.

The STOVER MFG. CO.
FREEPORT - ILLINOIS
30 California Avenue
CRANE CO., LOS ANGELES and SAN FRANCISCO
General Agents for California

Oranges and Lemons

When the right varieties are properly grown and planted, are money makers. Our new booklet on Citrus Culture tells all about the standard sorts, planting, cultivation, irrigation and packing the crop. Over 100 illustrations and something like 50,000 words of text. The price is merely nominal, namely, 25 cents. May we have your name for a copy?

San Dimas Citrus Nurseries
R. M. Teague, Prop.
San Dimas, Cal.

EDISON PHONOGRAPHS, VICTORS, ZONOPHONES
Records and Supplies, delivered at your nearest railroad station upon receipt of full retail price. Write for particulars and ask for catalogue. Peter Bacigalupi & Sons, 1113-15 Fillmore St. San Francisco

When writing advertisers, mention Cultivator.

the future of the orange industry in Southern California is in large holdings that will make possible the application on a large scale of the most modern and scientific methods of culture and packing; but that would not be a good thing for the country. A good living can be made from a ten-acre grove; and what we want is more individual growers living on ten and twenty-acre lots rather than big properties operated by wealthy capitalists or big companies and perhaps hiring Japanese labor for a considerable part of their work.

The individual grower is really in position to give a degree of detailed attention to his grove that cannot be given by the owner of a big tract. He does considerable of the work himself and supervises the rest in person. He ought to have the most up-to-date system in the care of the grove and the handling of his fruit. And if he markets through an exchange association he ought to stand for the increased expense necessary for a scientific handling of the fruit in the packing-house.

It is rather discouraging to note the indifference of the small grower to Mr. Powell's work and his slowness to understand that a proper application of the truths he has developed may mean 50 cents or even a dollar a box more for his fruit. He ought to study the market returns and ask himself why it is that his fruit is selling for only $2 or $2.50 a box when the Chases, Brown, Rumsey and others are getting $3 and even $3.50 and $3.75. The wide range of prices is not due to any difference in soil or climate or other natural conditions. It is due to the fact that the people produce a better grade of fruit and pack it in such a manner that it reaches the market in better condition. What they have done, others can do and more than that, should do.

The small grower ought to get busy and put himself in line for better profits and help the development of the orange industry along the lines that will prevent the calamity of its falling into the hands of a few big producers.—Redlands Review.

MORE REASONABLE.

The recent article in the Cultivator in which comment was made on the statement of a San Antonio paper that Texas would soon put California out of commission in citrus production and stating that "Mr. F. G. Hutchison came from Santa Clara in Joaquin Valley" to take up the cul ture of oranges calls for the following from Mr. Hutchins, which we are glad to give place in the Cultivator:

In the issue of your paper under date of July 30th notice an article "Oranges in Texas" taken from a San Antonio paper. As there are misleading statements in it as well as in a Galveston paper of recent date—wish to give you a correct statement of the facts as they really are.

In the first place I am from Ventura county instead of the San Joaquin valley; secondly, I have never been a member of the California Citrus Association; neither was I sent out by it to investigate conditions in Texas for the growing of citrus fruits. I did not sacrifice my property in California, realizing $1000 per acre for part of it. My change from California to Texas was a purely business venture. Finding climatic conditions favorable for the growing of citrus fruits, purchased fifty acres of land and am now planting to oranges and engaging in the citrus nursery business. Apart from giving me prominence, I do not relish these stories, more especially as I have no knowledge of ever having been interviewed by a reporter of either paper. The statements contained in the interviews are correct, insofar as they relate to the adaptability of this climate and soil for the successful growing of citrus fruits referred to.—F. G. Hutchinson.

The statement in the Galveston paper is as follows:

Sold His California Orchard.

"Two years ago the California Citrus Association hearing of the southwest Texas fruit belt, and fearing competition much nearer the great markets than their orchards were, sent F. G. Hutchinson, one of their members and a large grower, to investigate. Mr. Hutchinson went to Beeville. There he found a climate and a soil even better adapted to citrus fruits than California. He stayed and investigated thoroughly, then made a written report of his findings, sold his California orchards at a sacrifice and became a resident of Bee county. Mr. Hutchinson immediately purchased 100 acres of Bee county land, and now has 25,000 growing trees. He did not confine himself to Satsumas and Dugats, but has budded various kinds of California and Florida oranges to hardy Texas varieties. With a lifetime spent in growing oranges, Mr. Hutchinson states that he was never more convinced of success than he is now. He is more than satisfied with his investment."

Mr. Hutchinson should call off the fool papers of his adopted state or induce them to get a little closer to common sense.

AN EYE ON THE FUTURE.

Tommy's maiden aunt had called attention to some of that young man's misdemeanors, thereby causing him to be punished. Tommy pondered a while, then asked, "Papa, will little sister Gladys be an aunt to my children when I am a man?"

"Yes, Tommy," answered his father, much interested. "Why do you ask?"

"'Cause she might as well get married and have a home of her own, for I don't intend to 'low any aunts to stay around my house, making trouble for my children."—Woman's Home Companion for August.

Market for Valencias has been exceedingly good this season. There are probably less than 500 cars yet to ship.

Redlands orange growers will receive about $2,300,000 for their crop this season.

FARM TOOLS

No tools are so well adapted to their various uses as Keen Kutter Tools. Every stroke made with a Keen Kutter counts—that is why there are so many in the hands of farmers. No time lost from breaking—little from sharpening.

KEEN KUTTER
Quality Tools

accomplish the most—in the quickest way—at the least cost. Keen Kutter Tools are all guaranteed and all identified by the Keen Kutter Trademark.

The name Keen Kutter also includes carpenters' tools of all kinds, such as: Saws, Chisels, Bits, Drills, Gimlets, Awls, Planes, Hammers, Hatchets, Axes, Drawing-knives, Screw-drivers, Files and Pliers. Also a full line of Scissors and Shears, Pocket-knives, Razors, Table Cutlery, etc.

Sold for nearly 40 years under this motto:

"The Recollection of Quality Remains Long After the Price is Forgotten."

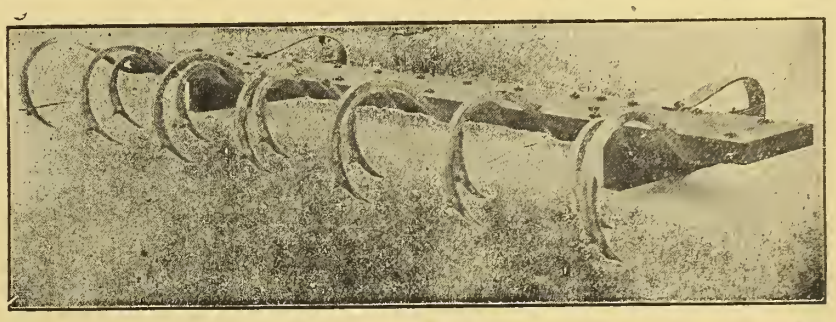
Trademark Registered. E. C. SIMMONS.

E. C. SIMMONS KEEN KUTTER TRADE ST. LOUIS MARK U.S.A.

If not at your dealer's, write us.

SIMMONS HARDWARE COMPANY (Inc.), St. Louis and New York, U. S. A.

WILLIAMS' GOOSE-NECK CULTIVATOR



Especially adapted for citrus orchards. Sizes 8 to 14 feet. Lightest draft. Free trial to responsible parties. No agents. You pay only one profit. Write today

WILLIAMS & SON, Manufacturers
Orange, California

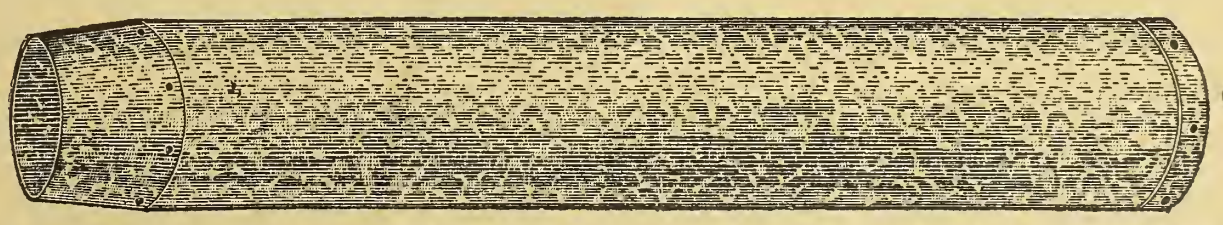
TENTS

Fumigating and Lemon Curing Tents our Specialties

Irrigating Hose, all sizes. Prices and Samples quoted upon application. Write your wants
Wagon Covers, Hay Covers, and Canvas Covers of Every Description.

Mellus Bros. & Co
Phones—Home, F 4871; S. S., Main 3500
250 East Fifth St., Los Angeles, Cal.

When writing advertisers, mention Cultivator.



AMERICAN SURFACE IRRIGATION PIPE

SAVES WATER, GRADING AND TIME

The **only** way to **irrigate Alfalfa. Cheaper** than **Flumes.** This is only **one** of our **specialties.** We make **Riveted Water Pipe** in lengths of **ten feet** from **single sheets.** Let us **prove** to you that we make **Pipe** and **Tanks right.** WRITE FOR CATALOGUE.

AMERICAN STEEL PIPE & TANK COMPANY
FORMERLY TALLERDAY MANUFACTURING COMPANY
636-7 Pacific Electric Building Los Angeles, Cal

DON'T BUY GASOLINE ENGINES UNTIL YOU INVESTIGATE "THE MASTER WORKMAN," a two-cylinder gasoline, kerosene or alcohol engine, superior to any one-cylinder engine; revolutionizing power. Its weight and bulk are half that of single cylinder engines, with greater durability. Costs Less to Buy—Less to Run. Quickly, easily started. Vibration practically overcome. Cheaply mounted on any wagon. It is a combination portable, stationary or traction engine. SEND FOR CATALOGUE. THE TEMPLE PUMP CO., Mfrs., Meagher and 15th Sts., Chicago. THIS IS OUR FIFTY-FIFTH YEAR.

When Writing Adverisers Please Say That You Saw Their Advertisement in the California Cultivator

The Right Kind

Can always be found in the celebrated

Canton Clipper Line

AND P&O CANTON PLOWS

Steel Walking Plows
Chilled Walking Plows
Sulky and Gang Plows
Subsoil Plows
Hillside Plows
Road & Grading Plows
Garden Plows
Orchard and Vineyard Plows
Shovel Plows

All sizes and patterns for all kinds of work

Pacific Implement Co
131-153 Kansas St., San Francisco

B. Hayman, Los Angeles
General Agents

Peckham Says—

Increase Your Income
$2,000 a Year

I want every man or woman who is reading my ads. to keep in mind that buying 20 or 40 acres of our Corcoran land is an investment, not a speculation—yet you get returns equal to those from successful speculation—and all the while you are secured against loss by the finest farm land in the world.

There is no question like finding "gold," or striking "oil" about our Corcoran proposition. The LAND is there for all time; the water is there for all time to nourish and fertilize it; you don't have to dig the ground deeper than to plant the seed—there is no chance known to man for a single crop failure—and you can easily make $2000 a year.

George C. Peckham & Company

203-4-5-6 Union Trust Bldg., Corner Fourth and Spring Sts.
Phones: Main 3221, F5392.

Since the rearing of the young orchard to a productive state is expensive the work is worth doing well. The paying orchard is the one that is planted right and cared for through the years until in good bearing.

El Monte walnut growers have decided to use the salt solution process of bleaching walnuts.

Deciduous Fruit Culture

PICKING, GRADING AND PACKING APPLES.

As we never pack without first grading, and never grade without first picking, I have taken for my subject, "Picking, Grading and Packing Apples." I will treat it under those subdivisions, and shall tell you as briefly as possible just how we have handled our own apples for the last six years.

Picking.

Our varieties being red, we depend on the color to tell us when ready to pick. As this is the most critical time in the life history of the apple, the greatest care must be exercised to obtain the best results. We must handle the apples as carefully as eggs, and use every means to avoid bruising or breaking the skin; for in nearly every instance decay in a box of apples starts in a damaged specimen and spreads to the other apples in the box. Right here is the basis of a reputation.

In picking the apples should be grasped by the full hand, not by the fingers; then by a slight upward, or downward turn of the wrist, the apple will be removed from the fruit spur without pulling out its stem or injuring the spur. I should like to say right here that it is only a question of a short time when apples that have lost their stems will be denied admission to a first-class pack, as the pulling out of the stem always results in abrasion of the skin in the cavity and injures the keeping quality of the apple.

Now, having fully explained to the pickers as to how I wish the work done, I go with them to the orchard and start them to work. Each picker is furnished a 14-quart galvanized iron pail, with a heavy wire hoop firmly attached to the bail, and a supply of apple boxes is placed within easy reach. I send one man on ahead to pick up all "grounders," and place them in marked boxes, so that the haulers may keep them separate from the picked apples. The next division consists of three men, who pick directly into boxes, and as my trees are low headed, they get about one-half the crop. They are followed by two men provided with low platforms, or trestles, on which to stand. These men, picking into pails, get about half the remaining apples and are followed by two ladder men with a helper, whose work is to take down, empty and hang up pails. In removing the apples from the pails to the boxes, no pouring is permitted. They must be handled as a grocer would handle eggs. I select a reliable man from the crew and make him foreman and timekeeper, and, paying him an advance over the others, hold him responsible for the work of the crew.

Grading.

As fast as picked, our apples are hauled to a packing shed, where four men are put to work grading. For this work we have a table 4 by 10 feet, two men working on each side. Each man takes a box of apples as they come from the orchard, and, placing it on the table, arranges empty boxes at his right and left hand. Each apple is carefully inspected and graded as to size and perfection. All absolutely perfect apples are separated into two boxes, the four tier and the larger going into one box and the four and a half and five-tier into another. All apples suitable for a second grade and size from four and a half tier up, go into a third box, and everything else into a fourth, or cull box. Our number two grade consists of good, sound apples, but may be ill-shaped, off color, limb chafed, have worm sting in skin but no worm holes. This grade is sold to western buyers.

As a guide for graders, we set up before them one apple each of four, four and a half, and five tier sizes, and we find it only requires about half a day's work to qualify a man so he can do good work without referring to samples. We furnish our graders (also our pickers) with soft canvas gloves; and in handling an apple it is so twirled in the hand that most of the marks of late spraying are removed. We do not aim to polish, but simply to remove dust and spray marks.

As fast as graded, the apples of one size and grade are stacked separately, five boxes high, being careful not to bruise apples by having boxes too full. We allow our pickers and graders to obtain one or two days' work ahead before starting packers; as all our apples are wrapped in paper when packed, and they are less liable to sweat if thoroughly cooled before they are so wrapped. Understand, we have a good roomy, well-ventilated shed in which this work is done and where they are stored until ready to haul to station.

Packing.

Having our apples graded as stated above, and with all culls removed, the work of packing is very much simplified. We have two packing tables. These are frames of 2 by 4 scantling, and are 3 by 11 feet in size, covered by 20-ounce duck, and are arranged for four packers at each table. As these tables must support considerable weight they need to be strongly built. Use bolts, not spikes, in their construction. To protect the apples, run a rim of half-round moulding, or old spray hose around the edge of the table. We use two good strong trestles on which to support the table. We also provide a lining table, where the packers line their own boxes. This is placed convenient to the packing table. We furnish each packer with an initial stamp, and they are required to place this stamp in the upper right-hand corner of the stenciled end of each box packed. They are also required to note with pencil on the edge of the stenciled end the actual count of apples contained in the box. This is for the information of the nailer, at whose table is kept a full supply of stamps for numbering and designating grade and variety, and it is a part of his work to apply these stamps, in which he may be assisted by the table tender.

Now, the size of a packing crew must depend on the number of packers you intend to work. We have from two to twelve, turning out from 70 to 400 boxes a day. In any event, we must have a good man for foreman, one who fully understands the various packs and is competent to direct and instruct the packers. He must also be in sympathy with your efforts to put up first-class stock in a first-class manner. The foreman and packers must be constantly on the alert to remove any defective apple that may have passed the graders and reached the packing table. Having a foreman and two to four packers, we need another man to remove the boxes as packed, from the packing table. He will also stamp, nail up, pile away and assist the foreman in feeding the packing table from the graded apples. Should we be working six to eight packers, we need still another man. Our crew would then consist of a foreman, one table tender, one nailer, and eight packers. This sized crew has given us the best results, as it balances with our picking, hauling and grading crews and keeps everybody busy. Now as to the packers. We prefer ladies, for, as a rule, we find them more painstaking, more willing to follow instructions, and they show a greater pride in their work than men. I have never had to go out of our own neighborhood to obtain packers, and our apples last year were packed by ladies who have packed for me two, three and five consecutive years. Of course, we give them every convenience with which to work, and they are not allowed to lift anything heavier than an empty apple box.

The different styles of packs are known to the trade as three, three and one-half, four, four and one-half and five-tier packs. They are also designated as straight and diagonal. The straight pack includes the three, four and five tiers. This makes the neatest pack of all. It is also the hardest to pack without injury to the apples, as each apple rests firmly against the other; and there is a tendency to bruise when the pressure of the nailing press is brought to bear. To avoid such injury, care must be used in the straight packs not to allow the apples to extend more than one-quarter of an inch above the box at the ends; and the bulge in center must not exceed one inch, including both top and bottom.

In the straight packs, the box is first lined with paper, this paper being pleated six inches from the lower end with a quarter-inch pleat. This prevents tearing the lining when the bottom is bulged. A cardboard, full size of the box, is also placed in the bottom. Each apple is wrapped in duplex paper, being careful to have the finishing fold of the wrap come over the stem, to prevent injury to its neighbor. A cardboard is also placed betweeen each layer and on top. In these packs, or in the diagonal packs, the apples may be placed either on their sides or on their stems or on their calyx ends, as may be found necessary to build the proper bulge. We prefer to face the bottom and top with apples on their sides, and, if necessary to face this way down one or more layers, let that be done in the center of the box. We believe a box faced in this manner presents a neater appearance when opened up than if faced with either stem or calyx out.

For fear some one may not understand the terms three, four and five tier, I would say three tier means three apples wide and three apples deep and the rows running parallel with the edge of the box, perhaps five or six apples long in standard box, according to variety. A box so packed should contain 45 or 54 apples. Four tier means four apples wide and four apples deep, and maybe six or seven apples long, and contains 96 or 112 apples, and where in certain varieties, it is necessary to turn down one or two layers it may contain 104 or 108. Five tier means five apples wide and five apples deep, and is usually packed eight apples long and contains 200 apples. The diagonal, or

nested packed, is so called because its rows run diagonal with the side of the box, and the apples so packed, instead of resting on each other as in the straight pack, tend to find the spaces. This is one advantage. Another is that it can be used for apples of such sizes as will not adapt themselves to the straight packs. Three and a half and four and a half tier apples go into this pack. All cardboard between layers is omitted. A three and a half tier is a size too small to pack three straight and too large to pack four tier and gives us a diagonal pack, a box containing 64, 72, 80 or 88 apples. In the same way the four and a half tier apple is too large for five and gives us in the diagonal the numbers 150, 165 and 175. This style pack is rapidly coming into favor. It suits the growers as it requires fewer apples. It pleases the buyer, as the apples carry better and bruise less than in the straight packs.

Realizing that this paper is already too long, I shall not attempt at this time to describe how these packs are built up, but would say we believe in thoroughness and perfect work, and use every means known to us to put our apples up in the best possible manner. We use only bright, clean, perfectly made boxes, one end of which carries our stencil, with the number of apples, grade and variety neatly stamped thereon. We believe in advertising. Inside of each box, on top of the apples, we place a neatly designed mat, carrying a photograph of a scene in our orchard, together with our challenge and guarantee. This card will be displayed by retailer to advertise the fact that his apples are guaranteed, and it results in a demand for more of the same brand.

Some one asks: Does all this pay? In reply, let me say that for five years I have sold my fancy apples to the same New York firm, and last August they sent their man to me with instructions to say to me: Apples are going to be high; it's too early to make a price. When ready to sell, make your own price; we will take your apples. It is enough to say they got my apples at my price, and paid for them without inspection.

BUDDING WALNUT TREES.

The budding of nursery stock walnut trees has been practised with varying degrees of success for several years, and some work has been done on old trees with the view of changing them to better and more productive varieties. The greater part of the nursery budding has been done in the southern part of the state and almost all of the top budding in the counties bordering on the San Francisco bay.

Mr. Pennington of Vacaville has been very successful in budding by cutting buds in the regular shield form about 1¼ inches long, cut from branches ½ to ¾ inches in diameter so as to get wide buds with but little wood left in them. He also prefers to have stocks large and considers a stock 1½ inches diameter not too large. He uses ordinary budding twine for tying but does not use wax to cover the incisions. Says it is best to put off the budding as late as it is possible to get a good flow of sap, as then the weather is likely to be cooler, which is an important factor, and the growing season is about finished, which will allow the twine to be left in place all winter, which he considers advisable.

When doing the work Mr. Pennington prepares the incision to receive the bud, then cuts the bud and puts it in place, tying at once. No special preparation of the budding wood is made except that mature buds are taken. About 90 per cent of the buds placed are said to grow.

Old trees can be prepared for budding by cutting back during the preceding winter so as to induce the growth of young wood, or if grafting has been done and part has failed, the buds can be placed in the shoots.

The shield buds are also used by Mr. Keith of Selma, who has made further experiments in preparing the buds before they are cut from the wood. This is done by cutting the leaf stem off at about two or three inches from the wood two or three weeks before the bud is needed. This leaf pruning is supposed to ripen the stem and cause it to fall, leaving the bud smooth and easily tied. It also serves the double purpose of preventing evaporation through the leaf stem, which is very severe on a newly placed bud if the weather should be hot with dry winds. The bud is cut 1½ inches long, the longer half of the bark being above the bud. The wood is either cut deep, or the bark is cut so as to form an oval of considerable width and peeled from the wood, in this way differing from the ordinary shield bud which has some wood left under the bud. The buds are forced well down under the bark of the stock, tied with soft twine and all the cuts waxed with soft wax well pressed in. Care is taken that the bud is clear. The branches are cut above the buds the following February and waxed over. A shade was placed over the buds at Selma but this is not necessary unless there should be excessively hot weather.

Successful budding has been done by using plate buds, or ring buds, where the cutting was done by a specially made knife, made by taking two knife blades with a block of wood between and riveting the whole securely. In this way the bud will exactly fit where the bark was taken from the stock.

The success of budding depends on having the stock and bud both in vigorous growth and in keeping them in that condition until the proper union has been made. Weather conditions also affect the setting of the buds, since a much larger percentage will grow if the next succeeding days are cool. The twine used should be soft cotton and as large as 12-thread budding twine. The tying should be firm enough to exclude all air from between the bud and stock, but not tight enough to crush the bud.—J. B. Neff, Anaheim, Cal.

RESISTANT GRAPE ROOTS.

From what we have seen lately, the indications are that much benefit is being derived from the introduction of certain resistant vines, independent of the presence of phyloxera. The Rupestris St. George shows a strong, vigorous growth in certain dry situations where even the Tokay is suffering from the drowth. In many instances where St. George has been planted to fill in vacancies where vines have died, this variety keeps on growing while the surrounding and older vines have ceased growing.

In regard to guarding against phyloxera, it is not good policy to plant commercial varieties of grape vines on their own roots, even though the insect is not present in the locality, as there is no telling how soon it will make its appearance. There may be an exception to this in the Imperial Valley, where water is cheap and its application is simple and cheap. In that district there is no need of going to extra expense to secure a vigorous growth, as it comes with the simple application of water, and phyloxera is killed by continuous flowing for a certain period.

The phyloxera is here to stay, in fact has been here since prehistoric times, and wherever it finds congenial conditions and grape vines to grow on, or wherever grapes will grow, there it will be found.

A striking example of the importance of planting resistant roots was referred to by the Lodi Sentinel a few years ago. Two farmers near Lodi planted vines, one on resistant roots and the other on its own roots. When both came into bearing, that on resistant roots produced over twice the amount of fruit produced by the other, area for area. The soil and variety were the same in each case, as was also the culture, but at the end of two or three years those on their own roots were unprofitable, and at a time when grapes were bringing good prices. This man had to pull his vines out and commence over again.

LOTS OF WATER AT CORONA.

A good subscriber at Corona, Riverside county, in referring to a recent item regarding Corona's water supply, sends the following statement regarding conditions there, which certainly must look good to all living in that thrifty community:

The fruit growers of Corona are organized into a mutual company known as the Temescal Water Company. They have two (2) pipe lines. Line No. 1 is 14 miles long, heading at Lee Lake. Line No. 2 is 40 miles long, heading at Ethanac, Perris Valley. Both lines are full and have been for five years, whenever we need the water. The stockholders get their full amount of water every 30 days. The alfalfa farmers have their own water and plenty of it and cheap.

Well prepared country boys are wanted by the great business houses of San Francisco. Write us for information. San Francisco Business College, 733 Fillmore St., S. F.

WHIFFLE TREE INJURY TO YOUNG TREES.

The writer has just returned from a trip of inspection of a young orchard. The call was urgent, but the principal source of trouble proved to be too much whiffle tree, writes W. Paddock, horticulturalist, Colorado Agricultural College. A careless hired man had succeeded in barking a number of trees in a ten-acre apple orchard, and then, in many instances pear blight had gained entrance. The injuries were thus extended. Some of the trees were dead, but in a majority of instances the blight had died out and the trees were making heroic efforts to heal the wounds. But a wound which extends half way around a trunk is slow in healing, and there is danger of the trunk breaking at that point during wind storms. The loss of a five-year-old tree is considerable, so the owner was advised to bridge graft over the wounds. This can be easily and quickly done by fitting cions over the wound. One end of the cion is slipped under the healthy bark on the lower edge of the wound and the other end under the bark at the upper edge. Two or three cions will usually be enough for small trees. Both edges of the wound where the cions are inserted should be well protected with grafting wax, and if the wound is small, the entire surface should be covered. This work is done in the spring of the year at the time ordinary grafting is done.

The cions may unite along their entire length when the wounds are fresh, but more often they do not do so, consequently the tree appears to have several trunks as it gets older. Such trees live as long and are as strong as though no injury had ever overtaken them.

Low headed apple trees are now generally grown in commercial orchards. The time to start the trees to be low headed is in the early maturity of the young trees when transplanted to the young orchard. It often takes courage to cut back the top of the young fruit trees, but it should be done when a low tree is desired.

Malthoid Roofing

F. P. Wilson, owner of the Wilson Building, Dallas, Texas, says: "My roofing laid in 1904 has given excellent satisfaction in every particular. I advise anyone who intends putting on a good roof to investigate the merits of Malthoid before making purchase."

The Paraffine Paint Co. San Francisco California
E. G. Judah, General Representative, Security Bldg, Los Angeles

500,000 Feet of
Water Pipe and Well Casing
All sizes, any amount. Special Prices while it lasts. Write or Phone for Prices.
Adams Pipe Works 2025 Bay Street, Los Angeles, California Phones: F1917; Broadway 1264

EUCALYPTUS SEED

Eucalyptus rostrata, the Red Gum
E. corynocalyx, the Sugar Gum
E. tereticornis, the Forest Red Gum
E. globulus, the Blue Gum
E. citriodora, Lemon-Scented Gum
E. cornuta, the Yate Tree
E. polyanthema, the Red Box
E. leucoxylon, Victorian Iron Bark
and Many Other Valuable Sorts

I shall be pleased to correspond with prospective buyers and give particulars as to prices on the seeds I am offering. Trial packets of any variety 15c each, 2 for 25c, or twelve for $1.25. Also young trees of many varieties for sale. Send for circular and cultural directions.

THEODORE PAYNE
NURSERYMAN AND SEEDSMAN
Home Phone A2480
345 S. MAIN ST., LOS ANGELES

Eucalyptus Seed

We are headquarters on all varieties of this seed. Be sure and get our prices on high quality stock. 80 varieties, your selection, 15c per pkt. Or we will mail postpaid, 1 pkt. each, E. Rostrata, Globulus, Tereticornis, Rudis, Corynocalyx, Leucoxylon for 50c with Cultural Directions.

MORRIS & SNOW
425 South Main Los Angeles

Eucalyptus

We have made a specialty of eucalyptus for the past ten years. We are no mushroom concern. We are prepared to accept contracts for raising eucalyptus for next season's planting. Take advantage of our **Low Prices on Contracts. Do It Now.** Twenty of the leading varieties to be seen at our nursery.

Saint & Warner
Sycamore Grove Nurseries
4584 PASADENA AVE., LOS ANGELES

GERMAIN SEED CO.

326-330 So. Main St.
Los Angeles, Cal.

Headquarters for Eucalyptus, all varieties, both in seed and plants. Write for catalogue and cultural directions. They are FREE.

For the Season of 1908-09

We Shall Have to Offer

Pedigreed Fruit Trees

SEVERAL NEW FRUITS AND NUTS OF IMMENSE VALUE TO CALIFORNIA

Eucalyptus Trees

BY THE 1000 OR 100,000
NO BETTER STOCK GROWN

Please send us your name and address, and you will get all particulars.

Leonard Coates Nursery Co. Inc.
Morganhill, Santa Clara Co., Cal.

SEED GRAIN

Black and Red Oats, Wheat, Barley, Bean Screenings, Etc.
constantly on hand and for sale at lowest market rates
Bray Brothers Buyers of Grain and Beans Members Merchants Exc.
220 Clay St., San Francisco, Cal.
Established in 1855. Correspondence Invited.

When writing advertisers, mention Cultivator.

General Agriculture

IMPORTANCE OF BIRDS AS DESTROYERS OF INSECTS.

THE time has long passed when the practical farmer can afford to ignore the relation of birds to agriculture. Larger and larger areas are being devoted to tillage each year, and the amount of capital invested in agricultural pursuits in the United States is constantly increasing. Irrigation, until recently almost unpracticed in the United States, is fast assuming national importance. The whole world is being laid under contribution for new fruits, forage plants and crops for the benefit of the American farmer, in order that by his superior energy and foresight he may not only feed our own people but create a surplus of American products for consumption in less favored lands.

Along with these new introductions and as a necessary result of international commerce, new pests have been introduced. Here, under a favorable climate and new conditions, they multiply till they inflict great damage. The Hessian fly, San Jose scale, and codling moth are examples in point.

Such pests usually go unnoticed until the damage they do forces them on the attention of the community, when usually they are so numerous and widespread that their extermination is impossible. Once introduced into the country they are here to stay, and the vast sums already spent in efforts to stay the ravages of such pests emphasizes the importance of utilizing to the utmost all the allies nature places at our disposal.

As a means of checking these introduced insect pests, as well as native ones, birds are of vast importance. Yet it must be remembered that, when once the reproductive powers of insects have had full play and an invasion occurs, the farmer cannot suddenly augment the number of birds and summon the winged hosts to his aid. Birds reproduce but slowly, and in the natural course of events often suffer immense losses during their migrations, by climatic extremes and through the assaults of birds of prey and predaceous mammals. Hence a marked increase in the number of birds, either as a class or in the case of a given species, must come slowly and as a result of favoring conditions extending over a term of years. Moreover, as stated above, birds alone are inadequate to cope with sudden insect irruptions. It is their province rather by incessant watchfulness and constant warfare to prevent over-production of insect life rather than to reduce excess, although in the latter regard their aid is important. It is the part of prudence, therefore, to protect useful birds at all times, and so to augment their numbers that they may constantly play their respective parts in the police system ordained by nature and be ready, when emergency arises, to wage active and aggressive warfare against sudden invasion of insect enemies.—Yearbook of the Department of Agriculture, 1907.

THE LIFE OF THE FARMER.

THERE is no aspect of human—and we might say animal—life which does not interest the president or which he apparently deems unworthy of the attention of Congress. He has appointed a "commission," consisting of Professor L. H. Bailey of Cornell University, Henry Wallace of Des Moines, Ia., President K. L. Butterfield of the Massachusetts Agricultural College, Walter H. Page, a New York editor of magazines and, of course, Forester Gifford Pinchot, which is to consider "country life" and tell him all about it, so that he can tell Congress, which he engages to do in a special message some time next winter. What the president wishes to be informed about is whatever affects the economic or social interests of the American farmer and which may also be a proper subject for national legislation. He does not ask the commission to make extended original investigation, but to prepare for him a summary of "what is now known" of conditions which affect life in the rural districts.

A COMBINED HARVESTER AT WORK.

What the president desires is evidently to discover whether there is anything which Congress can do which will enable the farmer to get better prices for his crops, or to get larger crops, or to assist him to so spend the proceeds as to live a happier life than he lives now, and a life so attractive to the young people of the farm that they will be less likely to leave it and flock to the cities. According to the president's opinion the farmer, upon whose industry the lives of all of us depend, is falling behind in the race of life. He does not, the president seems to think, get all that ought to be coming to him. Presumably the president will discover from the report of the commission that the fundamental trouble is in the lack of power among the farmers to organize themselves and stay organized. With all other classes organized more or less strongly against him the farmer remains unorganized. As an individual he is engaged in the hopeless task of struggling with organizations. Capital is as well organized as it needs to be and is always competent to make new organizations to meet new conditions. Labor is organized and remains organized by the coercive power of its own organizations. There is nobody in the world, however, to help organize farmers; if they were organized, to boycott scab farmers who sell potatoes below the union price, if there were a union scale. All society, organized and unorganized, instinctively favors the farmer who sells produce at the lowest price, whether it deprives other farmers of the "living wage" or the "American standard of comfort" or not. Unquestionably the farmer belongs to the capitalist class and can succeed by whatever methods are most profitable for other capitalists, but he does not willingly adopt them and can but rarely be induced to do so. This is so well recognized that politicians appeal to him with the same arguments and inducements which they offer to those whose labor is combined not with their own capital but with that of others to produce commodities. The president has never tackled a deeper problem than that of what is the matter with the farmer and how to cure it. If his commission touches bottom with it it will be a wonder. And yet there are not wanting examples in the world of governments which have attacked this problem, and at this distance appear to have done much toward its solution. So far as we know, the greatest meaure of success has been reached by the government of Denmark, which virtually compels Danish farmers to "combine" in certain industries. Possibly the president has that in mind. That, however, would be "un-American," and therefore bad.—San Francisco Chronicle.

GRASSHOPPER DISEASE.

A few years ago a great deal was written for the papers about a certain disease which kills grasshoppers. Nearly every farmer or fruit grower has at one time or another seen the dead grasshoppers clinging to the tops of sweet clover or other plants about their fields.

A few years ago the Colorado Experiment Station sent out about four hundred cultures of this disease to be tested by the farmers who desired to use it in their fields. The station also experimented quite extensively with it upon the college farm and in the surrounding neighborhood. A few of the reports that came in from farmers would indicate that the disease had done great good by killing grasshoppers. Nearly all the reports, however, indicated that the disease did no good. In our own experiments at the station there was only one uniform result, and that was negative in every case. Therefore, I was forced to conclude that the disease does not often do any good when distributed artificially for the destruction of grasshoppers, and I believe every other entomologist in the country who has experimented with this disease has come to the same conclusion.

This disease is a fungus and is present in all agricultural sections of the state where grasshoppers occur. It only needs to have the right conditions of temperature and moisture to cause it to germinate and develop rapidly. When such times occur, the disease attacks the grasshoppers and may kill them almost completely in a large area. The few disease germs that can be added artificially by a person scattering them in the field seem to give no increased benefit.—C. P. Gillette.

The Cultivator had a pleasant and newsy visitor from Phoenix, Arizona, in the person of J. A. Ream, who has charge of several grain and alfalfa ranches in the Salt River valley. His state is surely looking up very rapidly. As the new Roosevelt dam nears completion there is an active demand for land by settlers who see the wonderful future. It is stated that rock is being laid in the dam at the rate of 600 cubic yards per day.

The Glendale people were fortunate this year in realizing about $1 per crate on their cantaloupes.

There are about 10,000 acres in the citrus belt, but alfalfa is the largest irrigated crop, a large market for this being Mexico and the whole of Arizona. All success to them.

California Horticulturally

NEWLY INTRODUCED PESTS.

IT seems that, in spite of all precautions, that California is destined to have all the pests that are going. Within recent years we have seen introduced the purple scale from Florida, the black aphis of the peach, the hop aphis, the white fly and now on top of all the Argentine ant has gained admittance. These pests, all of which are among the most serious to our agriculturists, have found entrance within a comparatively short period and have become so firmly established that we will have to combat them in the future and count upon them as so many scourges of the farmer. We had prided ourselves upon our freedom from these scourges and fondly believed that they could not gain admittance, but they are here and have got to be reckoned with. The black aphis of the peach is as serious a pest as is the wooly aphis of the apple, and like that pest, it has both root and branch forms, so that it is not easy to combat. The hop aphis is the most serious scourge of the hop grower, and its absence in our California yards in the past gave our growers a great advantage over those in other sections where the pest was prevalent, but it is with us now, and our hop growers have no advantage over their neighbors. The white fly is too well known, and is still a threatening danger to our citrus growers over the whole state, for its extermination is impossible and it is only a matter of time when it will break out again. And now, on top of all, we have the Argentine ant, which, according to authorities, is one of the most serious of all, as it does not confine its attacks to vegetation but it is a general feeder and attacks everything in its path and nothing can stand before its ravages. Surely the good and the bad do equally well in California.

HOP GROWERS' TROUBLES

Hop picking season is now on in the hop yards of Sacramento and adjoining counties, and the hop men are having a strenuous time. Prices this year are ruinously low and wages of pickers have been reduced. Last season good prices were paid for labor and the pickers are demanding the old rates. It now looks as though very much of the present season's hop crop will be left unpicked as it will not pay to gather it.

INCREASING SHIPMENTS OF FRESH FRUITS.

So far this season there have been shipped nearly six thousand cars of fresh fruits from Northern and Central California, with half the shipping season yet to come. Last season the total shipments were 7,491 cars and in 1906 there were 6,305 cars. There yet remain to go forward large quantities of late fruit, the bulk of the grape crop and nearly all the apple crop. It is probable that the fresh fruit shipments this season will exceed 10,000 cars. These figures will give some idea of the very rapid growth of the fresh fruit business in the Northern part of the state.

GOOD MOVE OF THE TABLE GRAPE GROWERS.

There has been much complaint from commission men in the East as to the shipment of green and badly packed grapes from California, and this has had the result of lowering the prices of such as were honestly packed. This, together with the rapidly increasing new acreage, which is annually coming into bearing, has caused the growers of Lodi much uneasiness and in consequence the Chamber of Commerce of that city has taken measures to stop the evil if possible. An effort will be made to reach all packers and shippers to induce them to pack and ship only fully ripened and marketable fruit. Should moral suasion fail, a farther effort will be made to bring forceful pressure to bear on the culprits. It is recognized that if the present practice of shipping green and immature grapes to catch the early market is persisted in, the eastern trade will be driven out and a great horticultural industry be ruined.

FLAX GROWING IN THE SACRAMENTO VALLEY.

Flax has been successfully grown to a greater or less extent for several years past in the lower San Joaquin and upper Sacramento valleys, but no concerted effort has been made to produce it on a large scale or in commercial quantities. The coming year, however, promises to see this valuable fiber plant grown on a large scale and to introduce its production as a commercial proposition in those sections. Mr. J. Everding, representing a large manufacturing establishment in San Francisco, is now closing contracts with farmers for the growing of flax for the seed, guaranteeing them $2.20 for all flax seed produced. Very many farmers have already signed up with him and will seed the flax next season. It is claimed that flax will do well on exhausted grain land, on account of its roots penetrating the ground much deeper than wheat and by this means striking a fertile subsoil.

LOW PRICES FOR ALMONDS.

Almonds are now being harvested and the crop is turning out very good in spite of early fears to the contrary. There is a very large acreage devoted to almonds in Yolo, Contra Costa, Yuba, Sutter and Butte counties, and it is here that the great bulk of the almonds of the state are grown. The almond is a very uncertain crop, even in these counties where it gives the best results, and a good crop can only be expected about every third season. The tree blooms very early, usually in the latter part of January or early in February, and there is always danger of losing the crop from a late frost or high winds. This year the yield has been fairly good, but prices are not in any way satisfactory, buyers offering only 9½ to 10½. Most of the growers, who are not compelled to dispose of their fruit are refusing these offers and will hold for better prices.

INCREASING ACREAGE OF DECIDUOUS FRUITS.

There has been a steadily increasing interest taken in deciduous fruits in the upper counties for several years past, especially in the way of planting peaches and table grapes, and from present indications the new plantings of the coming winter will exceed those of any other previous year. Already heavy orders have been placed with the nurserymen of the state and in order to supply the demand orders have been placed with eastern nurserymen. The building of electric roads into the agricultural sections has had the effect of cutting up some large holdings there into small tracts and the greater part of these have been purchased with the intention of converting them into orchards, and a large part of this acreage will be planted to trees during the coming winter months.

PEAR BLIGHT DECREASING.

For some reason, so far unknown, there has been very much less destruction from pear blight this season than for five years past. Fungous diseases have not been very troublesome, but this can be accounted for from the fact that we had a very dry spring, and it is probable that the fungus spores failed to germinate owing to climatic conditions. But, inasmuch as the pear blight is not a fungous disease, but is caused by a bacillus, which spreads through the cambium, this theory will not account for its lessened prevalence. It is often the case that diseases which are sometimes violently epidemic run their course, as it is said, and cease to be violent. Perhaps some natural check overtakes them and while they may still exist, their early virulence has been expended. It may be so with the pear blight, and certainly it is to be hoped that such is the case. In any event the disease has let up on us to a great extent during the present year and there has been a very good crop of good Bartlett pears.

POTASH

is the essential element in the growth of hardy stock and the formation of the fleshy portions of fruits.

Commercial fertilizers do not always contain a sufficient proportion of this most valuable of plant foods.

The increase of the Potash element will work wonders in the production of superior fruits and the longevity of the parent stocks. It will make its own demonstration in the larger profits secured.

Ask for our **Free Books** on fertilization in every branch of farming, fruit growing and gardening, compiled by experts and filled with valuable information.

GERMAN KALI WORKS
93 Nassau Street, New York
Chicago:
Monadnock Building
Atlanta, Ga.:
Candler Building
Use nearest address

Meyer, Wilson & Co., San Francisco, Cal., are Sole Agents for the Pacific Coast

Placer Nurseries

We have now growing for next season's delivery a large stock of all leading varieties of trees and vines. We propagate only the best commercial sorts. Our trees and vines are the best that good care can produce and in their selection, propagation and growing we spare no labor or expense; and they are true to name. That is what you want.

Contract now the trees and vines you will want for next season's planting.

Write us.

Silva & Bergtholdt Company
Newcastle, California

TREE TANGLEFOOT

A Sticky Preparation Applied Directly to the Bark of the Trees

Will not injure trees. A band 5 inches wide and 1-16-inch thick cannot be crossed by any climbing insect pest. Remains sticky five to ten times as long as any other known substance. You can test it at slight expense, as no apparatus is required. Used by the carload in New England against the Gypsy and Brown-Tail Moths. In California it preserves prune orchards from the Canker Worm Wherever the Gypsy or Brown-tail Moths, Tussock Moths fall or Spring Canker Worm or Web Worm appear TREE TANGLEFOOT is of great value, and should be used when the caterpillars begin to crawl while they are very young.

Price 25c per lb. Liberal discount on quantities. The only safe and effective banding preparation. Send for testimonials.

THE O. & W. THUM COMPANY
Manufacturers of Tanglefoot Fly Paper Grand Rapids, Michigan

Crimson Winter Rhubarb and Berry Plants Our Specialty

1000 choice Navel Oranges, together with a few other Citrus Trees. April and May are best months to plant Rhubarb for heavy Crops next winter. It has never been equalled as a money maker. $1.50 per dozen, $6 per 100, $40 per 1000. Pedigreed plants.

J. B Wagner
The Berry and Rhubarb Specialist Pasadena, California

The Benefits Derived by Using a TUBULAR

are so many, that after a man buys one, he wonders why he waited so long, to "get wise."

Don't you wait and then regret; but investigate, now, the superiority of the Tubular Separator.

Easy filling—Waist low supply tank.
Easy turning—Light running, self oiling gears.
Easy cleaning—Simple (3-part) bowl.
Clean skimming—Suspended bottom fed bowl.
Durability—Made to stand wear and tear.
Economy—Less attention—less repairs than other separators require.

These are some advantages found in the Tubular, only. To learn more write for Catalog 260.

The Sharples Separator Co.,
West Chester, Penna.
Toronto, Can. San Francisco, Calif. Chicago, Ill.

CUTTER'S
Anthrax and Blackleg VACCINES

Are given the preference by 80% of California stockmen because they give better results than others do.
Write for prices, testimonials and our NEW booklet on Anthrax and Blackleg
The Cutter Laboratory
Berkeley, California

STROKE SELF FEED HAY PRESS

2 men can run it.
3 tons in one hour.
Easy draft.
Smooth bales.
Will save its cost.
Shipped on trial.
SATISFACTION GUARANTEED.

THE AUTO-FEDAN HAY PRESS CO. 414 E. 10TH ST. TOPEKA, KANS.
BRANCH OFFICE, 1521 W. 12TH ST., KANSAS CITY, MO.
Ask for Catalogue No. 28
1521 West 12th St., Kansas City, Mo.
Agent, John Schilling, Jr., Davies Warehouse 2nd and Central Ave., Los Angeles, Cal.

PASPALUM DILATATUM

King of dairying and fattening grasses. The great Australian drouth resister. Primest heavy seed direct from the grower, 4 lbs. (ample for trial) post free, $2.00. Full information.

C. F. JULIUS
Central Bucca, Coffs Harbor, New South Wales

Live Oaks Farm

Frank A. Meacham, Proprietor.
Importer and breeder of RED POLLED CATTLE, SHROPSHIRE SHEEP, RAMBOUILLET SHEEP, HORNLESS AMERICAN MERINO SHEEP. Both sexes for sale. Take electric car at Petaluma or Santa Rosa for LIVE OAKS STATION. Address all mail to
Petaluma, Sonoma Co., Cal.

Berkshires--Shorthorns

My Berkshires took every blue ribbon and Gold and Silver Medal in the female classes. Choice pigs at low prices. G. A. Murphy, Perkins, Cal.

John Lynch Breeder of Registered **Shorthorns**
MILK STRAIN
Box 321 Petaluma, Cal.

PURE BRED BERKSHIRES

Young Stock For Sale
Wm. H. Bird Box 6, Compton Cal.

The Whiting Jersey Stock Farm Company

Is making the very best strains of blood fresh from the island of Jersey a specialty.
Whiting Jersey Stock Farm Co. Heber, Imperial Co., Ca

Geo. C. Roeding, Fresno, Cal., breeder of
Thoroughbred Holstein Bulls and Heifers
Thoroughbred Berkshire Boars and Sows

Colusa farmers are getting good prices for tomatoes.

Live Stock and Dairy

TEACHING OF A DRY YEAR.

IT SEEMS that no matter how long we own a piece of land, that every season by the variations of rainfall, brings new conditions. It makes ranching of interest, too, meeting the new and unexpected obstacles as they arise. Maybe I should be ashamed to confess it, but I never realized, as I have this season, how many animals could be kept fat on a limited amount of alfalfa land. The profits of soiling are great. The expense, when it is made one man's work to cut and haul in the green alfalfa, does not increase greatly. The increase in expenses of feeding is more than met by the increased amount of feed grown on the land. It is wasteful to pasture land. I doubt if, after this season, I shall put the cows out in the larger fields. They only need a place large enough to exercise and then to ruminate in peaceful shade and that is easy to provide. The fields will be saved for growing feed and not for tramping around, after this season.

Feeding.

The long silage racks are used for the freshly cut alfalfa, as well as for the hay and corn stalks. These racks are made in lengths convenient to be pulled by a pair of horses and are removed to fresh ground when the feeding places become muddy. The racks are built on skids and are solid mangers with a high center solidly boarded up. The cows are dehorned and cannot hurt each other with their butting. The high centers prevent their seeing each other across the mangers. Should there be a boss cow standing at one side and keeping the others from eating, the other side affords more space. When there are several mangers, there is plenty of food after the unkind animal moves away for the others. There always should be sufficient food in the mangers to leave enough for one more animal. This the horse that draws the milk truck finds for his evening feed after the cows are turned out. Always enough feed for one more, is the same rule that the Chinese cook works by in feeding the men. The food must be abundant enough for one more hungry man, then there is enough and no waste.

Alfalfa.

Now Gov. Hoard has come out declaring the wonders of alfalfa as a cow feed! Do we really appreciate it enough? It is so far superior to anything else that we can plant on the same piece of land when we are feeding horses or cows that all other crops sink into insignificance. Alfalfa is coming more and more into repute for feeding beeves. A late paper tells of a Nebraska man receiving the highest price paid by Swift and Co., since 1902 for a carload of steers raised on alfalfa and corn. At the National Live Stock Exhibition to be held next December in Omaha, there will be an alfalfa palace; it will contain samples of alfalfa, as well as a complete line of harvesting tools for the alfalfa fields. The building will be used to give lectures on balanced foods; particularly alfalfa against corn and other grains.

Hungarian Millet.

Well, this crop with us has proven, this year, a total failure. The seed sprouted well in the flat, planted in the lath house, so we cannot scold the seed man. Why did it fail? The land was irrigated well; even after that ten weeks the land has moisture within reasonable distance from the surface The seed bed was carefully prepared. The intense heat came about that time and may have cooked the young plants as they appeared above the ground. This is the only reason that we are able to give at present for the utter failure. It is not even a hundredth part of a crop, it is a complete failure. Well, it will have to be tried again next season for it has proven before in a small way to be too good a crop not to bring into field culture on the ranch. Any crop that will grow after the grain hay is cut has great value in the San Joaquin valley. The loss of a crop is often the first step toward wiser farming; it brings on a thinking spell and one ponders over it until at length the reason becomes clear and another light dawns on the why. Next year we will sow millet under three or four conditions. and at three or four different times. Then perhaps we will know why this year's crop failed.

The lack of crops that are at full feeding value in the winter is great. The Oregon winter vetch is promising as a feed crop and as a cover crop in the vineyards.

Lack of Inspection.

This may seem a sudden jump from soiling to cows, but the matter is of great importance and should be spoken of early. The lack of inspection in the dairy caused by insufficient appropriation of money by the last legislature has resulted in a drop in the quality of California butter. The Creamery Operators' Association has called the dairyman's attention to this. fact. At the Stockton meeting in 1906 and again at Davis last year, the association passed resolutions asking the legislature for funds for the State Dairy Bureau. There was an act passed by the legislature which provided that the dairy interest should be controlled by other stock interests. This would have been very unfortunate and the Governor wisely vetoed the bill. The association desires to protest against any interests controlling the dairy inspection and sanitation other than the dairymen. All dairymen will do well to write to their representative and ask him to support the dairy interest by voting only for bills that leave the dairy interests in the hands of men who understand them. So vote for the Dairy Bureau with sufficient funds to support its work. The state control of dairy sanitation reaches the outside creamery men and brings up the quality of the butter rather than the milk. The local city boards control the milk supplies and are not interfered with in any way. Intelligent state control, however, does educate the city health boards and some of the amusing and crude local restrictions are passing away.—M. E. Sherman.

The cow is a business proposition. If you put $50 out at interest you would consider yourself lucky to get $5 annual interest, yet the profitable dairy cow should bring in at least $30 net profit. It is easy to see that it does not pay to keep any but profitable cows.

The first cutting of alfalfa at Twin Ridges, Montana, was made near the end of July.

Creamery Supplies

Cream Separators — Milk Cans
Combined Churns — Milk Bottles
Babcock Testers — Brushes
Butter Moulds — Wrappers
Engines and Boilers — Milk Coolers
Pasteurizers
Milking Machines
Creamery and Dairy Supplies and Machinery of all Styles and Sizes
Send List of Goods Wanted and we will Quote Prices
O. J. WEBER COMPANY
555-57 S. Los Angeles St.
LOS ANGELES, . . CALIFORNIA

SEND FOR CAT. No. 20 IT TELLS ALL
KING OF THEM ALL — RELIABLE — DURABLE — CLEANSABLE — PROFITABLE — ASK THE USERS
U. S. CREAM SEPARATOR
VERMONT FARM MACHINE CO., BELLOWS FALLS, VT.

Prompt Delivery Assured
California Customers from San Francisco warehouse. No delays. Address allletters to Bellows Falls, Vt.

Pioneer Rubber Sanded Roofing

The Roof that "proves," sun-proof and rain-proof; needs no paint or repairs. Following are a few "Wont's" about Rubber Sanded Roofing:

Won't chip. Won't warp.
Won't tear. Won't crack.
Won't rust. Won't decay.
Won't shrink.
Won't crumble.
Won't need repairing.
Won't absorb moisture.
Won't attract electricity.
Won't need any paint to preserve it.
Won't be affected by any climatic changes or conditions.
Won't cost as much, in the long run, as other roofing.

What Rubber Sanded WILL do is told of in our booklet "ROOF TALK," which will be sent free upon request, together with samples of the Roofing itself.

Pioneer Roll Paper Co
Makers of Rubber Sanded Roofing and Refiners of Asphaltum
Department 11, Los Angeles, Cal.

HOLSTEINS

We Have For Sale a Number of Registered Young Bulls and Heifers **$100**
All our stock comes from the celebrated herd formerly owned by the Pierce Land and Stock Co., the premium herd of Holstein Friesians in California. Oakwoods Stock Farm Co., Lathrop, Cal

VENADERA HERD
OF REGISTERED JERSEYS
I have for sale a number of richly bred young bulls, some of them from cows that have high official yearly records.
GUY H. MILLER,
Route 3, Modesto, Cal.

Thoroughbred Poland China Swine
Black Minorca and Barred Rock Poultry
High Grade Stock of Best Strains.
Young Stock For Sale
M Bassett *Hanford, Cal*

JAMES R. TOWNSEND
Solicitor of American and Foreign **Patents** Copyrights, Trademarks and Labels Registered. Rooms 428-433 Bradbury Blk. Los Angeles, Cal. Phones: Home, A4619; Sunset, Main 347

San Bernardino county is making a strong campaign for good roads.

HOG CHOLERA INVESTIGATIONS.

Continued investigations with hog cholera have again demonstrated that the contagion consists of a virus which exists in the blood and other fluids of diseased animals, but which can pass through the finest filter, is invisible under the microscope, and, therefore, cannot be isolated or discerned by any of the usual methods.

The method of immunizing hogs against cholera has been tested much more extensively and the results show quite clearly that a comparatively certain method of protecting hogs from this disease has been secured. Hogs that have recovered from this disease or that have been exposed without contracting it are injected with suitable amounts of virulent blood from diseased hogs, and thus their immunity is heightened. The blood serum of these immunes is then used in vaccinating the hogs which it is desired to protect. The method giving the best result is to inject blood from diseased hogs simultaneously with the immune serum. By this method of vaccination hogs are protected for three and a half months or more, while by the use of the serum alone the protection cannot be expected to last longer than three weeks. The immunized hogs probably retain for several months their power to furnish a potent serum. The serum probably cannot be used successfully as a curative agent unless administered within four days after actual infection has taken place.

In order that this method may be more extensively tested, it is expected to make arrangements for the State experiment stations to test serum which will be furnished them by the Department. It is hoped that the practicability of this method for combating hog cholera may thus be determined within a short time.—James Wilson, Secretary of Agriculture, Annual Report.

PREVENTING HOG CHOLERA.

Prof. Sackett and Dr. Glover of the Colorado Agricultural College, attended the hog cholera meeting at Ames, Iowa, recently. At this meeting were representatives from the experiment stations of a large number of states. These experts met there at the solicitation of the chief of the U. S. Bureau of Animal Industry. The government experts have worked out a serum which will prevent hog cholera. It is predicted that there will be such a demand for this serum that the government will not be able to supply all the states, as it has done with black-leg vaccine and tuberculin. It is expected that each state will manufacture its own hog cholera serum, and it was in order to give complete instructions in the details of making this serum that the experts of the different states were invited to visit the government station at Ames, Iowa. It is hoped that arrangements may be made so that this serum may be produced for distribution throughout Colorado. It will probably be at least two months before much can be effected along this line.

When you hang a lantern up in the barn, fasten it so that it cannot be knocked down. Sometimes we put them where they will fall if we by accident rise and hit them with our heads. And then—well, then there is trouble; and maybe the barn is not insured, either.

Cream Separators, all sizes, all prices. O. J. Weber Co., 555-557 S. Los Angeles street, Los Angeles.

KOUMIS.

Koumis milk is simply milk in which the alcoholic fermentation has been developed, usually by means of yeast. This gives a taste and smell somewhat like buttermilk or slightly sour whey, and it has a foamy appearance. The cascine is in the form of a very fine curd. In European countries it is usually made from mares' milk.

Directions for making koumis are printed in a number of books. One of them is to add 42 parts of water to 100 parts of skim milk; to this mixture add 1¾ parts of cane sugar, about eight tenths of 1 part milk sugar and 160 to 180 grams of yeast. This is allowed to stand for 32 hours at a temperature of about 100 degrees F. While the mixture is standing it is stirred about once in five hours. It is then poured off into bottles which are corked and the cork fastened in the bottle by means of a wire. These bottles are allowed to stand at a temperature of about 54 degrees F.; at the end of six days the milk will be sour and have a sparkling and foamy appearance with the characteristic taste of koumis. Koumis is extensively used by invalids and people with stomach trouble.—Hoard's.

HOW TO FEED COTTONSEED MEAL TO HOGS.

In a bulletin issued by the Texas Agricultural Experiment Station, the following information is given as to the way to feed cottonseed meal to hogs:

1. For animals on heavy feed, that not more than one-fourth the weight of the grain ration consist of cottonseed meal.

2. That this feeding continue not more than fifty days, or that the proportion of meal be reduced if feeding is to be continued longer.

3. That the meal be mixed with the other feed and all soured together.

4. That as much green feed as possible be furnished the hogs.

5. That a close watch be kept, and meal be taken from any animals not eating or gaining well.

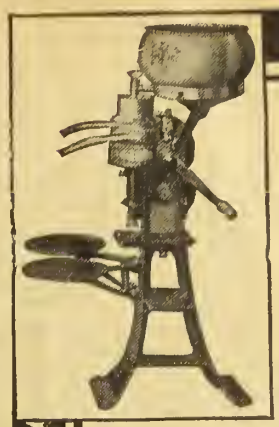
EATING UP SHEEP.

The world is eating up its sheep. The number on foot is steadily being diminished and the same is true of cattle and poultry, says the London Meat Trades Journal. From the available statistics it is said that in three years should there be no increase, at the present rate of consumption every head of cattle, every hog, every sheep and chicken in the barnyards would be eaten up. It has been noticeable for several years that the number of food animals raised throughout the world was steadily decreasing. The question is, unless conditions are modified, and that shortly, from where are the meats of the future to come?

RAIDING DOCTORED MILK.

The greatest milk raid in the history of Cincinnati, O., took place last week at the Central Union Depot when 17,000 gallons of milk was made unsalable by order of Milk Inspector Hagen and assistants, who poured red ink into all found to be doctored with formaldehyde and other preservatives. Then the shipper was left to do what he pleased with the carmined milk. The raid was entirely unexpected by the dealers, and there was considerable excitement during the several hours in which the milk was inspected.

Wood Soled Boots and Shoes. Boots, $3.25; Shoes, $2.00. O. J. Weber Co., 555 South Los Angeles St., Los Angeles, Cal.



ONE MILLION IN USE

DE LAVAL CREAM SEPARATORS

First—Always Best—Cheapest

The World's Standard

Ten years ahead of all others in every feature of separator practicability

BEAUTIFUL IN DESIGN
PERFECT IN CONSTRUCTION
EVERLASTING IN DAILY USE

Send for handsome new catalogue illustrating and describing the new and improved machines in detail, to be had for the asking.

DE LAVAL DAIRY SUPPLY CO.

108 So. Los Angeles St. LOS ANGELES
42 E. Madison Street CHICAGO
74 Cortlanot Street NEW YORK

General Offices: 101 Drumm Street, SAN FRANCISCO.

107 First Street PORTLAND, OREG.
1016 Western Ave. SEATTLE
Box 1052 VANCOUVER, B. C.

Clip Your Horses

with this superb Stewart No. 1 Ball Bearing Clipping Machine

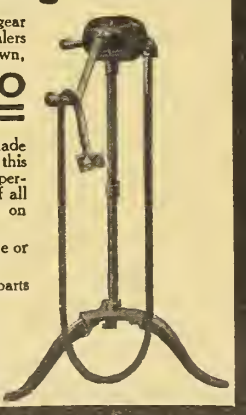
The great enclosed gear machine at your dealers all complete, as shown, only $8.50

No machine ever made at any price equals this one. It is the most perfect in every way of all clipping machines on the market.

It turns easier, clips faster and lasts longer. If you have but one or two horses it will pay you to have this splendid machine.

The gears are all cut right out of the solid bar, and all wearing parts are file-hard. It will last a lifetime.

If your dealer hasn't it, write us direct. GET ONE NOW



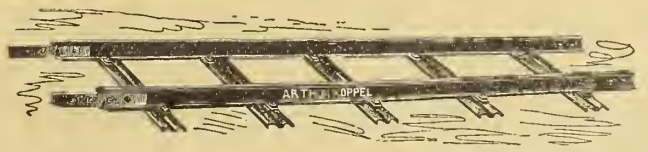
Chicago Flexible Shaft Co. Dept. H, Chicago

A Railway on the Ranch

Saves Much of the Hard Labor

The equipping of the ranch with a *Portable Railway* is a very *Profitable Investment* and *not* very expensive.

Our booklet S. F. 60 gives several suggestions for applying it to the Dairy and Ranch.



Works at Koppel, Penn.

ARTHUR KOPPEL CO.

212 So. Los Angeles St. Los Angeles, Cal.
Chronicle Building San Francisco, Cal

Eastern Offices: Pittsburg, New York, Chicago, Boston

Sugar-Beet-Pulp (Kow Breakfast Food) For Sale

At fifty cents per ton F. O. B. cars or wagon, fresh from factory. Conceded to be the cheapest and best Dairy Food in California. Write for freight rate if too far to haul.

Also *MOLASSES* at $1.50 per barrel.

Los Alamitos Sugar Company Los Alamitos, Cal.

California Cultivator

ESTABLISHED 1889

Subscription Price One Dollar per year, payable in advance. Dates of expiration of subscription accounts appear each week on the address label. John Jones 7-08 means July 1, 1908. Notify us by mail if you desire to discontinue.

Thursday, September 3, 1908

Address All Communications to
CULTIVATOR PUBLISHING CO.
115½ No. Broadway, Los Angeles.
733 Merchants Ex. Bldg., San Francisco.

Copy for Change of advertisement must be in office on Saturday preceeding date of issue. New advertising copy should reach the office not later than Tuesday to insure insertion.

CULTIVATOR PUBLISHING COMPANY
H. A. PERKINS, EDITOR AND GEN. MGR.

C. B. MESSENGER - - - - Associate Editor
FRANK H. THOMAS - - Advertising Manager
H. G. HUTCHINS - - Subscription Manager

EDITORIAL CONTRIBUTORS:

J. W. MILLS - - Deciduous and Citrus
JOHN ISAAC - - - Horticulture
J. B. NEFF - Walnut Culture and Irrigation.
Mrs. M. E. SHERMAN - Live Stock and Dairy
Q. A. LOBINGIER - - Vegetable Garden
S. S. TWOMBLY - - - - - - Poultry
W. E. FOSTER - - - - Pigeons
L. M. FALL - - - Law Queries
RALPH E. SMITH - - Plant Pathology
S. A. PEASE - Plant Diseases and Injurious Insects

Entered at the Post Office at Los Angeles, California, as Second-class matter.

Contents

SACRAMENTO VALLEY FRUITS, Cover.

REVISE HORTICULTURAL LAWS, 219.

CITRUS.—The Proper Time to Use Stable Manure; Small Growers Should Wake Up; More Reasonable, 220, 221.

DECIDUOUS.—Picking, Grading and Packing Apples; Budding Walnut Trees; Resistant Grape Roots; Whiffletree Injury, 222, 223.

GENERAL AGRICULTURE.—Importance of Birds as Insect Destroyers; Life of the Farmer; Grasshopper Disease, 224.

CALIFORNIA HORTICULTURALLY.—Newly Introduced Pests; Hop Growers' Troubles; Increasing Shipments of Fresh Fruits; Good Move of Table Grape Growers; Flax Growing; Low Prices for Almonds; Increasing Acreage of Fruits; Pear Blight Decreasing, 225.

LIVE STOCK AND DAIRY.—Teaching of a Dry Year; Hog Cholera; Preventing Hog Cholera; Koumis; Cottonseed for Hogs; Eating Up Sheep, 226, 227.

EDITORIAL.—The Electoral Vote; Use Your Eyes; No White Fly; Alaska Wheat, 228.

AGRICULTURAL NOTES OF THE PACIFIC COAST.—Northern, Central, Southern, the Coast, 229.

POULTRY.—Flavor of Egg and Color of Yolk; Vitality; Easy Poultry Keeping, 239, 231, 232.

SMALL FRUITS AND VEGETABLES.—Cabbage Worms; Things to Remember in Berry Growing; Weeviled Peas, 233.

QUERIES AND REPLIES.—Grape Juice; Cover Crop; Cover Crops for Walnuts; Fumigation; Rhubarb; Tuberculosis; Tipping Loganberries; Raising Onion Seed, 234.

ORNAMENTAL GARDEN.—Italian Gardens; Care of Gold Fish; Mildew on Roses, 235.

HOUSEHOLD.—My Choice; A Case of Stolen Thunder; Recipes, 236, 237.

PRODUCE MARKETS.—Los Angeles Market; San Francisco Market; Citrus Markets, 238, 239.

THE ELECTORAL VOTE.

As the electoral college this year will be composed of 483 electors, 242 voting for Mr. Taft or Mr. Bryan, will elect him the next president. The Washington Post, which keeps about as accurate tally on the politics of the country as any newspaper recently published a map of the 46 states, lining them up as follows:

Conceded to be Democratic—Nevada, with 3 electoral votes; Oklahoma, 7; Texas, 18; Missouri, 18; Arkansas, 9; Louisana, 9; Mississippi, 10; Alabama, 11; Georgia, 13; South Carolina, 9; Florida, 5; Tennessee, 12; Kentucky, 13; North Carolina, 12; Virginia, 12 and Maryland, 8—16 states, with 169 electoral votes, or 73 less than the number necessary to elect Mr. Bryan.

Conceded to be Republican—Washington, with 5 electoral votes; Oregon, 4; California, 10; Idaho, 3; Wyoming, 3; North Dakota, 4; Nebraska, 8; Kansas, 10; Minnesota, 11; Iowa, 13; Michigan, 14; Wisconsin, 13; Ohio, 23; Pennsylvania, 34; Rhode Island, 4; Masachusetts, 16; Vermont, 4; New Hampshire, 4 and Maine, 6—20 states with 193 electoral votes, or 49 less than the number necessary to elect Judge Taft.

Doubtful—Montana, 3; Utah, 3; Colorado, 5; Illinois, 27; Indiana, 15; West Virginia, 7; Delaware, 3; New Jersey, 12; Connecticut, 7; and New York, 39—10 doubtful states, with 121 electoral votes in the balance.

The above will be handy to refer to during the campaign. Mr. Bryan must secure 73 of the doubtful votes and Mr. Taft must have 49.

USE YOUR EYES.

A correspondent in an Eastern paper says that if he were asked to name the most essential trait required to achieve success in agriculture it would be observation. But few of our farmers are able to tell the names of the weeds and insects and birds with which they come in contact every day. It may be asked of what practical value is this to the farmer. That knowledge of itself it may be granted would be of little immediate value but the habit of observation and the training secured in acquiring that knowledge would be of great value.

This is made apparent every day in the office of the Cultivator by the manner in which a query is made for information. One farmer will write an intelligent statement of conditions and state it in a way which shows he has closely observed every step in the diseases or growth or trouble about which he inquires. More are liable to send in the merest statement of fact that some trouble is encountered, from which we are expected to give an intelligent answer. For instance, it is common for a gardener to write in and ask as to manner of control of "little green striped lady bird." As has been mentioned in the columns of this paper before, that particular bug is not a lady bird at all but the common squash bug or Diabrotica. This insect is always the enemy of the gardener while the lady bird is almost invariably his friend. The farmer should train his eyes to distinguish between his friends and enemies.

Again the trained eye detects the injury which insect life may be beginning on the young plant before the plant is injured beyond saving. For instance the injury caused by the red spider is often not observed at all by the fruit grower until the millions of insects which have caused the damage have finished their life work and when first observed may all be dead. Treatment at such a time would be useless and expensive.

Reading of best and latest literature pertaining to up to date farming is valuable to any farmer but still more valuable is the habit of keeping open eyes to the little things that are daily occurring while he is at work in the fields.

NO WHITE FLY.

Several papers have referred to reports of the existence of white fly in the Tulare country citrus orchards. From them the item was taken for the little news notes of a recent Cultivator. The report was later denied and we have written to several in Tulare county to ascertain the facts in the matter. Mr. Arthur E. Miot, secretary and manager of the Tulare County Board of Trade, replies: "I have referred the matter to the Horticultural Commission. So far as we have been able to discover no white fly has been found but the commission is on a diligent hunt for it and when it replies to you the answer will have official sanction." After the letter is signed Mr. Miot adds the following note: "Mr. C. S. Riley of the Horticultural Commision has just dropped in and tells me that Mr. Strong of the State Board of Horticulture has been here for several days for the express purpose of investigating the white fly matter. Thus far none whatever has been found."

It is gratifying indeed to know that none of this serious pest has been found in Tulare county. The fight in Butte county has been most successful and it is very probable that under California's vigorous campaign it will be completely eradicated. Therefore, if it does appear in Tulare county it is best that it should be known at once and the campaign started for complete eradication.

Meantime the County Commission is to be complimented for its vigorous search for the dread pest.

Since the above is in type the following have been received. The first from W. E. Sprott, secretary and manager of the Tulare County Citrus Exchange:

"A pretty thorough examination has been made by our horticultural commissioner and not a single fly has as yet been found, and it is my opinion that none exists here or has ever existed in this county. The boxes mentioned in your letter were burnt within a few hours of their arrival, and the whole premises in which some of the boxes had been placed were thoroughly fumigated."

The following from Commissioner Schultz:

"A few weeks ago I received a letter from one of the professors at Berkeley informing me that an expert from Washington had made a tour through this part of the State, and in his investigations had discovered the white fly at Visalia and at Chico. I at once notified the other two members of our horticultural board, and we started to investigate the matter, but could not find any indications of its existence in the county. I also wrote to Mr. Jeffrey, and in his reply he told me that he had two experts at work at Chico, and that they could not find the slightest evidence of its existence there, and that he would send Mr. Strong down there to investigate our section. In the meantime Prof. Clark of the State University looked over the field and he reported that he was unable to discover anything in the shape of white fly.

"The past week Mr. Strong arrived, and made a very careful investigation, also reported that he was unable to find any evidence whatever of its existence here.

"From all these facts it would seem that our expert from Washington was mistaken, if he ever made the report attributed to him."

ALASKA WHEAT.

Papers the country over are continuing to print more stuff regarding the Alaska wheat. This is perhaps more general than it otherwise would have been had not the Saturday Evening Post of Philadelphia given such extensive articles generously illustrated. It is presumed that the Post is too big a paper to permit the sale of its reading columns in this manner. If such is the case, then it must have been caught napping with what now appears to be a fake of the first water.

We recently quoted from a report of the Colorado Experiment Station. We now note the following by James Withycombe, Director of the Oregon Experiment Station:

"It is not our purpose to discourage the introduction of a new and valuable variety of wheat but we are frank to confess we are somewhat incredulous as to the value of 'Alaska' wheat. While we have not had an opportunity of seeing the 'Alaska' wheat, nevertheless the description and cuts published correspond very closely with the characteristics of a variety of wheat known as 'seven-headed,' or 'Egyptian' wheat. This wheat has been grown on a small scale at this station for some years, and we find it to be of little commercial value. Hence we suggest that our farmers do not become too enthusiastic over this new wheat until its merits have been more fully and conclusively demonstrated."

The State is making an annual appropriation of $5000 to better the quality and quantity of our cereals. Forty acres and more on the farm at Davisvile are devoted to this work, and much good is being accomplished.

Shop Talk

DRY FARMING BOOK.—As was suggested last week, editorially, now is the time to think of next year's crop and how it is to be handled. There is much more dependent upon the preparation of the soil for seed than many farmers know about. Especially in the West where the rainy season is a little uncertain, knowledge along this line is of great value.

As has been suggested before H. W. Campbell's "Dry Farming Manual" seems to fill this need and the **Cultivator** is receiving orders for it. For a short time we are going to make the **Special offer** of a **years subscription with the book** at the regular price of $2.50. The manual is the 1907 issue and is the latest out. There will never be opportunity to get it at a better figure than this and we suggest that all interested take advantage by remitting and renewing at once.

FILE AND INDEX.—"I consider the Cultivator a very valuable paper for any man. I would feel almost lost without it. I have taken it nearly five years and have never missed reading all of every paper, and they are all on file with an index book kept, referring to such articles as I think I may need in the future."—C. F. Lathrop, Imperial.

Agricultural Notes of the Pacific Coast

Northern California

Humboldt county is making a strong move for good roads.

Sixty thousand small trout are to be released in Shasta streams

A sugar factory at Hamilton City is now running at full capacity.

Farmers at Gridley, Butte county, are making a reputation for growing fine mules.

Vacaville has shipped 750 cars of green deciduous fruit as against 412 last season.

Two canneries at Yuba City and one at Marysville are handling about 6000 boxes of fruit daily.

Sacramento county will make a big exhibit of agricultural products at the coming state fair.

Mendocino county hop growers will pay 80 cents per hundred for gathering the season's crop.

Sacramento valley expects to have in the neighborhood of 8000 hop pickers at work this season.

Yuba City canneries are appealing for help, having suffered from a shortage for some time.

The Ukiah cannery is in full swing after being thoroughly overhauled and new machinery installed.

Yuba City packing house started on the packing of Sutter county figs Monday of this week.

A delightful meeting was held by the members of the Sonoma County Grange at Two Rock last week.

The general price paid for picking hops over the Sacramento valley this season will be from 70 to 80 cents.

Thorough inspection of orchards at Oroville, Butte county, has failed to develop a single specimen of white fly.

Galt dairymen have formed an association. George Orr is president and W B. Sawyer secretary and treasurer.

Orange growers at Oroville are appealing for a quarantine to be established against citrus trees and fruit shipped in from Marysville.

Gridley has hundreds of acres of cucumbers which will be picked and delivered to the Pacific Pickle and Vinegar Works at Hayward.

Sutter county fig orchards are in sight of a fine crop this season and the same orchards have for several years proved very profitable.

Sutter county wine grape growers are contemplating leaving their grapes unpicked, owing to the unsatisfactory condition of the grape market.

Gridley is appealing for the production of more water melons, as it is claimed to be one of the finest watermelon producing sections of the state.

It costs about 7 cents a pound to grow and put hops upon the market and the grower sees but little left to him for his year's work at present prices.

Yuba and Sutter counties will have record crop of fruit this season. One report from Marysville says that over 600,000 pounds of fruit are being marketed daily.

Prices paid by creameries of Humboldt county for August delivery were: Capitol 24¾, Central 25½, Cream City 25½, Eel River 25¼, Ferndale 25½, Grizzly Bluff 25¼, Pioneer 25, Riverside 25.

Central California

Lodi shipped 555 cars more peaches this year than last.

Some Kings county harvesters have closed the season's work.

Santa Clara valley is making a strong pull for better roads.

Red spider has done much damage to shade and other trees about the town of Bakersfield.

Thorough investigation has failed to develop any white fly in Tulare county.

One farmer near Hanford has a net return of $164.50 from four acres of beets.

Fresno will make a large exhibit at the National Irrigation Congress at Albuquerque.

Kern County Fair Association expects to have a $3000 fund to commence her fair this fall.

The Kings County Fair Association has reversed its former decision and will now hold a fair this fall.

Turlock watermelons are selling from $8 to $12 dollars a ton and about 16 carloads per day are being shipped.

The California Wine Association has refused to buy wine grapes this year at any price, but will crush for the grower "on shares."

Kings River Power Company has filed notice of appropriation of 40,000 miners' inches of water from the King river for the purposes of power.

At a meeting of the San Jose grange recently especial emphasis was laid on the need for constant vigilance against the caterpillar and the Argentine ant.

The forest supervisor of the San Benito Forest has accomplished much good by selling off large quantities of dead timber wood which was a menace in time of forest fires.

Congressman Smith, who made a speech against parcels post in Congress last fall is attempting to make good before the Tulare county grange by making a speech there in the near future.

About 700 tons of hold-over raisins, property of the Kearney estate, were offered for sale and the highest bid was 3¾ cents. It is claimed, however, that many sales have been made at as high as 4 cents

Watermelon growers in Stanislaus county have been benefited by war amongst watermelon buyers. Until recently $6 a ton was a liberal price. A new company entering the field has nearly doubled that price.

The Tulare county Board of Trade has an exhibit in the city of Visalia, which is a credit to the fruit producing industries of that county. Mr. Miot reports he is putting up some magnificent specimens for exhibition purposes.

Sweet potato growers of Turlock have formed a co-operative company for their mutual advantage. There are 28 members representing 750 acres. They will sell only their own potatoes. J. C. Williams is president.

A 3000-acre grass fire near Bakersfield is reported to have been caused by an eagle coming into contact with live wires of the Edison Power Company, which caused its death, and as it dropped into the grain fields below, its burning feathers started the fire.

Southern California

Orange county will produce at least 3000 cars of celery this season.

Several apricot orchards near Highland have been uprooted because of lack of profit.

Six cents seems to be the maximum price offered Ventura county apricot growers.

The Redlands Citrograph prophesies the coming season will be one of excessive rainfall.

Chino, San Bernardino county, finds the barley crop to be far heavier than anticipated earlier.

Thieves at East Whittier have been busy robbing orchards of young trees just planted.

Scipio Craig of Redlands will be one of the delegates to the National Irrigation Congress at Albuquerque.

A grain grower near El Toro, Orange county, recently lost about 400 sacks of unthreshed barley by fire.

The acreage in beans is rapidly increasing in Orange county. Limas and blackeyes are the two favorites.

H. E. Huntington recently paid $150 for one palm tree with which to ornament his estate near Los Angeles.

It is estimated that over 100 deer have been killed in the mountains surrounding Antelope valley this season.

Six of the latest improved wrapping machines are being installed in the Producers' Packing House at Redlands.

A creamery man offers to establish a creamery at Brawley providing a sufficient number of dairy cattle is pledged.

Corona shipped three cars of honey to eastern markets last week. There is but little more to forward from that district.

Negotiations are closed for the sale of 600 acres near Winchester, Riverside county, which will be used as a poultry colony.

Many poultry growers are gathering "Blue curl" for the purpose of making nests. It is said to keep away all vermin and mites.

Ranchers between Anaheim and Cypress are loading their guns for automobile drivers who are overbearing in their use of the road.

A Whittier bulldog caused great commotion and a lawsuit by breaking into a Belgian hare ranch and killing 400 bunnies. The suit is for $299.99.

The weather has been too dry to be entirely satisfactory to bean farmers at Mound, Ventura county. They wish for some old-fashioned dripping fogs.

Construction of a half million dollar sugar factory at Santa Ana is progressing satisfactorily and next season's planting of that section will be about 2500 acres.

The weigh master of the beet dump at Huntington Beach received on a recent Saturday 240 tons of beets in three hours. This is said to be the record of any beet dump so far as known.

Orange county chili pepper crop is backward in maturing this season. In former years, first shipments have been made to the canneries about August 23. It is claimed this year there will be no such shipments made before September 1st and possibly before the 10th.

The Coast

Caldwell, Idaho, County Fair will be held October 6th to 10th.

The apple output of Klttitas will aggregate over 50,000 boxes.

Miles City, Montana, County Fair will be held September 8th and 10th.

Spokane and Eastern Washington are supplied with sweet potatoes from California.

Creamery butter is selling at 30 cents per pound at Walla Walla, Washington.

Wenatchee, Washington, is having the biggest output of fruit which it has ever shipped.

Walla Walla, Washington, has 4,000,000 bushels of grain to move to tidewater this season.

More than 500 acres of land in Linn county, Oregon, are devoted to commercial walnut culture.

Eastern Washington wheat growers are largely following the plan of early sales of wheat this year.

A Pullman, Washington, farmer has just sold his 4500 bushels of wheat at 82½ cents a bushel.

Apple growers of Puyallup valley, Washington, propose to capture many of the prizes offered by the National Apple Show.

Hubbard, Oregon, is busy harvesting a large crop of onion sets, which is a specialty of the farmers on Pudding River bottom.

Arizona has enjoyed exceptionally heavy rains during this season, the heaviest at Flagstaff aggregating 4 inches within one week.

Professor W. L. Carlyle, Dean of the College of Agriculture, Colorado, has declined a proffer of a position at the Kansas Agricultural College.

Railroad men and farmers near Colfax, Washington, are to hold a conference and discuss the question of transportation of farm products.

Pear blight is reported to have appeared at Prosser, Washington, and the pear growers are appealing for inspectors to direct the fight against it.

J. G. Smith, termed the "Father of Farming" in Hawaii, has resigned as special agent in charge of the Hawaiian Agricultural Experiment Station.

A Camas prairie farmer harvested this season 1300 sacks of barley from 46 acres. It all graded as number one grain. This is an average of 85 bushels per acre.

The wheat crop of Lind, Washington, is being marketed at Tacoma, and shows up as number one, averaging 58 pounds to the bushel. The price paid is 72 and 75 cents.

Russian thistle and Jim Hill mustard at Wenatchee, Washington, are proving most exasperating and calling for more complete organized effort for their extermination.

A farmer at St. Joe, Idaho, marketed 93 pounds of peppermint oil from two acres of mint. This sold at an aggregate of $372 from the two acres, or a net gain after expenses were paid of $302.

The government experiment station at Bellingham, Washington, is receiving a large shipment of bulbs from Holland, which will be tested in that section with an idea to commercial culture.

PER 2 BUSHEL SACK **$1.90** PER 2 BUSHEL SACK

Buy the World's Famous Egg Food No. 4

MIDLAND

IF YOU WANT EGGS
YOU WILL FEED NO OTHER.

Used by the largest and best breeders in the country. Thousands of poultrymen are using it, and it is the acknowledged standard of the world. Haphazard feeding is no longer profitable. Try Midland Food and be convinced.

Petaluma Incubators and Brooders

The acknowledged standards of perfection. All poultrymen who have used these machines have supreme confidence in their ability to hatch and breed. Hence their ever increasing popularity. Winners of the Gold Medal at the St. Louis World's Fair for the greatest hatch, with 40 different makes of incubators in competition. How's that?

St. Louis, Mo., Dec. 8th, 1904.—Petaluma Incubator Co., Petaluma, Cal: My dear Sir—The awards have been held up owing to a controversy between the Exposition officials and the national commission, but today I am able to state the award of a gold medal on your Petaluma Incubators has been confirmed. You are at liberty to make use of this in any way you see fit and in due time the diploma will be issued and the medal obtainable. Congratulating you upon this evidence of the merits of your incubators, in which there was very great competition, I beg to remain, yours very truly, J. A. Filcher, Commissioner.

And Now Comes New Reward for Merit

Read the following telegram received from the Lewis & Clark Exposition at Portland:
"Petaluma Incubators and Brooders just awarded Gold Medal at Lewis & Clark Exposition."

WRITE FOR CATALOGUE 47—A BEAUTY

Petaluma Incubator Co.

Main Office and Factory, Petaluma, Cal., Box F.
Los Angeles, 636 South Main Street.
San Francisco Office and Salesroom, 83 Market St.

Coulson's

No. 3 Condition Powder

Is just the thing for molting hens. It acts as a tonic and digestive. Keeps the hens laying longer into the molt and quicker after it. Our FREE Booklet, "THE RIGHT WAY" gives full particulars and special offer. Manufactured only by

Coulson Poultry and Stock Food Company
Petaluma, California

Poultry Supplies

Best of All Kinds at Lowest Prices

West Coast Seed Co.

707 So. Spring St., Los Angeles, Cal.

MY BOSS MAKES MONEY

Because he raises poultry in the Inglewood Poultry Colony. Eggs bring a higher price there than they do anywhere else. If you are going into the poultry business, go in right and get a farm in the Inglewood Poultry Colony. Address for particulars

Inglewood Water Company
349 Wilcox Building Los Angeles, Cal.

Ranch Mirasol

S. C. WHITE LEGHORNS—MITCHELL STRAIN
LARGE, HEALTHY, HEAVY BIRDS BRED TO LAY

Carl C. Curtis, Owner Cor. Lincoln Ave. and Ventura St., Pasadena, Cal.
North Fair Oaks Altadena Cars

Profit in the Poultry Yard

We solicit short articles of a practical nature from the fancier and utility breeder, giving their experience with poultry. All inquiries pertaining to feed, management, disease and its prevention will be answered through these columns.

FLAVOR OF EGG AND COLOR OF YOLKS.

THE West Virginia Agricultural Experiment Station has the following on the influence of food on the flavor of eggs and color of yolks:

During the winter of 1902 and 1903 a number of experiments were conducted to learn as to the effect upon the flavor of eggs of feeding different foods and flavoring materials. It is quite unnecessary to say that if eggs could be produced having a more agreeable flavor than ordinary eggs they could be sold to special customers at a considerable advance over the usual market rates. The grains fed either alone or in combination for this purpose included corn, wheat, oats, Canada field peas, peanuts and sunflower seed. The flavoring materials employed were celery oil, oil of sassafras, and certain organic chemical compounds of marked flavor. Beet scraps were fed to balance the different rations except in one case when smoked herring were used. The green food supplied consisted of sugar beets which were readily eaten.

Quite contrary to expectation the flavor of the eggs was not noticeably altered by any of the rations or flavoring materials employed, although it has been shown by investigations at the North Carolina Station that the feeding of onions imparts a very distinct and undesirable flavor.

The different rations, however, very clearly affected the whole color of the yolk, when the grain ration consisted of wheat, oats or white corn fed either alone or in combination with each other, the yolks were so light colored that the eggs were quite unsuitable for a fancy trade. When the grain supply consisted entirely of white corn the yolks were very light colored, while on the other hand, the feeding of yellow corn imparted to the yolks that rich yellow color which is so desirable.

POULTRY BREVITIES.

Corn is a more expensive poultry food on the Pacific Coast than barley.

* * *

For preserving eggs in water glass use one part of water glass to 10 parts of boiled water.

* * *

In buying concentrated poultry foods buy on the basis of the per cent of protein or nitrogenous material—to illustrate:

One hundred pounds of corn costs $2.00 and contains 7.8 pounds of protein. The digestible protein in this costs 25 cents per pound. One hundred pounds of cocoanut oil cake costs $1.60 and contains 16 pounds of protein consequently the cost per pound is 10 cents.

* * *

"Sports."

I have White Wyandottes. The eggs and stock were bought from breeders that have an excellent reputation. I frequently have chicks with single combs and some with black feathers. Should pure bred stock produce such results?—C. M. K., Tuscon, Ariz.

There are no breeds of domestic poultry but will throw birds with some "outs" in the way of combs and colors that are not standard, while White Wyandottes are a comparatively recent creation, hence more likely to throw birds with defects than older breeds. Single combs will show themselves in Wyandottes for many years to come and black feathers will appear more or less frequently as in all white breeds.—S. S. T.

* * *

Feeding Problems.

Under the head of cheaper feed, in reply to J. R. K. Gridley, in a recent Cultivator, you recommend feeding barley instead of wheat. Do you think hens will lay as well if fed entirely on barley for one meal and a mash feed for the other meal? I am feeding equal parts of rolled barley and wheat at night and a mash of three parts bean, one part middlings, one part corn meal, one part rolled barley (the barley is cooked,) one part alfalfa meal and one-half part meat meal.

Now, if I should feed whole barley at night and use uncooked rolled barley in my mash, do you think I would get as good results as to feed the way I am feeding at present?

I can get barley about 50 cents a hundred less than wheat, which is quite an item when feed is so high.—C. H. P., San Jose.

There is no doubt you would get equally good results by feeding whole barley once a day, and a dry mash fed in hoppers, to which the hens have access at all times. There is no advantage to be gained in cooking rolled barley.

It has been proven at various times by definite experiments that there is nothing to be gained by cooking grain for animals.

Of the substances you are feeding I would suggest the following proportions, the conditions of which are indicated below:

	Dry matter.	Protein.	Carbohydrates.	Fat.
25 lbs. whole barley	22.20	2.35	14.90	.55
20 lbs. corn meal	17.60	1.28	13.24	.68
25 lbs. rolled barley	22.20	2.35	14.90	.55
10 lbs. alfalfa	8.90	1.38	3.70	.16
10 lbs. meat meal	9.46	5.40	.70	.34
		12.76	47.44	2.28

The ratio of the starchy (carbohydrates) to the protein (nitrogenous) matter is 1 to 4.1, about the right proportion for laying hens. If anything the proportion of nitrogenous matter is high and it would be possible to cut out 4 or 5 pounds of meat meal, but I would not consider it economy to do so. If corn meal is as high in San Jose as at this point, $2.00 per hundred, I should look about for something equally good for less money. It is excellent in this ratio as it provides fat in larger proportion than barley. The only objection is its cost.

VITALITY.

To my mind the most important problem to-day is for the poultryman to have the ability to renew his flock, writes James Rice of Cornell University. More failures have occurred from that one cause than from all the other causes put together. The failure to renew the flock has been due, of course, to many contributory causes, some of them due to improper housing, some improper methods of

feeding, some improper methods of incubation, and some improper methods of breeding, but I believe that much of the trouble has been due to the lack of appreciation on the part of the person collecting a breeding stock and the importance of choosing fowls of well known vitality. Now the question of selecting for vitality is all the way through the whole history of the fowl from the egg to the baby chick, the chicken partly grown and the fully matured bird.

Begin With the Eggs.

To begin at the beginning the egg should be fully developed and of normal size, laid by a mature fowl of ideal shape and vigor, an egg that is perfect in its shell, shape and size. It is pretty well proveu that eggs that show weakness in any part show that there is a lack of health on the part of the hen. Fat nutriment or some contributory cause produces a weak-shelled egg, and if the shell is weak we have every reason to believe that the inside of the eggs is usually weak, and we would, therefore, get a weak chicken; so that we must begin by selecting the egg if we want a strong chick.

Let Them Alone.

I do not believe we should help chickens out of the shell. I have helped them out and I have seen them grow and overcome their weakness and yet I believe as a matter of policy we have got to fight it at every point. We must kill weakness whenever we see it and we should not undertake to help the little fellows that show weakness. If you can see chickens improperly incubated and perfectly incubated, you will see that some come out covered with good down, large and full of life, squirming and full of vigor, and they have little eyes that stand out like shoe buttons. they are so black and bright, and this is one of the best indications. And they have shanks that are fat and plump as compared with the little shriveled up shanks of the weak ones. They have a beak that is short and thick, and of a good color as compared with a pale beak.

Range.

I believe in the large commercial ranges. We have got to come to the point of eliminating these birds, putting them by themselves beyond any possible chance of ever getting amongst our breeding stock. When they are getting their chick feathers we have another period in their lives when they tend to show their low vitality. We have started a line of investigation at the University that we hope to carry on for a good many years to come. We selected brothers and sisters of White Leghorns hatched in the same machine and in the same process, and yet some of these chicks showed from the very start and continuing right straight through up to the present time, normal, vigorous, healthy; others showing delicacy and low vitality. We went in there and picked out all these low-vitality chickens and marked them, and leg-banded them and numbered them, and we did the same thing with the strong, vigorous chicks. We did not take a chicken that had low vitality that we felt would probably not live, because there would be no use in spoiling our experiment in that way.

Weak Ones Eat More.

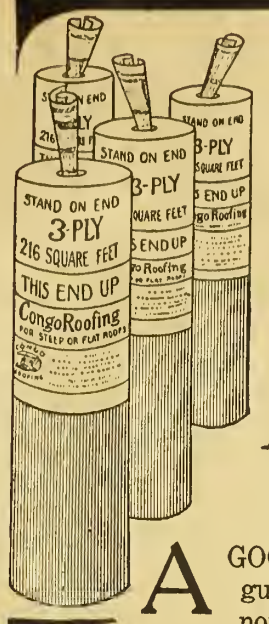
And you can see the difference between these chickens when they weigh two pounds apiece and later when they were put into winter quarters. The time will come when they have reached the limit of their resources, and they will not be able to produce eggs. It will show especially in the moulting time when they are asked to reproduce and put on a new coat of feathers. We have six experiments on the way, two of White Leghorns and one of Barred Plymouth Rocks. The White Leghorns, weak, averaged 2 3-10 pounds, the strong 2 8-10 pounds, almost no difference in size. The total number of eggs laid by twenty-five of weak vitality was 287. The total number of eggs laid by strong vitality 315; value of eggs $9.25 for the weak, $10.40 for the strong. For the second experiment the weak averaged 3 8-10, the strong 3 9-19. The weak laid 198 eggs, the strong 275. The value of the eggs of the weak was $6.36, strong $9.10. The cost of feed for the weak $2.10, the strong $3.18. The strongest contrast is between the Barred Rocks, the twenty-five weak averaged 4 6-10 pounds apiece and the strong 6 3-10 apiece. The cost of feed was $4.20 for the weak and $5.48 for the strong. The weak ate more food in comparison to the value of the eggs they produced than the strong.

In some cases these chickens that were weak have overcome it to such an extent that you would hardly be able to tell them now from the strong: just the same as a child born weak, by being kept under the most favorable conditions overcomes that weakness and eventually grows to be strong. Yet if we know anything about the law of heredity—like producing like—there will always be a tendency of the individual that was once of low vitality to break down or reproduce that weakness.

Pick The Strong.

We then come to the problem of picking out the strong and the weak for breeding purposes, going right into the pen and picking out those fowls that show strong vitality.

I believe that we can pick them out so that when we put them into the breeding pens they will give us strong or low vitality according to the birds we selected. It does not necessarily follow that if we picked out a hen who is now showing low vitality that she would produce chicks of low vitality. I picked out a hen of low vitality, and Professor Graham said, "Don't take her, she is too well known, she has a wonderful record behind her." It is not an indication that that hen has not been a hen of strong vitality. She might be of low vitality because of that heavy egg production. I have seen hens of the strongest possible physical strength, the picture of health, and that had never laid an egg. There was no reason in the



A GUARANTEE BOND

INSIDE EACH ROLL OF

CONGO

NEVER LEAK **ROOFING**

A GOOD many roofings carry guarantees. Most of these are not worth the paper they are written on. They are full of provisos that no one can live up to, ***and you have only the manufacturers' word behind them.***

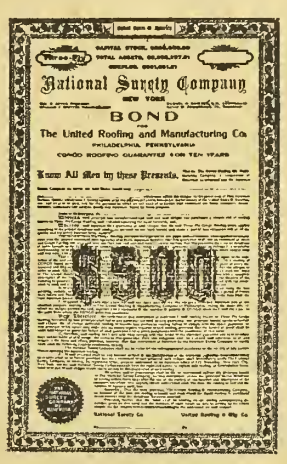
We looked into this proposition some time ago, and determined that we would offer a guarantee with every roll of Congo that would ***mean something.*** We therefore went to the National Surety Company, a corporation with over $2,000,000 of assets, and arranged with it to furnish with every roll of Congo a ***genuine Surety Bond.***

It ***guarantees*** that our three-ply Congo Roofing will last ***ten years,*** if the directions are followed—and the Surety Company stands behind that guarantee to the limit of its resources.

It therefore protects you absolutely. It substitutes absolute knowledge for guesswork.

If we went out of business to-morrow, it would make no difference. The Surety Company is behind us.

We mean to show the public that we have confidence in the ***durability*** of Congo, and that we are willing to back this confidence up in a way that no other manufacturer ever dared to.


National Surety Company
BOND
The United Roofing and Manufacturing Co.
$500

Fac-Simile of Guarantee Bond, on request.

We can afford to make this strong guarantee because we know Congo will last the full period of the guarantee, and more. It has always given better satisfaction and all round service than any other ready roofing made.

This bond is the broadest and most liberal proposition ever offered in the roofing business. It means we have faith in Congo. ***It protects you absolutely.***

If you are looking for a watertight roofing that needs about as little care as a roofing could get along with and give satisfactory service, ***backed by a guarantee that means something,*** Congo is what you want. It is made of the very best materials that can be secured, and is the most pliable waterproof roof-covering on the market.

We do not ask you to take our word for this, but will gladly send you free samples If you have these before you and consider that behind the roofing is not only our reputation but a surety bond, we know that you will not fail to purchase Congo. Write at once and let us send you Samples.

SPECIAL NOTICE — If any Congo rolls that you purchase do ***not*** contain Guarantee Bonds, write us at once, telling us where and from whom they were purchased, and we will at once mail you the missing bonds.

United Roofing & Manufacturing Co. Successor to BUCHANAN-FOSTER CO.

567 West End Trust Building, Philadelphia—Chicago and San Francisco

BLAKE, MOFFITT & TOWNE, LOS ANGELES, AGENTS

Egg-More

Not a strong tonic and stimulant, but a highly nitrogenous Poultry Food very rich in protein. A little fed daily with good grains will keep hens healthy, make them molt early, feather out quickly and lay lots of eggs when they are scarce and high. If not sold by your dealer, we will prepay freight on 25 lbs., $1.90; 50 lbs., $3.60; 100 lbs., $7.00. Send for free Booklet with testimonials.

$50 Cash Premiums

$20 first; $10 second; $5 third; fifteen $1 each. Easily earned in an hour or more by any boy or girl, man or woman, but only one in each family, without any cost to you and no peddling or canvassing. And to each one competing, we will also give a useful article. Send postal for particulars mentioning this paper, to

West Coast Mill

707-709 So. Griffin Ave., Los Angeles, Cal.

Trap-Nested White Wyandottes

That won 22 ribbons out of 25 and 6 Silver Cups and a carving set and a cut glass vase. All the National White Wyandotte Club Ribbons. Second on 10 pullet pen, contest open to all breeds. Mammoth Bronze Turkeys, winners of 5 blue ribbons, all at Los Angeles County Poultry Association Show, December 7, 1907. White Wyandottes were judged by H. Berrar of San Jose, Cal., and W. W. Browning of Ogden, Utah. Hens and Pullets, $15, $20 and up.

MISSION VIEW POULTRY RANCH, MRS. C. D. HUBBARD, SAN FERNANDO, CAL.

Orpingtons--Black and Buff

We now offer some exceptionally well bred stock of our fine exhibition strains. Satisfied customers count for much with us. Let us send you prices today, correspondence a pleasure. Catalogue free.

ORPINGTON RESERVATION,
ROSS & TATE,
ALTADENA, CAL.
BUFF, WHITE, BLACK
ORPINGTONS,

One Block North and Two Blocks East Altadena Post Office

Is Your Dog or Cat Sick?

You may lose your valuable dog or cat at this season of the year, when a simple remedy would effect a cure. We have that cure in the Celebrated CLAYTON'S DOG & CAT REMEDIES. In short, we have a cure for all ailments that "Fido" and "Tabby" are heir to.

Write for treatise on diseases of both. It's FREE.

Germain Seed Company
326-330 So. Main St., Los Angeles, Cal.

F. E. Baldwin's WHITE LEGHORNS

THEY LAY
THEY PAY
At Every Pop
THEY SHOW
THEY GO
To the Very Top

First Prizes Everywhere Shown.
Bargains *now* to make room. Send for Prices and Free Booklet.

46 Washington Ave. - San Jose, Cal.

Now is the time to hatch **BANTAMS**
Golden Sebright, Buff Cochin, and Light Brahma Eggs, $2 per 15. Prize winners.
M. E. Dillingham Box 67, San Gabriel, Cal.

White Wyandottes Exclusively

Good, White, Typical Birds. Stock and Eggs For Sale.
W. A. SEYMOUR, R. F. D. No. 1, Anaheim, Cal.
Take Santa Ana Electric Line to Harper Station

Cover a fresh egg with a thin coating of lard and it will keep perfectly good for an indefinite period, according to a report of a new method of preserving eggs made to the State Department by Consul Murphy at Bordeaux. The discovery is of Italian origin.

Never allow a sick bird to mingle with the rest of the hens.

Old hens should be sold when the breeding season is over.

world why they should not be strong, healthy and vigorous. I maintain that no matter how good a trap nest record you have and great a reproduction power the hen may have, if at the time she produces these eggs she is of low vitality her chicks may be of low vitality. Sometimes the very fact that a hen is the best hen we have got on our place will indicate she is not a good hen to breed from. The best hen we have got on our place at the present time, a hen No. 61, laid 216 eggs in the first ten months of her laying period, she was most vigorous and could give us the most fertile eggs, and the most hatchable eggs out of seventy hens. Her record shows right straight through that she was one of the most reliable hens in the whole place. She had a constitution that would stand up under heavy feeding.

EASY POULTRY KEEPING

That's what we are all after, easier ways of doing things. And its all right, too. In every branch of farming, labor-saving machinery and methods have largely removed the drudgery of other days. What farmer of to-day, with any considerable farm, and making a business of his farming, would think of sowing his grain by hand, cutting his hay with a scythe, his grain with a cradle, raking by hand, or threshing with a flail? He couldn't afford to do so. No more can the poultry farmer afford to follow all the old-time methods if he wishes to do a large business at a profit.

Starting with good incubators, chicks can be hatched by the hundreds with not much more time and labor than by the dozens by the old method. With good brooders, a large number can be cared for as easily as much smaller numbers with the old hens. Then the modern feeding methods insure not only a larger proportion of chicks raised, but raised in such a way that rapid, vigorous, healthy growth is assured, and we have plump broilers, fat and juicy roasters, and pullets ready to lay at a much earlier period than under the old hit-and-miss methods. Many successful feeders now give the feed dry, a mixture of grains so proportioned that the chick gets the right elements in just the right quantities, without the dangers incident to the old sloppy, mussy, wasteful wet feed. In feeding the wet mash, if too much was given, there was danger in the souring of the surplus; if too little, the chicks were stunted. With the dry grain feed there is no danger, for any surplus does not become tainted. So, much less frequent feeding is necessary. Then as they grow, the dry grain or ground feed in hoppers gives a constant supply with a minimum of labor. The only care is to see that they have enough, have clean and well ventilated roosting quarters, protection from storms, pure and abundant water, and a plentiful supply of green feed. They should, too, have shade from the hot sun. Many a chick has died from sunstroke. Few who haven't tried this hopper feeding realize what a great saving and convenience it is. When farm work is pressing, the poultry is often liable to be neglected; but if there is a supply of feed in the hoppers, and water within reach, the birds do not suffer, even though the seedtime and harvest demand the farmer's entire time.

I know of a farm where the poultry is housed in colony houses scattered over cheap land, and these houses are visited just once daily. The floors are covered with litter, and the houses equipped with feed hoppers and water pans. Each evening a wagon carrying dry mash, grain, water and whatever else is needed, is driven around. The grain is scattered in the litter for the next morning's breakfast, the dry mash is put in the hoppers, the water pans are cleaned and refilled, the eggs are gathered, and everything is all right till the next evening.

I knew of another farm, a few years ago, where the scattered colony houses were equipped with large hoppers for holding grain, these being filled once a week right from the wagon that brought the grain to the farm. Numerous springs and brooks supplied pure water, and about the only daily labor was picking up the eggs. The labor problem was about reduced to the minimum. And, after all, the labor is the biggest problem in modern poultry keeping or any other farm operation.

The advantages of dry feeding poultry are not only a saving of labor, but improved condition of the birds with consequent improvement in the hatching qualities of the eggs, which, of course, means stronger chicks and better and stronger breeding stock in the next generation. This is one of the strong points which the advocates of dry feeding have claimed for some time. They insist that a continued improvement can be noted year after year. These things mean much to the poultryman, and are well worth considering by every raiser of poultry, whether it be as a main business or as a side line, which the poultry usually is on the average farm.—Farming.

Whitman county, Washington, reports to the assessor more than $3,000,000 worth of live stock.

Pick out a few chicks and feed them for the early shows.

Old hens are said to make better breeders than pullets.

In cases of sickness in the flock, remove bird affected.

High Priced EGGS

Are what all poultrymen like to get during the fall and winter; but without the very best of health in the flock and a good variety of sound, wholesome feed it is hard to get such eggs.

Nature requires that hens have a rest just prior to and during the molting period; the result is a scarcity of eggs, with higher prices, and a larger profit for those who can overcome the difficulty. The one that can get eggs during the fall will be just that much ahead of his neighbors and others who fail to do so, which in the end is the difference between success and failure.

COULSON'S EGG FOOD is the feed that will turn failure into success by enabling you to secure eggs in the fall and winter while prices rule high.

Improvements have been effected in the composition of the EGG FOOD during the past year, so that it is now richer in the various nutrients required by the laying hen, and is a better feed than ever before. Coulson's balanced ration poultry foods are guaranteed to contain nothing but wholesome ingredients.

"THE RIGHT WAY," our booklet fully describes COULSON'S IMPROVED MASH EGG FOOD and other balanced rations for poultry and gives full particulars of guarantee and directions for feeding and care of poultry from the time they are hatched. If you have no copy of it, you should drop us a line today; a postal card will bring it to you.

We have agents selling our poultry foods in nearly every town in California. If you cannot obtain what you want from your dealer, write to us and we will tell you where to get it.

Coulson Poultry & Stock Food Co.
Petaluma, Cal.

Germain Seed Co., Los Angeles
Distributing Agents for So. Cal.

Small Fruits and Vegetables

CABBAGE WORMS.

Cabbages are subject to the attacks of several insects, but especially of the green cabbage worm and the cabbage aphis, for which various spraying mixtures are found to be highly efficacious. However, for the man who likes to make his sauerkraut himself, or to grow a few cabbages for his table there is a simple remedy for these insects which involves very little trouble and for which the remedy is always at hand, and here is the story of its discovery.

A carpenter living in a town in New York was very proud of his little back-lot garden. In it he set several rows of fine cabbages one year. These grew well for a time until he was summoned away from home for a few days. Upon his return he went out to the garden and there beheld a sorry sight. The cabbages which had been his especial pride were honeycombed and contained hundreds of these voracious cabbage worms. His anger was frightful to witness, and his language unfit for publication. He dashed into the house to tell his wife what had happened during his absence, and beheld two steaming kettles upon the stove. Grabbing one in each hand he returned to the garden and poured boiling water over every cabbage. Thus his rage was satisfied and the worms punished. The cabbages were a sorry sight, appearing to be pretty thoroughly cooked. But to his great surprise, in the course of a week they began to head up and he had the best cabbages he had ever had.

Briefly, the secret is to pour about a cupful of boiling water into the cabbage just after the inner leaves have begun to curve inward to form the head. The leaves thus cooked dry into a hard exterior, shutting out the worms from the inside and continue to grow into a firm, solid head. —Leslie F. Paull.

THINGS TO REMEMBER IN BERRY GROWING.

Few things give more satisfaction in the garden than a good strawberry patch. And if a few important points are observed, it is easy to have berries in abundance. A successful berry grower says:

A few important things in growing strawberries are, first, to have your ground well prepared. Manure it heavily the year before you set out the plants, and plant it to potatoes or something to cultivate and keep it free from weeds. Second, get varieties that succeed in your soil and climate.

Some varieties are worthless in certain localities. It is best to get plants as near home as possible from some one who has a variety that succeeds in your neighborhood if possible; such plants are worth double the plants you would get from a distance that have been shipped in.

Third, set your plants properly. It is quite a trick, neither too deep nor too shallow, spreading the roots well. Pot grown plants are nice for a beginner to use, but expensive. I always, in setting from my own beds, leave a ball of earth on the roots; these are as good as pot-grown plants. Always set in the spring as early as ground is in condition; cultivate and hoe often.

WEEVILED PEAS.

The pea weevil is a common enemy of both the garden and field crops of peas. The adult insect is an oblong, rusty black beetle, nearly a quarter of an inch in length. There is a mixture of white on the wing covers and a conspicuous white spot on the back a short distance from the head.

There is only one generation each year. The eggs are laid in early summer on the outsides of the pea pods when the young peas are just beginning to grow. They are deep yellow in color and glued fast with a sticky substance, which turns white on drying. When the eggs hatch, the young grubs burrow through the pods and into the peas, where they live and grow until after the pea is ripe for harvest. The presence of the weevils in the peas may be readily detected when the peas are picked for table use by the presence of a dark spot on the surface, as though the pea had been pricked. Before going into the adult stage the grub gnaws a round hole nearly or quite through the skin of the pea, so that it may escape when the proper time arrives. A careful examination of the peas before planting ought to reveal these holes if they are at all numerous.

The grubs change to the full beetle form before fall comes, and most often remain in the pea until after the planting the following spring. When peas are stored, many of the beetles will come out during the fall or winter.

The injury to the pea consists in the loss of nourishment which is stored up for the young vine to start its growth the following spring. Only a little over half of the injured seeds ever grow, and the others are weakly and do not produce a good crop. Weeviled peas should never be planted.

Where peas are permitted to go to seed and gathered for future use, the greatest danger lies in those that shell out and remain on the ground until the following year. The beetles live over in these and are ready for the new planting. The only proper way is to gather the ripe peas before they shell out, and be sure that no peas are left in open packages from which the beetles may escape during the winter.

If freshly picked peas are immersed in water heated at 140 degrees for a few minutes, the young half-grown larvae will be kiled and the peas not injured for planting. They may also be warmed to the same temperature in a gasoline oven, but they must be stirred frequently so that all the peas will be equally heated; otherwise some of the beetles may escape while some of the peas are heated so much that their germinating powers will be injured.

If the peas are found to be weeviled at the time of planting, they may be thrown into a pail of water. The sound seed will sink to the bottom and the weeviled ones float, where they may be skimmed off and destroyed. Burn them or feed them to fowls. Do not throw away or bury.

Where peas are used in large quantities for seed, such as field peas, the weevils may be killed by fumigation with carbon-bi-sulfid. Place the peas in a receptacle which is as nearly air tight as possible and put on top of them some shallow dishes. Pour into these the carbon-bi-sulfid at the rate of half an ounce to each bushel of seed. Close the receptacle and let it remain for an hour or more. The fumes of the gas will kill the weevils. This gas is very explosive and fire of any kind, including pipes and cigars, must be kept away or serious results will follow.—Southern Fruit Grower.

GENASCO
THE STANDARD OF EXCELLENCE
TRADE MARK

This is the sign!

Look for the Genasco trade-mark on every roll. This insures your getting the roofing made of real Trinidad Lake Asphalt—the perfect natural waterproofer.

Genasco Ready Roofing

Ask your dealer for Genasco. Don't be misled by any other sign. Insist on the hemisphere trade-mark, and get the roofing that lasts. Mineral or smooth surface. Write for samples and Book 35

THE BARBER ASPHALT PAVING COMPANY
Largest producers of asphalt, and largest manufacturers of ready roofing in the world.
PHILADELPHIA
New York San Francisco Chicago

Paid Semi-Annually

7%
Assured Profit

We offer you Cane Sugar Lands in Mexico. Perfect title. Give 50-year contract to cultivate for you, guaranteeing 7%, paid semi-annually, until crop profit exceeds this amount. Offer these lands for cash or on easy terms.

A Life Income from Land

Sugar Plantations produce the greatest continuous yield of any known crop. Tropical Mexico stands today unmatched in soil, climate, water. We own over 9000 acres in the heart of the best section—near Tampico. You become a land-owning profit-sharer in this project. We do all the work for you.

Sugar Plantations the Most Profitable Crop in All the World

GOOD LIVE AGENTS WANTED

One Acre Should Produce $203.52 Annually
Five Acres Should Produce $1017.60 Annually
Ten Acres Should Produce $2035.20 Annually

Free Trip to Property Communities or syndicates buying 50 acres or more, may send representative to property at our expense

Tampico Sugar Company
Los Angeles California
References: Citizen National Bank
501 Union Trust Building

Now Is the Time to Plant

Cover Crops
Canadian Peas
Vetch
Fenugreek
Burr Clover

Onions
White Burmuda
New Queen

Cabbage
Winningstadt

Our Seed is the Best
Johnson & Musser Seed Co.
113 N. Main St., Los Angeles, Cal.

STRAWBERRY PLANTS
Strong one-year-old plants for August planting; Brandywines, $2.50 per M. Klondike, Lady Thompson, A-1, Excelsior and Midnight, $3.00. A full line of this season's plants later. New catalogue ready in September, giving full description of our improved strawberry plants and other small fruit.
G. H. HOPKINS & SON *Burbank, Cal.*

When writing advertisers, mention Cultivator.

Burbank Crimson Winter Rhubarb
Plants and Seed for sale in any quantity. Warranted the genuine article. Orders filled promptly
A. L. Fratt, Ventura, Cal.

Pacific Seed Co.
C. Bagnall, Prop.
GROWERS AND IMPORTERS OF
Grass, Vegetable and Flower Seeds
All Kinds of Bulbs and Onion Sets
609 J St., Sacramento, Cal.
Send for Catalogue. Please mention Cultivator.

Dig sweet potatoes when ripe after first frost. Don't bruise them. Store only sound, well ripened roots.

Mendocino county has produced some of the finest onions shipped into San Francisco markets this season.

Classified Liners

Rates 1½ cents per word per issue. No ad accepted for less than 25 cents. Our classified columns are the clearing house for the readers of the Cultivator. Here you can insert an ad for the small sum of 1½ cents per word per issue, and be sure that it will be read by thousands.

MACHINERY.

WE CARRY A GENERAL LINE OF MACHINERY, gas engines, air compressors, boilers, engines and pumps. 40 car loads of screw pipe and casing can be cut to lengths, also all kinds and sizes of fittings. Several hundred iron fence posts. R. KELLY MACHINERY CO., corner of Mission road and Macy street, Los Angeles. Cal.

FOR SALE—SECONDHAND PIPE AND oil well casing, all sizes, any amount; boilers and engines; gas and distillate engines; pumps, etc. Get our prices before you buy. A. CANNADY & CO., 1029 N. Alameda St., Los Angeles, Cal.

FOR SALE—50-H. P. FAIRBANKS-MORSE gasoline engine as good as new at a snap. N. W. cor MAIN & BRUNO STS., Los Angeles.

FOR SALE—COMPLETE PUMPING PLANT in good running order at an exceptionally low price. Worth investigating. 117 BRUNO ST., Los Angeles.

FOR SALE—MEHRING MILKING MAchine with extra parts and covered pail, all in good order. WM. H. BIRD, Box 6, Compton, Cal.

MACHINERY OF ALL KINDS NEW AND secondhand; also gasoline engines, electric motors and steam engines bought, sold and exchanged. See us before buying. BAILIE AND BRANDT CO., 943 N. Main St., Los Angeles.

FARM LANDS FOR SALE.

RANCH FOR SALE—105 ACRES AT $40 AN acre; 85 acres in cultivation; nearly all of remainder can easily be put in cultivation; 45 acres level land; 800 full bearing apricot trees; 5-room dwelling; good large barn; fruit drying plant; 5 miles north west from Moorpark; half mile of school; land suited to beans, hay and corn. For further information apply to WM. ROBINSON, Moorpark, Ventura county, California.

FOR SALE—1 TO 10-ACRE TRACTS ON CAR line, between Riverside and new cement works; good for chicken ranches, alfalfa or gardening; will sell on easy terms; plenty of water on each tract. C. C. POND & N. R. BELL. Riverside. Cal.

ORCHARD HOMES FOR SALE—FIVE acres and upwards; fine citrus and deciduous fruit lands on easy instalments and low interest. Write us today. Wyatt & Wilson, WINTERS, Cal.

EGGS FOR HATCHING.

EGGS FROM MY PRIZE WINNING BARred Rocks; won all firsts, all seconds but one, and all specials on Barred Rocks at L. A. C. P. A. Show, 1907. Eggs from best pens, $3 per 15; $12.50 per 100. Stock for sale. CHAS. E. SMITH, Gardena, Cal. San Pedro Interurban car to Smith's Crossing.

WANTED—MALE HELP.

NINETEEN JOBS GOING AT PRESENT—Electricity, plumbing, bricklaying taught in few months; tuition back after two months' advanced students paid wages. Free catalogue. UNION TRADE SCHOOL & CONTRACTING CO., 120-126 E 9th St., Los Angeles, Cal.

DOGS.

SABLE AND WHITE COLLIE PUPPIES—Sires, Brandane Wishaw Squire and Glen Fana Bounder, litter brother to Aufield Model. Dams, Ormskirk Gloriana and Presidio Nellie. $10 to $25; 2 to 8 months. GLENALPINE KENNELS, Grandville, Cal

TREES.

FOR SALE—1,500 EUREKA LEMON TREES and 1,000 Washington navel orange trees true to name. Also street and ornamental trees. Clean, healthy stock only offered. GEO. B. WARNER, SANTA ANA, CAL.

WANTED—ORDERS FOR EUCALYPTUS trees for spring delivery. Write for prices. Seed of the Rostrata and Sugar gum for sale. ENCINITAS FLORAL & PRODUCE CO., Encinitas, Cal.

RANCH WANTED.

WANTED—BY A PRACTICAL FARMER, TO lease a ranch with stock and tools or a position as foreman. Reference given on request. Address GEO. J. HUTTER, Tehachapi, Cal.

PIGEONS.

HOMERS FOR SQUAB BREEDING—ARE prolific breeders and are banded. Price $2.50 per pair. WM. CULP, Escondido, Cal.

MOVED AND ENLARGED.

The Morris & Snow Seed Company recently incorporated, has moved to new and larger quarters at 425 South Main street, Los Angeles. The former location was 555 South Main street.

The officers of the company are President, O. M. Morris, vice-president B. F. Reichard and secretary and treasurer M. C. Snow. The new and more favorable location will give opportunity for enlargement stock and a much larger business.

Seeds of all kinds, bulbs and plants will be specialties.

Escondido will observe Admission Day as grape day and will use it to call attention to the fact that this prosperous community of San Diego is a grape producer.

Queries and Replies

Questions to be answered in this department should be received at this office one week before reply is expected. Write plainly on one side of the paper and sign full name and address. Unsigned communications receive no attention.—Ed.

Grape Juice.

Please give information as to how to make grape juice out of California grapes.—J. K., Upland.

There are several different ways of preparing grape juice so it will remain sweet or unfermented for an indefinite length of time. To preserve the juice without boiling or by sterilization is more or less complicated although it gives much the nicer flavored product. Description regarding methods of sterilization may be found in Farmers' Bulletin No. 175, which may be had by addressing the Department of Agriculture, Washington, D. C. The simpler method, that of boiling and canning, is as follows:

Wash the grapes and pick from the stems. Put the fruit in the preserving kettle and crush slightly; heat slowly and boil gently for half au hour. Crush the fruit with a wooden spoon. Put a sieve or colander over a large bowl and spread a square of cheese cloth over the sieve. Turn the fruit and juice into the cheese cloth; drain well, then draw the edges of the cheese cloth together and twist hard to press out all the juice possible. Put the strained juice in a clean preserving kettle and on the fire. When it boils up, draw back and skim. Let it boil up again and skim; then add the sugar and stir until dissolved. Boil five minutes, skimming carefully. Fill hot sterilized jars or bottles. Put the jars or bottles in a moderate oven for ten minutes, in pans of boiling water. Have some boiling juice and pour a little of it into the jars as they are taken from the oven; then seal. Place on boards and set aside out of a cold draft. A good proportion of sugar and juice is one gill of sugar to a quart of juice.

Cover Crop.

Wheu is the best time to sow burr clover for a cover crop in this locality? Also tell me what treatment to give almond tree which is about 14 or 15 years old and bears but very little.—Hazelcroft, Glendora.

If you have plenty of water, seed may be sown at once, or at any time for the next month. The treatment for the almond tree is hard to describe, for we fear you will uever secure much return from it. An old orchardist to whom this question was referred only gave the laconic answer, "Dig it up."

Cover Crops for Walnuts.

I have 35 acres of English walnuts near Nipomo. Trees are 17 years old; soil a dark, sandy loam. Have no water for irrigation. yet raise a good average crop. Would it be best to inoculate the seed or may I buy the seed ready inoculated? How close should I plant to the trees?—D. A., Nipomo.

Without doubt the orchard will be benefited by a good growth of cover crop. Having no irrigation water it is yet too early to plant the seed. Knowing your own district, if you are able to estimate about the time of the first rain, it would be well to anticipate it and have the seed iu the ground ready to get the very first moisture possible. The seed does not come ready inoculated but the bacteria may be had of the seed houses in a form simple to use, with full directions accompanying. Where the ground has been given clean culture for the length of time this has, we should judge the cover crop treatment is exactly what it needs to put it in better working condition. A little bone meal or superphosphate applied at the time of the sowing of the seed will probably give a stronger growth to the cover crop and be of more benefit to the trees.

Mange.

Kindly inform me through your columns what will cure the itch or mange in horses. It comes in spots on face, breast, mane, tail and under the belly. Have tried several sheep dips but they give only temporary relief.—H. E. K., Holtville.

Give in feed every alternate day for a week a teaspoonful of a mixture of equal parts of sulphate of antimony and sulphur. At the same time wash affected parts with a solution of creolin and water.

Fumigation for Black Scale.

I have three orange trees which are very bad with black scale. Kindly give me amounts for different ingredieuts used in hydrocyanic fumigation, or any way to get rid of scale. The trees look bad all the time, as if they were in need of water.—Subscriber, Veutura Co.

The manner of fumigation was given in a recent paper, but approximately a good sized dose for your trees is one ounce cyanide to each 100 cubic feet of space under the tent. Of course as you may see in the Cultivator, one ounce cyanide calls for one ounce sulphuric acid aud three ounces water. Unless there are fumigating tents handy or you have some means of securing them, spray with strong soapsuds in which is a little distillate, or with the regular whale oil soap solution, and you will probably perform the work much more easily and nearly as satisfactorily.

Winter Rhubarb.

Please inform me what is the best thing to do with my Crimson Winter rhubarb planted last season? Should stalks be cut? Has made a good growth and I would like to get it in shape for winter cutting.—J. C. S., National City.

The sooner the old leaves are pulled, the sooner will you be able to get the fresh cutting. To secure the best results at this period you will have to irrigate.

Tuberculosis.

How cau we fiud out whether our cow has tuberculosis? She is thin, has slight cough. We would like to feel safe about usiug the milk. If she should have the disease is it best to have her killed? What is the expense of having the test made?—E. A. H., San Dimas.

The test is comparatively simple aud where farmers have joined together to learu the process the university has seut experts to give full explanatiou. This ou condition the information is to be passed on to other farmers. However, where only one or two cows are to be treated, the best method would be to get the nearest veterinarian. The price for testing in Los Angeles is $5.00; if a veterinarian should go from Los Angeles to San Dimas, it would necessitate of course the additional expense. If neighbors could be induced to have several cows tested at one time the additional expense would be comparatively nothing. The only course open in case the test shows the animal to be diseased is to slaughter the animal. We believe there is no known cure.

Anthrax Cure, Mlix Fever Outfits. See O. J. Weber Co., 555-557 S. Los Angeles street, Los Angeles.

Tipping Loganberries.

When is the best time to tip loganberries and dewberries? Is it best to shorten them, say to six or seven feet when tipping them, as my vines are so long. What time is best to spray them for white scale and what kind of a spray is best.—Subscriber.

Any time from October 1 to December 1. The shortening should not be done until after the tips have rooted. While it is possible to root the canes at every joint the tips make so much finer plants that it will pay to use them only. The length of cane left after pruning will depend upon the distance apart in the row. Usually four feet is long enough. If they stand more than four feet apart the canes may be longer.

Spray in February or March with kerosene emulsion.—Q. A. L.

Raising Onion Seed.

I wish information about raising Prize Taker onions for seed in the San Joaquin Valley. Would it be a profitable investment? What kind of land is best, and will the largest onions produce more or a better grade of seed than the medium size ones? When should I set them out, and how many will I require to set an acre? Would also like to know something about the harvesting and preparing seed for market.—A Reader.

I would deem it unwise for an inexperienced person to attempt to grow onion seed for market. Reliable seedsmen are very exacting in their contracts for onion seed, and a novice would find, I think, considerable difficulty in effecting a satisfactory sale. If the inquirer really wishes to go into the business, the right way would be to work a year on some of the large seed-growing farms that are well established, and know every detail.

Briefly stated, the onions are grown—say this season, and kept through the winter, and in the spring set out and well cared for during the summer until they go to seed, when the crop is harvested.

It is a business full of details, and must be learned by long experience. To write out these details so as to be of use to your correspondent would require a good-sized pamphlet. It is an interesting work, that of seed growing, but to be successful it must be learned just as any other business is learned.—Q. A. L.

The Salt Air Pavilion, recently completed at Salt Lake City, Utah, is perhaps the largest single structure of its kind under one roof in the United States. The actual amount of roofing required (the roofing being 32 inches wide) was over four miles. The fact that the Pioneer Roll Paper Company of Los Angeles, California, secured the contract, is but another proof that their roofing is all that they claim for it. Rubber Flaxine and Rubber Sanded Roofing are manufactured by the Pioneer Roll Paper Company at its plant in Los Angeles, California. The Pioneer people will be glad to send a copy of their illustrated booklet "Roof Talk" to anyone upon request.

Stauislaus county is to have an extensive exhibit and a special county day at the State Fair.

The Ornamental Garden

ITALIAN GARDENS.

A TYPICAL Italian garden or better, the home grounds of a gentleman of wealth, is usually a plot rectangular in shape, of perhaps ten or fifteen acres, says a writer in the Los Angeles Times. Its length is about twice or three times its breadth. The terraces are uneven in number, three or five, and the street entrance is at the lower level. Wooded land, oftener the stone pine or cypress, is used to make a pleasant break for the eye where the formality of walks and pavements or the brilliant effect of flower beds is too pronounced.

These Italian gardens rarely have a lawn as we know it, simply for the lawn itself; grass is only one detail of the picture. In some of the older grounds there are wide spaces now grass covered, which once served as open-air theaters for athletic sports, but the American lawn is unknown.

Taken altogether they look to us of the new world like stage settings for some opera, and this is in fact pretty much what they were originally. They were designed as a setting for the formal social life of the aristocracy as well as for private pleasure. Many, perhaps most of them, were only summer homes, but in others the house was a permanent palace, imposing and grand. But in all, the effect of statuary and architecture in combination with greenery and flowers was the central thought, and no plant was allowed to take its own free way; trees were clipped into a semblance of any form except their natural one, and flowers and vines were made to produce the effect of outlining some designed shape. Symmetry, ornament and order, never a semblance of nature or accident of growth.

French gardens of the middle ages were very like the Italian gardens, but as time went by they came to differ materially. In the early days, only such space as could be permitted within the moat or garrison was available, but with the possibility of wider stretches of land, came larger ideas, until wide fields and even forests were included. Long avenues were cut through thick woods, and regions many miles in extent were made to subserve to the scheme in view, but, always, their wildness was the one quality that was preserved.

Fountainbleau is an instance of this, all the seemingly wild territory being adjusted with a skill as accurate as that which goes to the making of the Luxembourg gardens.

The Italian people of leisure and wealth retired to their gardens for rest and relaxation, as the modern American goes to his summer cottage; here they walked in the arbors, rested beside the fountains, admired each other's collections of antiquities or what not, and had splendid entertainments. The lords of France were given to the chase and hunt, and distant castles in deep forests or gorges were better suited to their needs. Long vistas and vast levels are the natural outcome of this life.

In the treatment of water, French gardeners are distinguished by massive heights and business, as in Versailles, while in the Italian formal garden the amount of water used in fountains is very small, and a great variety of effects is produced by throwing it up in small jets, pouring it from basin to basin in thin streams, and running it in underground conduits to reappear on a lower terrace in cascades with marble steps and rockeries. Indeed the fountain is often chiefly structural.

The English gardener lays out the grounds around the home of the lord or country gentleman in a manner altogether differing, yet suited to the needs and tastes of the owner, as these are suited to the titled members of French and Italian aristocracy.

There is always evidence of the English love of privacy and seclusion, exemplified in walls and hedges, in massed groups of trees to serve as a drop curtain for various games. Even in a limited space the demand for a kitchen garden is met, and common sense and thrift are in evidence. There are occasional long vistas to give the sense of wideness, size. There are inclosures, whose exits are cunningly screened to afford the element of the unexpected. There are sunken gardens, where one may have the most enjoyable of all views of a small garden, looking down upon it. There are always beautiful lawns and flowers of the sort that one loves to pluck, certainly roses in abundance.

Some one has well said that however much we are refined and cultivated, there is always an underlying savagery which at times demands satisfaction, and to supply this need, one finds a near-by copse, or wild spot, left easy of access over pasture land and along wild hedgerow.

THE CARE OF GOLDFISH.

Goldfish should be kept in a broad mouthed glass vessel— a vessel with straight sides is best—which should always be nearly full of water, says the Chicago News. A few shells and a small quantity of gravel should be put into the vessel. Many persons are in the habit of dropping breadcrumbs in the water for the fish to eat, but that is very bad for them, as the bread soon sours. Regularly prepared fish food may be had, which should be given to them every day or two. It is a good plan, too, to keep a piece of water weed in the jar. It will grow floating on the water and the fish like to nibble at it.

The water should be changed at least twice a week, and it should be siphoned out, not poured. The best way to do is to use a piece of rubber tubing, say eighteen inches long. Put one end into the water and the other end in your mouth. After sucking the water partly up in the tubing, grasp the latter tightly with your thumb and finger, take the end out of your mouth and, still holding it tightly, drop it into the vessel into which the water is to be drained, which should be lower than the fish jar. The water will at once begin to flow and will continue to do so as long as the drain end of the tube is kept lower than the end in the jar.

MILDEW ON ROSES.

To prevent mildew of roses try the following:

Half a bar of ordinary soap dissolved in hot water. Stir in a quarter of a pound of flowers of sulphur, then add five gallons of cold water. Apply with a spray pump, or if care is taken to thoroughly wet the entire plant, an ordinary watering pot may be used. The mixture must be kept well stirred while using.

Sow pansies and stocks in well prepared seed bed out of doors; have soil light and sandy, well pulverized and leveled before seeding. Cover the seed very little and lay burlap right on the ground to keep the soil from breaking and to keep it always moist. As soon as the seeds are up, take the burlap off and shade the ground with a lath or cloth frame for a few days. Seeds sown in boxes in green houses come up all right, but often they damp off and cause a great loss of time and money. Carnations, salvia, Chinese pinks, verbena, petunia, etc., can be sown in the same way. Primula and Cineraria seeds have to be sown in a box filled with very fine screened leafmold and sand, the seeds themselves are barely covered, but the box is covered with a pane of glass. Great care must be taken to wipe off the moisture on the pane of glass, and also to get the little plants used to the open air by gradually taking off the glass. Primula and Cineraria are generally sown in a green house or cold frame.

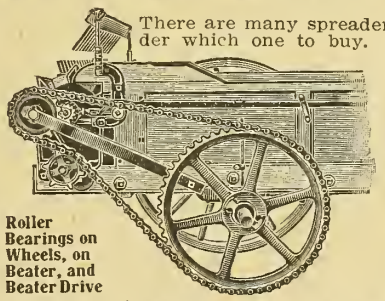
Convinced that humming birds will make good household pets, Miss Gwendolin Brooks will raise them at Central Islip, Long Island. She proposes to sell the tiny birds and already has a lot of commissions for them. In spite of their diminutive size they are not difficult to keep in good health and form a most interesting study Miss Brooks will make a specialty of the species known as the ruby-breasted birds. Their real home is in South America but they have become acclimated to this continent.

Keep the lawn from suffering for want of water. Golden glow is in its glory now; also Golden rod. Keep well watered for large bloom.

Wise economy is needed on the farm. Farmers should grow their own posts, poles, much fuel and material for repairing about the farm. On the prairie farms planting wind breaks points the way out.

Tulare County Agricultural Association is making exceptional efforts to put up a fine county fair this fall.

The One Roller-Bearing Spreader



Roller Bearings on Wheels, on Beater, and Beater Drive

There are many spreaders and so-called spreaders. You may wonder which one to buy. You don't want a machine that you will lay up in the shed for good after a few months. But there's danger of it. We believe we can help you to choose wisely. We have been over all the "features" of all the new spreaders in the 29 years we have been evolving

The SUCCESS

Spreader. It has always been the leading spreader. It was the gold medal machine at Norfolk. It controls patents on the best adapted appliances. It has tried and discarded scores of devices that proved not to be the best. It runs at least a horse lighter than any other spreader.

The Only Completely Roller-Bearing Spreader

It is practically unbreakable. No other spreader is so simple, so direct and positive in its workings, or so easily controlled. We are building for the whole country, and we build it to last—with right care—a farmer's lifetime.

Isn't that your kind of a spreader? Write for catalog and get the proof.

Kemp & Burpee Mfg. Co. **Syracuse, N. Y.**

Dutch and Japanese BULBS

Now ready. Send for our new Illustrated Fall ***Catalogue,*** now ready to mail. Remember, we are headquarters for

PLANTS SEEDS TREES

We are headquarters on the Pacific Coast for

EUCALYPTUS SEED and YOUNG TREES

Write Us for Special Quotations

Retail Store: 125 Market Street, San Francisco

In Writing, Address

C. C. Morse & Co., 41 Jackson St. San Francisco

What MORE Could You Desire In A Savings Bank?

20,000 Depositors
Strong Directorate
Capital and Surplus Over
$900,000
Resources
$10,000,000
GERMAN AMERICAN SAVINGS BANK
Tallest Building in Los Angeles
SPRING & FOURTH STS.
Heart of the Business Center
Model Banking Facilities

6% INTEREST PAID
STATE MUTUAL
BUILDING & LOAN ASSN.
223 S. SPRING ST., LOS ANGELES, CAL.

ESTABLISHED 1889
Largest Association in California
Assets [Jan 1, 1908] $2,002,111
No Admission or Withdrawal Fee
Only 30 Days' Withdrawal Notice
Money to Loan for Building
OFFICERS AND DIRECTORS
DR. W. G. COCHRAN, President
A. E. POMEROY, Vice President
J. M. ELLIOTT, Vice President
W. D. WOOLWINE, Vice President
C. J. WADE, Secretary

D. M. CUTHBERT, Loan Inspector.
Send for Booklet and Statement
Mention This Paper

Your Eastern Trip

SOUTHERN PACIFIC

May be arranged so that you may travel by way of

New Orleans and the Sunset Route
San Francisco and the Ogden Route
Portland and the Shasta Route

Enjoying the balmy air of the South or the cool and bracing air of the North.

Personally conducted excursions every day from Los Angeles via all routes without change to principal eastern points.

Southern Pacific

Household Department

MY CHOICE.

It ain't no use to grumble and complain;
It's jest as cheap and easy to rejoice;
When God sorts out the weather and sends rain,
W'y, rain's my choice.

In this existence, dry and wet
Will overtake the best of men—
Some little skift o' clouds 'll shet
The sun off now and then;
They ain't no sense as I can see,
In mortals sich as you and me,
A'faultin' Nature's wise intents,
And lockin' horns with Providence.

It ain't no use to grumble and complain;
It's jest as cheap and easy to rejoice;
When God sorts out the weather and sends rain,
W'y, rain's my choice.

—James Whitcomb Riley.

A CASE OF STOLEN THUNDER.

BURTON was a lightweight. But, as I learned to my sorrow, this did not prevent women from taking to him. What they saw in him was a mystery. He was neither good looking nor intellectual, nor rich, yet for some reason he pleased the other sex. To be sure, he had good manners and was innocuously pleasant—but then, so many men have good manners and are innocuously pleasant that it can hardly be deemed an asset of great value. He was sentimental! ah, that was it! Assuredly, he understood the art of falling in love, deeply, irretrievably—for the time being. With limits, it mattered little who the woman might be—were Burton's affections nascent, as the chemists put it, they were hers for the asking, or for a glance. It was an imperative need of his nature to be in love. To the unexpected observer there seemed danger of the failure of supply of available spinsters; but Burton's skill in discovering fresh recipients for his regard was equalled only by the inexhaustibility of his affection. Nature had endowed him liberally in this respect.

I had had long experience with Burton as a lover, and I had seen him in the role of songster, horseman and cyclist, according to the demands of the passing courtship; but there remained still one role in which I was to make his acquaintance—that, namely of poet. Unfortunately for myself, I was gifted with a certain facility in rhyming, sufficient to enable me to please myself and occasionally the editor of a minor magazine, but inadequate to more serious purposes. Naturally, my friends were aware of my versifying proclivities—what poet's friends are not?—and among these was Burton. I was, therefore, not surprised by his initial remark one Sunday morning when he had looked me up at breakfast—"You write verse sometimes, don't you, Fahnestock?"

"Oh, yes, occasionally," I said "When the humor strikes me."

"I see—humph! Well how does the humor strike you now?"

"Now?" I cried. "Why, man, I could not write a verse now to save my soul. Why do you ask me?"

"We-ell," he replied, avoiding my eye, "you see, I'm—I'm"

"Yes, you're—you're what?"

"Well, to tell the truth, Fahnestock, I've been trying to write a poem myself, but somehow it doesn't go quite right. I'm afraid I've lost the hang of it."

"Oh, I see! there's a woman in the case, is there?"

"A queen, Fahnestock, a queen!"

"Humph! I've heard of queens before. However, let me see the poem."

Nervously he fumbled at his pocket, from which at last he extracted a sheet of carefully folded foolscap paper, which he held out to me.

"I'm afraid—you know—it's a little bit incomplete still," he stammered, blushing, "but it'll give you an idea."

"Yes," I said, "it'll give me an idea."

Thereupon I unfolded the paper and spread it out before me.

" 'Seeking, humph! I've seen worse titles. 'The breeze for the rose is sighing—gold is her hair and her eyes are brown'—That's all right, Burton, and no doubt strictly true, but unfortunately the meter's a trifle variable; and, you know, there's foolish prejudice against a too frequent change of meter."

"Yes, I know," said my visitor; "that's the reason I came to you."

"Oh, I see—you want me to whip it into shape for you; is that it?"

Eagerly he nodded.

"And you say she's a queen?"

"Fahnestock, she's the one woman in the whole world; she is without a peer; there has never been anybody like her and there never will be, she—"

"Whoa!" I cried, "go lightly! Remember Genevieve."

"Fahnestock!" he cried, reproachfully, "I thought you incapable of such a thing!"

"Well, so I am in general, but acute attacks require heroic measures. But to come back to the poem; what is it, exactly, that you want me to do?"

"I want you to take it, old man, and get the meter right and the rhymes and the rest of it—just touch it up a little—and then—"

"And then you'll send it to her as your own—eh?"

He nodded.

"Burton," I said, sternly, "this is forgery, swindling, obtaining affection under false pretenses. I ought not to abet you in such nefarious undertakings—but give it here; I suppose I've got to do it for you."

"Oh, Fahnestock," he began, "I shall never forget this! You are my friend forever—"

"Give me the poem," I said, dryly, "and go into the other room while I try to whip it into some sort of shape."

In this I succeeded better than might have been expected. Indeed, "Seeking" turned out in the end to be a far better poem than many that I have had printed; it was instinct with passion. This may seem strange, but the explanation is simple enough—while writing I called up before my mind the face of her to whom I fain would have had the right to indite such words, the face of Madeline Carter, whose very name had power to thrill me, and without whose smile life held but faint charm. And, lo! when I thought of her the words flowed from my pen as though I, too, had been born in Arcady.

Was it to be wondered at, then, that Burton was delighted with my effort, and departed with protestations of eternal gratitude? I smiled as I saw him hastening down the street, impatient to reach home and copy the verses and send them off to his lady love as the product of his own brain. Madeline Carter—Francis Burton! Could there be a more incongruous pairing? Burton, light, flippant, inconsistent; and Madeline, calm, true and unchanging. It seemed almost a desecration to her to associate them together even in one's mind. I could picture to myself the style of girl who had captured Burton's heart, and smiled in thought of the superiority of my choice.

My own love affair quickly came to

Deposit Your Surplus Savings
WITH THE
California Savings Bank
Los Angeles, Cal.
4% Paid on Time Deposits
3% Paid on Checking Accounts

STUDY AT HOME
READ—THINK—ACT
We are teaching over 3000 students at their homes, in Collegiate, Commercial and Normal subjects.
No interruption of regular work.
To study with us is a pleasure.
Lessons carefully examined and corrected, and promptly returned.
Send for complete catalogue.
We want local representatives throughout California.
Help yourself by helping us.
Modern School of Business and Correspondence, San Jose, Cal.
WRITE TODAY DEPT. D

No Place Like the Country
for lack of good home entertainment. My Portable Billiard and Pool Tables fill the gap. Good, clean enjoyment for all. All sizes. Prices to suit your purse. Catalog?
C. Ridderhof, Laughlin Bldg., Los Angeles

FARMERS' BOOKS
Order Through the Cultivator

FEEDS AND FEEDING.—By Prof. W. A. Henry. Is a thorough, accurate and reliable handbook for students and stockman, giving most practical and useful knowledge on plant growth and animal nutrition, feeding stuffs, feeding animals and every detail pertaining to this important subject, indispensable to every owner of live stock. 658 pages. 6x9 inches.
Cloth $2.00

AMERICAN GRAPE GROWING AND WINE MAKING.—By George Hussmann of California. With contributions from well known grape growers, giving wide range of experience. The author of this book is a recognized authority on the subject. Illustrated. 269 pages. 5x7 inches.
Cloth $1.50

STANDARD OF PERFECTION.—By the American Poultry Association and used as the standard for judging all shows. The thing for dealers in fancy stock.
Cloth $1.50

PERFECTED POULTRY OF AMERICA.—This is the most recent publication, and is one of the finest poultry books ever issued. It contains full page illustrations of all breeds and varieties of poultry, turkeys and water-fowl. On many of its pages are represented the feathers from each section of the fowl. Gives the information necessary for the selecting of the best specimen in your flock.
Cloth $2.50

A, B, C, AND X, Y, Z, OF BEE CULTURE.—By A. J. and E. R. Root, the leading authority on Bee Culture Its reputation is known to all Beekeepers. 536 pages.
Cloth $1.50

CAMPBELL'S SOIL CULTURE MANUAL.—By H. W. Campbell. The originator of the "Campbell System of Dry Farming." A complete guide to scientific agriculture as adapted to the semi-arid regions. Of great value to all Western ranches. 320 pages.
..... $2.50

THE NEW AGRICULTURE.—By F. Byard Collins. A new and authoritative work dealing with the changing agricultural conditions. Why "Back to the Soil" is calling millions from the cities to the farm. The debt which agriculture owes to science. Irrigation, fertilization, machinery, etc.
Illustrated, 374 pages, cloth.....$2.00

Cultivator Publishing Company

a climax, and alas! to an unsatisfactory climax. Madeline had come on to New York for a visit, and I lost no time in pressing my suit. For a while she seemed to hesitate, then one unhappy evening she gave me her answer and my house of cards lay in ruin at my feet.

"I am sorry, Mr. Fahnestock, very sorry, she said, in that gentle manner in which good women inflict unavoidable pain, "but what you ask is impossible—I have already given my heart."

"Oh!" I cried, "then, of course, there is nothing more to say," and I arose and moved to the window.

"Don't you care to know to whom I am engaged?" she asked.

"Yes, if you care to tell me."

"To a Mr. Burton of Virginia."

What!" I cried. "What Burton?—not Francis?"

"Why, yes, do you know him?"

"Do I know him?" I groaned; "do I know him? Lord, this is awful! You wouldn't marry that man?"

"Mr. Fahnestock!" she cried, and every drop of blood left her face, "you forget yourself! Do you realize what you are saying?"

"For a moment we stood looking fixedly into each other's eyes. Then my sanity returned and I bowed my head.

"You are right, Miss Carter," I said, "I did forget myself. I was mad with disappointment. Please attribute it to that. It shall never occur again.

Therewith I got out of her presence as quickly and gracefully as I could, and hastened into the silent night to be let alone with my grief. Madeline Carter to marry Francis Burton! It seemed like a monstrous joke. And I had not even known of their acquaintance!

Madeline was too gentle and forgiving to treasure up my outbreak against me, and when my wound had healed, at least superficially, we drifted into a state of friendship which to the eyes of strangers was founded on a mutual regard as platonic as it was sincere. Not only that, but on the occasion of her marriage with Burton, which occured in New York, I served in the capacity of "best" man, and at the breakfast afterward it was my voice which brought out the toast to the newly wedded pair. And later, after she and her husband returned from their wedding trip and settled down into the steady course of married life, I gradually came to hold the position of a friend of the family who is always welcome and adapted to the role of confidant. Burton was still the same superficial, light-brained butterfly that he had always been, although I must do him the justice to say that his devotion to his wife was exemplary. That is, it would have seemed exemplary had it not been rewarded by a devotion so much greater and deeper that it shrank into insignificance. Madeline's admiration for her husband was boundless. She never wearied of talking about him. In her eyes he possessed all the virtues and talents, and if the world did not reward these as they deserved, it was solely because the world was not run on principles of justice. It was touching.

"I only wish he could take up his writing again," she said to me one evening when we were alone, during Burton's absence at the office. "I am sure he has great talent for it."

"Oh, is that so?" I replied, wondering whence she had derived this fond conceit.

"Yes, he can write most beautifully if he only has a mind to, especially poetry. One thing he wrote me before our engagement is exquisite. Wait a moment and I'll show you."

Without waiting for my reply she ran across the room to her desk and took out a paper from one of the pigeonholes. This she unfolded and handed to me.

"There, see, if you don't think that beautiful."

With a premonition of the truth I cast my eyes on the paper. "Seeking"—it was my poem which had come back to me after many days! Silently I read the familiar lines, and then returned the paper to her.

"Yes," I said, "it is charming. Only a man who loved you very deeply could have written that."

"Yes," she said, "I knew you would appreciate it."—William Wallace Whitelock, in the Reader.

RECIPES.

Dill Pickles from Fresh Stock.

Dill pickles from fresh cucumbers are of high quality, but not quite as satisfactory keepers as when made from salt stock. In preparing fresh stock for dill purposes, fresh cucumbers as they come from the field are placed in casks from which one head has been removed. A layer of pickled dill and one quart of dill spice is placed at the bottom of the barrel. The cucumbers should be assorted carefully as to size, one grade of about four inches in length being placed in one receptacle and another grade of five inches in length, or approximately this length, in another barrel. After a cask has been filled, a layer of dill is placed over the fruits before the head is replaced. After the cask has been reheaded, the commercial practice is to remove the bung and fill the cask containing cucumbers with a 45-degree Baume test brine, adding one pound of porous alum to each 45 gallons of brine. The cucumbers are left in this brine five days. The first brine is then replaced by a thirty-degree brine, to each 40 gallons of which one-half pound of porous alum and four gallons of 80-grain vinegar are added, the whole heated to 160 degrees F. before being placed in casks.

Dill Pickles From Salt Stock.

To make dill pickles from salt stock, the cucumbers are removed from the brine, placed in a tank and covered with fresh cold water, and are allowed to remain for twenty-four hours, after which the water is drawn off. The tank is then again filled with fresh water, to which is added two pounds of alum and two ounces of turmeric to each barrel of pickles in the tank. The whole mass is then heated up slowly to 130 degrees F. The fruits are allowed to stand in this cooling mixture for twelve hours, when they are sorted and packed.

Before beginning to fill the cask with cucumbers, place a layer of pickled dill herb at the bottom of the cask, fill the cask half full of processed cucumbers, and add another layer of dill herb, at the same time placing in the cask one quart of dill spice, consisting of the following proportions of whole spices: 4 pounds of allspice, 2 pounds of crushed black pepper, 4 pounds of coriander seed, and 1 pound of bay leaves. After adding this spice and the layer of dill herb, complete the filling of the cask, but before replacing the head of the cask scatter another layer of dill herb over the cucumbers. After being reheaded, the bung is removed and the cask filled with dill brine consisting of one-fourth barrel of dill herb, 1½ pounds of alum, and 100 gallons of 30-degree brine. At the time of filling the barrel 1 gallon of 50-grain vinegar is added to each 10 gallons of the brine. This brine should be allowed to stand twenty-four hours before using it to cover the processed cucumbers packed in barrels as above described.

The Oldest Savings Bank in California

FOUNDED IN 1857

The Savings and Loan Society

101 Montgomery St., Cor. Sutter St., San Francisco

CAPITAL FULLY PAID $1,000,000.00

Exclusively a Savings Bank whose policy is for ***Conservatism*** and ***Safety,*** the result of ***50 years experience.***

Deposits may be made and withdrawn by mail.

San Francisco Savings Union

Founded June 18, 1862 Northwest Cor. California and Montgomery Sts., San Francisco

Conducts a Savings Bank Business Exclusively

Capital Paid Up, $1,000,000.00. Surplus, $1,183,632.00.

Total Assets, $27,508,850.00.

E. B. POND, President.

W. C. B. de FREMERY AND C. O. G. MILLER, ... Vice-Presidents.

LOVELL WHITE, Cashier. . . . . R. M. WELCH, Asst. Cashier.

DIRECTORS: John F. Merrill, Wm. A. Magee, W. C. B. de Fremery, H. C. Breedan, Jacob Barth, Fred H. Beaver, Wakefield Baker, C. O. G. Miller, E. B. Pond.

Every facility afforded for opening accounts and making deposits and withdrawals by mail. Correspondence invited.

$16.30 buys this handsome six-hole Nickle-Trimmed Cast Range direct from the Manufacturer

without high shelf. With high shelf, just as shown in the cut, $19.97; large oven, six cooking holes, best quality of iron. Burns coal or wood. Handsome nickel trimmings. OUR TERMS are the most liberal ever made. You can pay after you receive the range. You can take it into your own home and use it 30 days. If you don't find it exactly as represented, the biggest bargain you ever saw, you won't have to keep it.

Write today for our beautifully illustrated Stove Catalogue No. 101-C. A postal card will do it. Don't buy until you get it.

P. F. Ross & Co.

268 Market St. San Francisco, Cal.

Become an— **EXPERT BOOKKEEPER** Market and Post San Jose Cal.

H. E. COX. Pres. **Pacific Coast Business College**

Home Made Ice Cream and Candy

Appeals to Everyone in the Family

Has been going since the very day of publication. Full of all that is known about Home Made Ice Cream and Candy. Nearly Three Hundred Formulas.

Make 60 cent Chocolates for 15 cents

Taffies Nut Candies Butterscotch Everything

A 50c Book **You Get It Free With the Cultivator** For 1 Year's Subscription

Paid in advance. For old or new names who pay for the coming year. Enclose a $1.00 bill and ask for the "Candy Book." But remember, you will not receive the book unless the remittance pays for at least a whole year from this date. Address

Cultivator Pub. Co., Los Angeles, Cal.

Clubbing Order Blank

_____ 1908

CULTIVATOR PUBLISHING CO.,
115½ No. Broadway, Los Angeles

Gentlemen—Enclosed find $2.00 for which please credit my **Cultivator** subscription one year from _____ 190__ to _____, 190__, and also send **Sunset Magazine** one year to the following address :

NAME P. O. ADDRESS

_____ _____

SIGNED _____

ADDRESS _____

The Produce Markets

Los Angeles Markets

LOS ANGELES, Sept. 2, 1908.

Butter.

An advance of 2½ cents is noted in extras and a firmer tone prevails in the butter market. Receipts are normal and nothing of special note appears in general conditions. Sales of ex creamery are made 2½c in advance of quotations.

Wholesale quotations now are:

Creamery ex per roll..............57½
Firsts.... 55
Dairy.... 25
Cooking...... ....23½
Butterine"...... .. ..15@20

Cheese.

Southern California...... .....16@16½
Northern fresh... 14
Longhorn...... ....17@18
Eastern singles.... ....15¾@16¼
Cheddars... ... .17
Imported Swiss...... ....28@28½
Swiss....... ....17½
Oregon........ 15
Limburger...... 18

Eggs and Poultry.

An effort to beat down egg quotations has been made but light receipts has held materially same quotations as a week ago. In fact, bringing price of case count was beaten down 1½c one day last week but quickly recovered.

Eggs local candled..................35
Eggs case count 30
Firsts fresh...... 33
Eastern fresh...... ....25@26
Eastern fresh jobbing price....23@26
Storage...... 26

Poultry is showing more interest and a slight advance in quotations is observed.

Wholesale prices..

Hens per lb......... ....12@13
Young roosters per lb..............17
Fryers.... ....15@17
Broilers per lb.... ....15@17
Roasters.... 18
Old roosters....... 7
Turkeys..... ....16@20
Geese....... ....10@11
Ducks.. ....11@12
Squabs...... ....1.25@1.50

Live Stock.

The following quotations are f. o. b., Los Angeles, on all stock.

Hogs from 175 to 200 pounds........6
Prime steers..... ....4¼
Heifers... ....3½@3¾
Calves per lb....... ....4½
Sheep ewes per head........3.75@4.00
Lambs per head...... ......3.00@3.25
Wethers.. .... .4.00@4.50

Potatoes.

A material advance in quotations on potatoes has been made during the week and the strong bear movement seems to have collapsed. The large dealer who had attempted to bear the market failed to deliver his large sales offered at ruinously low prices, which showed the trade that conditions were not what they seemed, hence a strong advance.

Wholesale prices are:

Sweet potatoes per ctl........1.75@2.00
Burbanks choice.... ....25@75
Northern Burbanks fy........... 1.25
Local Burbanks.. ....1.55@1.70
Highland fancy.... ....1.40

Onions.

Wholesale quotations are:

Bermudas per 100 ....1.00@1.10
Silverskin new....... ....1.00
Northern Red........ ....90@1.00
Australian Browns.... ....1.00@1.10
Danvers...... ....90@1.00
Garlic...... ....9@10

Vegetables.

The following are commission house prices; deduct freight and commission to secure farm prices.

Asparagus per doz......... 90
Artichokes per doz.......... 40
Artichokes local box...... 40
Beets per doz......... ....25@30
Bell peppers per lb large........3@5
Bell peppers box.. ....15@20
Beans limas per lb...... ....3@3½
Beans string...... ....3½@4
Brussels sprouts per lb.. 10
Cabbage sack........... ....75@85
Cabbage red per lb..................2
Celery per doz green hothouse..1.25
Corn per box...... ....35@40
Chili peppers per box..... ......15@20
Cucumbers per box... ....20@25
Cauliflower per doz...............1.40
Carrots per doz.............. ....25@30
Egg plant per lb.... 1
Green onions doz bunches......20@30
Horseradish...... ....12½
Lettuce per crate.. ....90@1.00
Mint per box........ 40
Okra... ....5@6
Peas sugar per lb.... 6
Parsley. 30
Parsnips...... ....35@40
Rhubarb per box...... ....1.25
Radishes per doz. . ...15@20
Summer squash per box..... 25
Spinach per doz.. ....15@17
Turnips dozen bunches...... ...25@30
Tomatoes lug box......... ......15@30

Citrus Fruits.

Valencias...... .... 2.30@2.50
Grapefruit seedless....... ....3.00
Grapefruit seedlings...... .. 1.75@2.00
Lemons fy ....2.00@2.25
Lemons choice...... ....1.50
Limes 15-lb box...... 75

Fresh Fruits.

Wholesale prices on the market are:

Red Astrachans new.................75
Astrachans packed box........1.35@1.50
Bellefleurs....... ....1.15
Alexandria 4-tier...... ... .1.00
Gravenstein 4½-tier.... 75
Crab apples...... ....1.10
Apricots cold storage........ 50
Cantaloupe locals large crate.....2.25
Casaba crate...... .... 2.00
Figs per fig box..... ....1.10
Figs blk per fig bx...............1.15
Grapes Thompson seedless 50
Grapes seedless Sultanas............50
Grapes Concord per crate....1.00@1.50
Muscats per lug box.. ....50@75
Grapes Malaga...... ....50@75
Grapes Tokay...... ....1.25
Rose of Peru...... ....50@75
Grapes Black Hamburgs........50@75
Nectarines..... ....1.25
Pears per box........ ....1.15@1.35
Pears lug box........... ......75@85
Plums Sonoma.... ....50@60
Plums Kelsey........ ....50@75
Plums egg...... ....50@60
Hungarian prunes...... 85
Peaches per lug box.............50@65
Peaches clings.... 50
Pineapples per lb 7
Quinces..... 75
Raspberries per box...... 9
Strawberries per box...... ....4@7
Extra fancy........ 10
Bleckberries per box..... 7
Loganberries per box..... 6
Watermelons per lb...... ....¾@1

Dried Fruits.

Wholesale prices are:

Apricots...... ....7@9
Evap. apples fy per lb...........7½@8
Figs loose white...... 6
Figs blk........ 4
Peaches.... ....6@7
Pears.... ....11½@12½
Nectarines...... 14
Prunes... ....4@4½

Beans Dried.

Wholesale prices:

Limas per ctl........ ....5.50
Pink No. 1...... ....3.55@3.85
Lady Washington...... ....4.85
Small white new crop.............4.70
Black eyes.... ....3.80
Garvanzas... ....4.80@5.00
Lentils... ....9@10
Bayou.... ....3.80

Nuts.

Almonds IXL per lb............14@15
Pecans polished...... ....10½
Peanuts Virginia...... 8
Peanuts California........ 7
Walnuts No 1 SS.....................14

Honey.

Wholesale quotations:

Extracted Water White..... ..7½@8½
Extracted Amber... ....6@6½
Comb W W................... 15
Comb white......... ... .14

Hay.

Price paid to producers f. o. b. Los Angeles are as follows:

Barley No 1........ ....13.00@15.00
Barley No 2......... ....10.00@13.00
Alfalfa northern per ton....11.00@12.50
Alfalfa local...... ....12.50@14.00
Plain oat No 1.............15.00@17.00
Wheat No 1............ ......13.00@16.00
Wheat No 2........... ......12.00@14.50

Grains.

Wholesale selling price f. o. b., Los Angeles.

Wheat new per ctl..................1.85
Wheat in 100-lb sacks...... ......1.90
Kaffir corn.... ....1.80
Barley....... ....1.55
Corn Eastern sacked...... ....2.00
White oats.. .. ..1.90

Feed Stuff.

Selling price F. O. B. Los Angeles as follows:

Cracked corn........ ....2.05
Shorts........ ....1.80
Bran........... ....1.65
Oil cake meal............ ....2.50
Feed meal...... ....2.10
Rolled barley 1.50

Tulare county is to have a fish hatchery.

San Francisco Markets

SAN FRANCISCO, Sept. 1, 1908.

Butter.

Butter advanced on Cal. extra two cents soon after last week's quotations and stood at 25½ till Monday when heavy accumulations compelled a half cent decline. Present condition is firm in tone. Lower grades are exactly as last week.

California extras per lb.............25
California firsts... 23
California seconds...... 22
California thirds...... 20
Fresh packing stock...... ....20½
Packing stock No 2..................19

Cheese.

Cheese is weaker and featureless.

California young American fy....12½
Firsts...... 12
California flats fy..... ....10½
Firsts.......... 10
Young America fy 14½
Eastern fy........ 16
Oregon fy...... 13

Eggs and Poultry.

Eggs, extras, dropped to 35 on Aug. 27, and the next day another half cent at which point they still stand. At that quotation there are few sales, with plentiful supplies coming in. Lower grades and Eastern remain the same.

Official quotations of the S. F. Wholesale Dairy & Produce Ex. are:

Fresh ranch extras...... ....34½
Eggs firsts per doz...............32½
Eggs seconds.... .. ..26½
Eastern selected.... 27
Eastern firsts 25
Eastern seconds.... 23

Hens per doz.......... ....4.00@6.00
Hens extra.. ....6.50@7.50
Young roosters......... ....5.00@6.00
Old roosters...... ....3.50@4.50
Fryers per doz.... ....4.00@5.00
Broilers per doz........ ......3.00@3.50
Geese per pair...... ....1.50@1.75
Goslings per pair...... ......1.75@@2.00
Ducks young...... ....5.00@6.00
Hen turkeys per lb.............20@21
Gobblers live...... ....19@20
Spring turkeys......... ....22@24
Pigeons young........ ....1.50@1.75

Live Stock.

San Francisco prices gross weight:

Steers No 1...... ....3¾@4
Do second quality...... ......3¼@3½
No 1 cows and heifers..........2¾@3
Second quality...... ....2¾
Hogs 100 to 130... 6
Hogs 130lb. to 250..............6¼@6¾
Rough heavy ....4¼@5½
Calves per lb......... ....3½@4¾
Lambs spring.... ....4¼@4½
Wethers No 1........ 4
Ewes No 1...... ....3½

Potatoes.

Wholesale market quotations:

River whites fy...... ....75@1.00
River Whites poor.... ....60@70
do per box.......... ....1.00@1.15
Early Rose new........ ....75@85
Salinas Burbanks.. ....1.35@1.50
Sweets per lb 2

Vegetables.

Wholesale quotations:

Asparagus per lb....... ....7@8
Asparagus No 2..... ....4@5
Bell peppers per box.............35@50
Celery per doz...... ....35@50
Cucumbers per box..... ....20@50
Chili peppers per box...........35@40
Corn per sk...... ....1.00@2.25
Corn per crate... ....1.25@2.00
Egg plant per box...............25@35
Green peas per lb...... ....2@4
Lima beans....... ....5½@6
Squash per box..... ....20@35
Onions green per box...........70@75
Okra per box... ....30@50
Rhubarb per box....... ....50@65
Tomatoes River large box......15@50
String beans...... ....2@4½
Wax beans....... ... .2@4½
Garlic new.... ....4@5

Onions.

Onions yellow per sk... 50

Citrus Fruits.

Valencias fy.. ....2.50@3.50
Grapefruit seedless........ ..2.00@3.50
Lemons ch..... ....2.00@2.50
Lemons fy....... ....3.00@4.00
Limes...... ....4.00@5.00

Fresh Fruits.

Apples green per box............25@50
Apples fy Gravenstines. ....75@1.00
Apples Astrachans........ ......50@75
Crabapples........ ....50@60
Blackberries per chest...... ..2.00@3.00
Cherries white per drawer......35@60
Cherries Royal Annes......... ....3@6
Cherries Black.... ....3½@6
Currants per chest.. ....5.00@7.00
Figs per crate one layer.........65@75
Grapes per crate seedless.......40@60
Grapes sweetwater... ....25@35
Grapes Muscats.... ....50@65
Grapes sweetwater.... ....30@45
Grapes Rose of Peru............30@45
Grapes Tokays.. ....60@75
Huckleberries per lb........ ....9@12
Loganberries........ ... .4.00@6.00
Cantaloupes Turlock.... .. ..1.25@1.50
Cantaloupes River... ....25@50
Nectarines red..... ... .75@1.00
Nectarines white... ....50@60
Pears Bartlett per box..........15@50
Pears other varieties...... ......40@50
Pears per ton...... ....15.00@20.00
Plums lug box....... ....40@50
Plums Damson...... ....35@50
Peaches lug box..... ....30@60
Peaches lug box.... ....40@60
Peaches baskets.... ... .35@45
Aligator pears per doz.......7.00@9.00
Raspberries per chest... ....6.00@11.00
Strawberries per chest... ...5.00@10.00
Longworths per chest.........6.00@8.00
Watermelons per doz... ....1.00@2.25

Dried Fruits.

1908 prunes being contracted for at 4@4½ cents for Santa Claras and 4 for outsides.

Apricots show remarkable firmness and have advanced materially. In fact all dried fruits are showing much interest.

New crop contracts, 25-lb. lots—Apricots per lb.: Choice, 8½@8¾; fancy, 10½@11.

PEACHES—Choice 7½@7¾; extra fancy 9@10.

Apples (evap.)...... ....4½@6
Figs white........ ....2¼@3½
Nectarines.... .. ..10@13
Plums pitted...... ....12@15
Peaches st........ ....5@5¼
Peaches ch.... ....5¼@5½
Peaches fy...... ....6@6½
Pears.. ....5@5½
Prunes 4-size bag basis........3½@3¾

Nuts.

Walnuts S S No 1 new crop...12½@13
Walnuts No 2......... ....10@10½
Almonds nonp.... ....11@12
Almonds IXL.... ....10@10½
Ne Plus Ultra....... 10

Beans Dried.

Limas...... ....4.75@4.85
Pink..... ....3.15@3.25
Small white......... .. ..4.75
Large white 4.35
Lady Washington...... ......3.45@3.50
Black eyes........ ....3.40@3.60
Red kidneys.......... ....2.75@3.00
Garvanzas..... ... . 2.00@2.25
Bayo........ ....2.90@3.10
Horse beans...... ....2.25@2.40

Hops.

Hops new crop......... ....9@13
Hops old stock.... ....3@6

Honey.

Clear white comb.. ....15½@16
Amber.... ....12@14
Extracted w c........... ....7@8
Extract light amber...... ......6½@7
Beeswax No 1 per lb...... ......28@30
Beeswax No 2 per lb...... ......25@27

Hay.

Somers & Co. say:

There has been a material increase in hay arrivals during the past week, the total showing 4350 ton in comparison with 3180. Owing to the peculiar sensitiveness of the market, the situation is very weak at the present writing with prices back to the range which was quoted about two weeks ago. Although it is generally reported that a car scarcity exists throughout the State, yet for some reason hay shippers in most districts have been quite successful in supplying their wants, for 100 cars more than last week were supplied for hay at various points during the week ending today.

Buying prices are:

Choice wheat hay..........16.00@17.00
Good wheat hay...... ....14.00@15.50
Other grades same..... ....11.00@13.00
Wheat and oat ....11.00@15.00
Tame oat...... ....11.00@15.50
Stock hay..... ....8.50@10.00
Alfalfa........ ....9.50@13.50
Straw, per bale.. ....45@75

Grains.

Wheat No 1............ ....1.67½@1.70
Barley new........ ....1.30@1.35
Corn large yellow.............1.80@1.85
Oats white...... ....1.45@1.55
Oats gray.... ....1.40@1.55
—Rye new crop........ ....1.45@1.52½

Feed Stuff.

Bran per ton................29.50@31.00
Feed cornmeal per ton.......37.00@38.00
Cracked corn per ton........38.00@39.00
Rolled barley per ton........30.00@31.00
Oil cake meal per ton.......36.75@38.25
Cocoanut cake per ton......25.00@26.00
Middlings.... ....32.00@35.00

Ventura county bean farmers are investing each day in bean-threshing outfits. Some farmers with average crops last year lost enough on their beans to nearly purchase the entire outfit. It will probably result in less work being done by the regular thresing outfits.

Citrus Market

LOS ANGELES, Sept. 2, 1908.

Valencias are not meeting with the ready sale wished for and the tone of the market is decidedly off. This has been partly on account of the weather and the quantity of deciduous fruits in market. There yet remains in the market less than 300 cars of Valencias to forward so that should low prices prevail from now on it will affect but a small proportion of the total.

Lemons are not strong in tone but with the small receipts of foreigns now being made it is probable that a fair price may continue.

Shipments.

Total shipments of citrus fruits since Nov. 1, 28, 339, of which 4390 were lemons. To same date last season 26,879, of which 3193 were lemons.

NEW YORK, Aug. 28.—Two cars Valencias and one mixed car of California citrus fruit sold. The market is firm on good stock. Weather is clear and cool.

VALENCIAS—	Avg.
Sweetheart High Ft Ex	4.05
Eagle High Ft Ex	3.65
Parrot S A Ft Ex	4.00

CLEVELAND, Aug. 28.—Weather cool. Market is weak. One car sold. Two on track.

LEMONS—	
Mission ST Ft Ex Santa aBr	2.60

(Sizes 180s to 270s, mostly 240s.)

PITTSBURG, Aug. 28.—Two cars sold. Seven on track. Weather cool. The prices are low on lemons on account of the quality and color of the offerings. The market is strong on Valencias.

VALENCIAS—	
Coyote O K Ft Ex	2.90
Lark OK Ft Ex	2.65
LEMONS—	
Pet S A Ft Ex San Di	2.80
Arab S A Ft Ex San Di	1.80

PHILADELPHIA, Aug. 28.—Three cars Valencias sold. The market is easier. Weather cool. Three cars on track.

VALENCIAS—	
Planet SS Ft Ex Orange	3.30
Purity Tustin Pack Co	3.53
Old Oak Tustin Pack Co	3.18

ST. LOUIS, Aug. 28.—Weather warm. Market is weak on large sizes Valencias. Think the market will be no lower on lemons. Two cars sold. Five cars on track.

VALENCIAS—	
Volunter S A Ft Ex Pom	4.05
Greyhound S A Ft Ex Pom	2.80
ST. MICHAELS—	
Volunteer S A Ft Ex Pom	4.35
LEMONS—	
Loma Limoneira Ft Co	2.35

NEW YORK, Aug. 31.—Nine cases of Valencias and two mixed cars sold. The market is easier and lower on 80s to 150s. Other sizes are unchanged. Weather clear and favorable.

VALENCIAS.	
Old Mission C C Chapman	$5.55
Golden Eagle C C Chapman	3.95
Orchard Nat O Co	4.50
Standard Nat O Co	3.70
Cerrito L W Brown	4.30
Swastika L W Brown	3.80
Butterfly Covina Ft Ex	3.90
Century	3.25
Criterion Penn Ft Co	3.35
Wolf Penn Ft Co	2.60
Topaz Cal Cit U	3.40
El Toro Cal Cit U	3.15
Blue Seal ACG Ft Ex	4.10
Red Shield ACG Ft Ex	3.60
Green Crown ACG Ft Ex	2.70
Quail OK Ft Ex	3.50
Pet SA Ft Ex	3.80
El Modena SS Ft Ex	2.85
Planet SS Ft Ex	3.00

For Mehring Foot-Power Milking Machines see O. J. Weber Co., 555-557 S. Los Angeles St., Los Angeles, Cal.

GRAPEFRUIT (Halves)

Cerrito LVW Brown Seedless	3.20
Orchard Nat O Co	2.40
LEMONS.	
Columbia	2.40

CINCINNATI, Aug. 31.—Weather warm. Three cars sold. Three on track. The market is steady.

VALENCIAS.	
Parrott SA Ft Ex Pom	3.35
Hawk SA Ft Ex Pom	2.95
LEMONS.	
La Paloma Riv Ft Ex	3.45
Housewife Riv Ft Ex	2.95
Arab SA Ft Ex San Di	3.60
Duck SA Ft Ex Sa Di	3.05

PHILADELPHIA, Aug. 31.—Three cars Valencias and one car lemons sold. The market is lower on poor stock. Five cars on track. Weather fine.

VALENCIAS.	
Searchlight SS Ft Ex Orange	2.62
Coyote OK Ft Ex	2.43
Carmencita ST Ft Ex Fuller	3.59
Colombo ST Ft Ex Fuller	3.08
LEMONS.	
Club ST Ft Ex Colegrove	3.02
Valley ST Ft Ex Colegrove	2.48

ST. LOUIS, Aug. 31.—The weather is hot and muggy. The market is weak on large sizes Valencias. Market is advancing on lemons. Three cars sold. Four on track.

VALENCIAS.	
Volunteer SA Ft Ex N Pom	3.80
Greyhound SA Ft Ex N Pom	2.85
NAVELS.	
Selected N W Blanchard	1.75
HAVANA ORANGES	
Selected N W Blanchard	2.35
LEMONS.	
Selected N W Blanchard	3.15
Limoneira Ft Co	2.90
Pet Ft Ex San Dimas	3.35
Greyhound SA Ft Ex San Di	3.20

PITTSBURG, Aug 31.—Three cars sold. Fifteen on track. The market is fairly steady on oranges, but lower on lemons. The weather is warm.

VALENCIAS.	
Violet DM Ft Ex Duarte	3.95
Jasmine DM Ft Ex Duarte	3.20
LEMONS.	
Las Fuentes Crocker-Sperry Sum	1.90
Montecito Crocker-Sperry Sum	1.90
Circus	2.10
Senorita Boston & S R Ft Co	1.85

BOSTON, Aug. 31.—Seven cars sold. Ten on track. Weather favorable. The market is firm on good stock.

VALENCIAS.	
Red Globe Riv Ft Ex Riv	3.45
Cal. Orange Riv Ft Ex Riv	2.60
Homer QC Ft Ex Cor	3.25
Family QC Ft Ex Cor	2.55
Lion Head I L Lyon Sons	4.10
Ojai	4.05
Orchard Run	3.30
Producers Red O P Co	3.65
Court Brand fy	3.55
Court Brand fy	3.00
Aloha Red O P Co	3.20
LEMONS.	
Court	3.95

NEW YORK, Sept. 1.—Three cars of Valencias were sold. The market remains unchanged. The weather is clear and favorable.

VALENCIAS—	
Planet SS Ft Ex	3.50
WL Hall	3.75
W L Hall	3.65
American Beauties J H Carruthers	3.80
Standard	3.30

BOSTON, Sept. 1.—Three cars of California citrus fruit sold. Nine cars on track. The weather is favorable. The market is steady.

VALENCIAS—	
Pointer ACG Ft Ex Glen	4.00
Planet SS Ft Ex Orange	3.55
LEMONS—	
Pet SA Ft Ex San Di	4.10
Arab SA Ft Ex San Di	2.85
Duck SA Ft Ex San Di	2.45

CLIP YOUR HORSES.

One of the greatest improvements ever introduced into stable management, acocrding to the opinions of leading veterinarians, is the custom of clipping horses which has now become so common. A clipped horse will not only do a greater amount of work on the same amount of food than a horse with his natural coat will do, but he will also be fresh and full of vigor, while the horse with the heavy coat will be dull, out of condition and seldom or never clean or dry. Clipping removes the tendency to sweat, and

FLIRTING WITH THE "HIRED MAN."

there is no comparison as between a long, wet coat and a short dry one. When the long coat is warmed up and the horse is being worked regularly it is next to impossible to thoroughly dry the coat and this causes the animal to lose flesh, in addition to making him a prey to a multitude of ills. Big companies which require hundreds of horses in carrying on their business, have experimented and have found that where their horses were clipped coughs and pneumonia have been practically eliminated. Clip your horses in season if you want to keep them healthy and in good condition.

You can make money by saving money, and you are surely ahead of the game when you can purchase a good clipping machine for less than nine dollars as advertised in this paper, and save wearing out your horses and get work from them that otherwise could not be got on account of their condition.

Keep your horses in condition by clipping them. They need to be clipped even more than they need to be shod. Shoeing them makes them comfortable in their feet. Clipping them makes them comfortable in body, and more, it makes them healthy and vigorous. The clipped horse feels better, works with spirit and gets there. It's to your benefit, means money in your pocket and satisfaction to your feelings.

Health and appearance add value to your horses—clipping makes them healthy by taking off the heavy coat of hair that mats with sweat and lies tight against the skin, covering up the pores and preventing healthy action in the sweat glands, causing irritation and finally sores and other skin disorders. Then, too, after a horse has worked himself into a sweat, or is wet from the rain, he is led into the barn where he remains in the chill night air subject to colds, rheumatism and fevers, because the natural heat of the body cannot find its way through the matted coat to thoroughly dry it out. When the horse is clipped the hair is short and free and is quickly dried out by the natural heat given off by the body, and averts all tendencies towards disease.

Clipping makes your horses look better. This is evident. You know that if you had the choice between a dispirited, shaggy-haired nag and a smooth, shiny-coated spanker you would pick the latter. What makes him look like that is a clipping, which takes away the bunches of dead hair, and makes cuffing a snap.

Furthermore, the half hour you give to each horse in clipping him early saves you three-fourths of the work of cuffing and taking care of him the rest of the season. No long hair sticking in your curry comb and brush. No going over the horse a half dozen times to get all the loose, long hair off. No shedding of hair for a whole season to have them blow over everybody and everything.

The Sonoma County Co-operative Poultry Association has been engaged for some time in shipping eggs, but made its first shipment of poultry last week.

Warranted to give satisfaction.

GOMBAULT'S

CAUSTIC BALSAM

A safe, speedy and positive cure for

Curb, Splint, Sweeny, Capped Hock, Strained Tendons, Founder, Wind Puffs, and all lameness from Spavin, Ringbone and other bony tumors. Cures all skin diseases or Parasites, Thrush, Diphtheria. Removes all Bunches from Horses or Cattle.

As a **HUMAN REMEDY** for **Rheumatism, Sprains, Sore Throat, etc.,** it is invaluable.

Every bottle of **Caustic Balsam** sold is Warranted to give satisfaction. Price **$1.50** per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars, testimonials, etc. Address

THE LAWRENCE-WILLIAMS COMPANY, Cleveland, Ohio.

Irrigating Hose

12oz. Canvas Coated or Plain. Good for several seasons.

1¾ Inch
2½ "
4 "
6 "
9 "

3 Inch

Galvanized or Brass Couplings.

Prices on Application

Tents, Stack Covers, Picking Bags

The Wm. H. Hoegee Co.

INC.

138-140-142 So. Main St., Los Angeles

Both Phone Exchanges 87

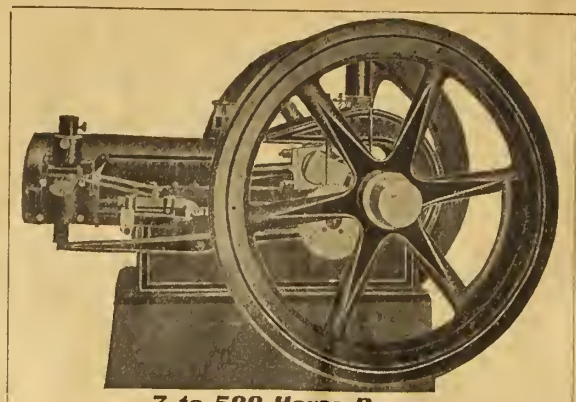
The Popular

Western

Built In the West **Best** For the West

FACTORY AT YOUR DOOR

LONGEST LIFE LEAST FUEL FEWEST PARTS ALWAYS GOES



7 to 500 Horse Power

Irrigation Plants Designed Constructed Installed

U. S. GOVERNMENT TEST

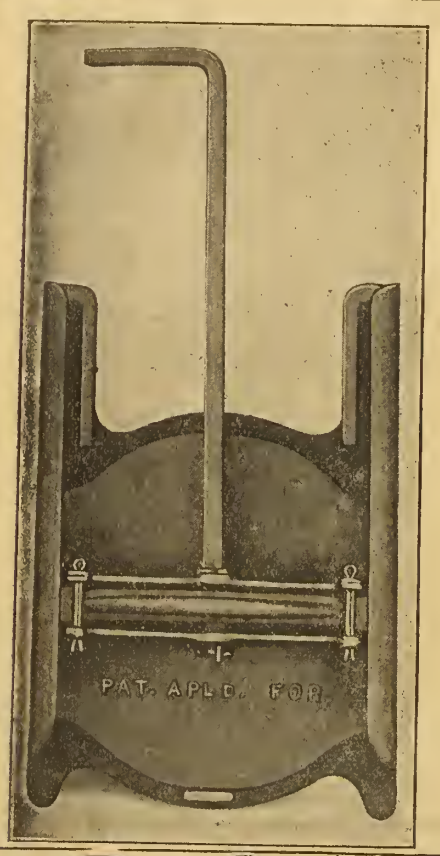
35 H. P. Western Engine Been Run 2 Years

RAN 87 DAYS DAY AND NIGHT

With One 20-Minute Stop to Lace a Belt
Send for the Copy of Test

Western Gas Engine Co.

Works and Office:
908 to 932 No. Main St. Los Angeles, Cal.
Send for Catalogue.

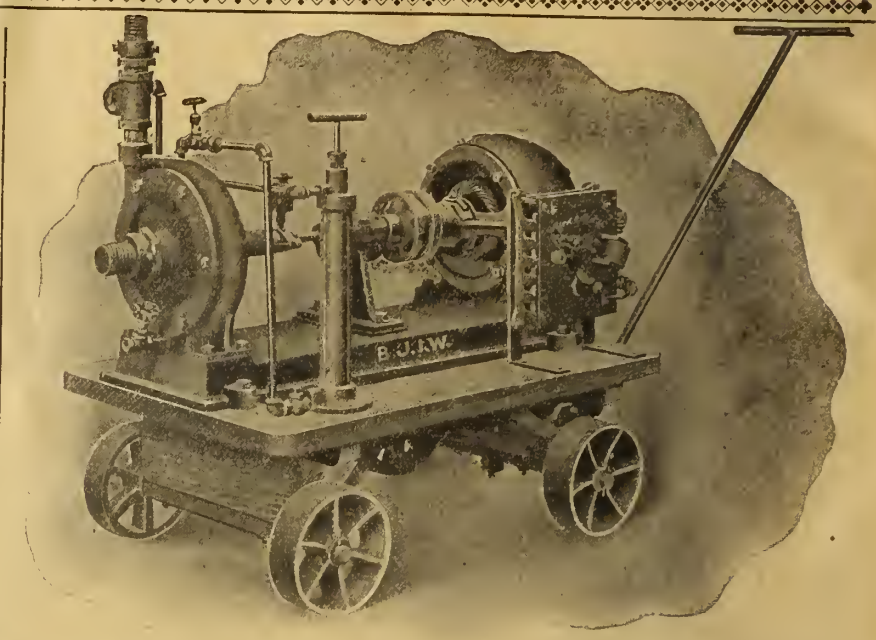


Pomona Pressure Gates

A Great Aid in Irrigation

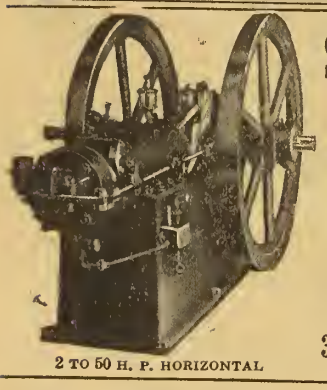
These gates are made similar to the ordinary slide gates except that there is a locking device interposed to lock the cover in any desired position or to press the two faces together to make a WATER TIGHT joint, from either direction when closed. The parts are very simple, only a tapering screw with a split tapering nut socket. By turning the handle to the right tightens, and to the left loosens the cover or it may be removed entirely.

Pomona Mfg. Co.
Pomona, Cal.



Jackson Wine Pump Direct Coupled to Motor and Mounted on Truck. Write for Bulletin 25.

Works: Carlton Station West Berkeley **Byron Jackson Iron Works** Branches: San Francisco Los Angeles Portland



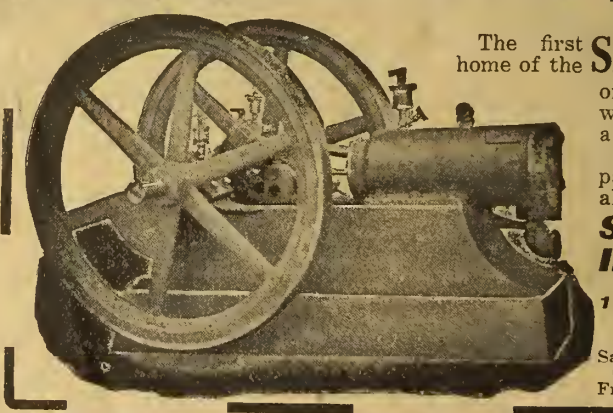
STOVER GAS ENGINES

The simplest and the best. We have had long experience installing pumping plants. We know our business. See us before you buy. 2 to 50 H. P.

2 TO 50 H. P. HORIZONTAL

LIVINGSTON & LEE
352 So. Los Angeles St., Los Angeles, Cal.

Samson Gasoline and Distillate **Engines**

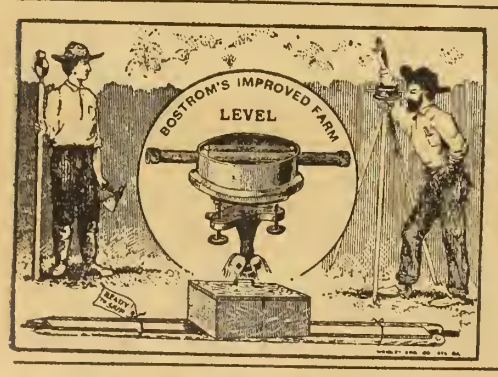


The first home of the **SAMSON** engine is a large one. It's second home, which is everlasting, is a happy one.

They may be compared with the sea—always ready to roll.

Samson Iron Works
Office and Factory:
1100 to 1198 Aurora St.
Stockton, Cal.

BRANCHES:
San Francisco,
Cor. Market and First Sts.
Fresno, 920 J St.

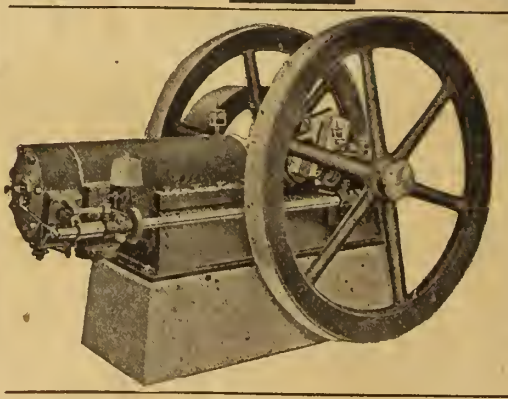


BOSTROM'S IMPROVED FARM LEVEL

Used for irrigation and drainage work. Cheapest and best level yet invented for farm use. Has the latest patented improvements in simplicity and usefulness. Can be operated by any one. Price including telescope tripod and target rod $15.00.

PALACE HARDWARE COMPANY
581 Market Street, San Francisco.

Coast Agents. Send for Circular.



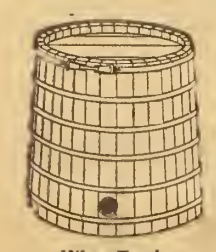
HERCULES DISTILLATE ENGINE

Heavy, Strong and Simple in Construction

The Right Engine at the Right Price

Horizontal and Vertical; All Sizes. Buy direct from the manufacturer and save agent's commission. Send for our new Catalogue C.

The Hercules Gas Engine Works
Alameda, Cal.



Wine Tank

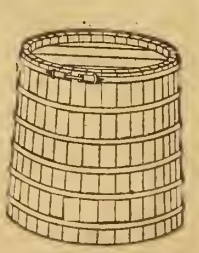
Tanks Tanks

WINDELER'S PLANING MILL AND COOPERAGE

GEO. WINDELER, Prop

Water Tanks, Wine Tanks made from carefully selected stock by careful and experienced workmen. "Tanks that are well made last a long time." It will pay you to get my prices before buying.

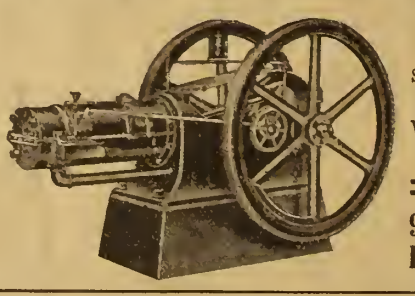
Geo. Windeler
144-154 Berry St. San Francisco, Cal.



Water Tank

Commercial Gas Engines

Are what all engines should be:
Simply Perfect and Perfectly Simple



Modern in every detail. An inspection will convince you.
Write for Bulletin No. 12

Commercial Engine Co.
953-955 N. Main St.
Los Angeles, Cal.

ARNOTT HARNESS $10.00 to $80.00

Everything guaranteed. Money back if not satisfactory. Factory in Los Angeles. California leather for all uses. Send for No. 10, eighty page FREE Catalogue.
ARNOTT & COMPANY 112–118 So. Los Angeles St. Los Angeles, Calif.

When writing advertisers, mention Cultivator.

630.5
C.A
Hortic

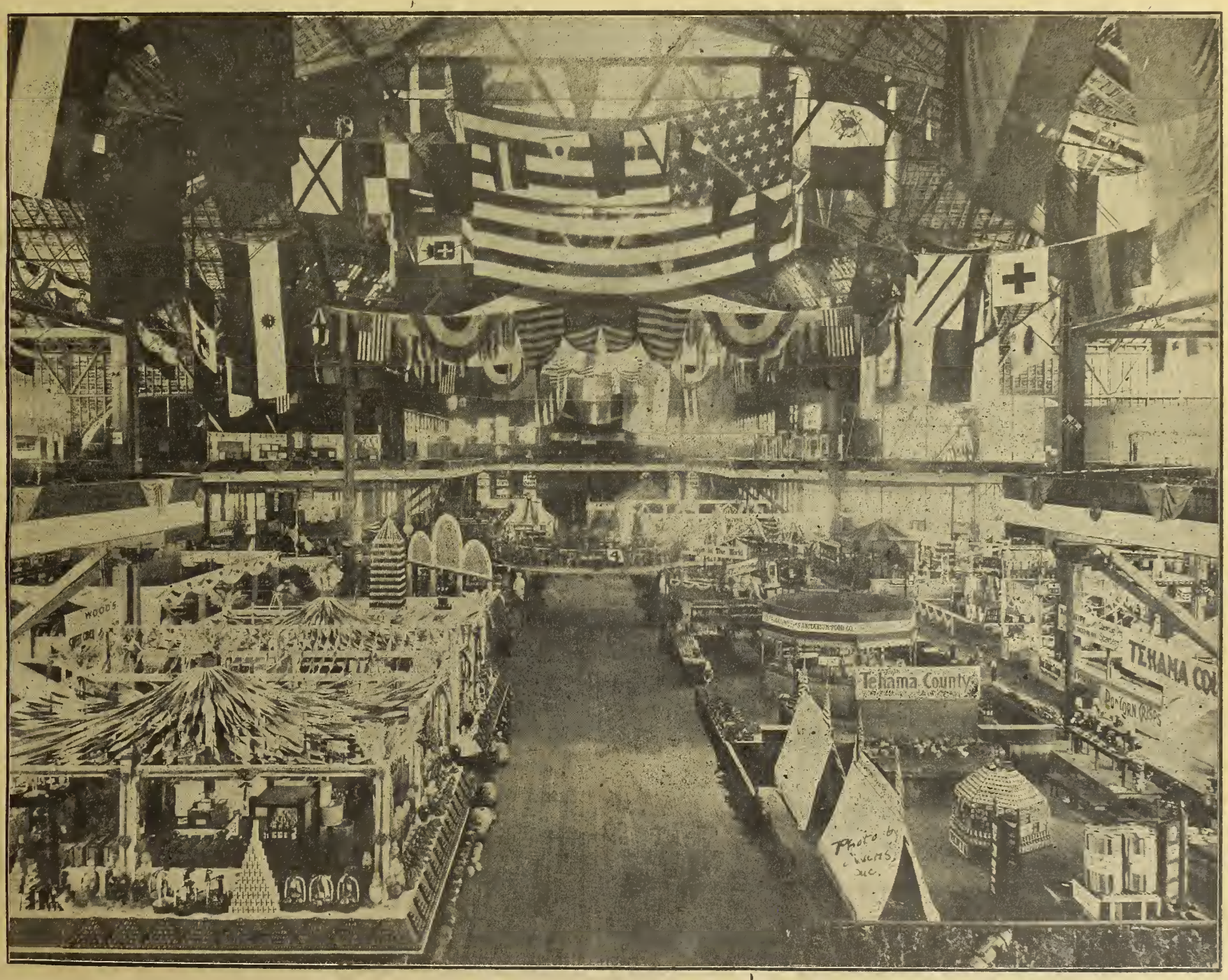
California Cultivator

Published Weekly — One Dollar a Year

Los Angeles — September 10, 1908 — San Francisco

Fifty-Fifth Agricultural State Fair

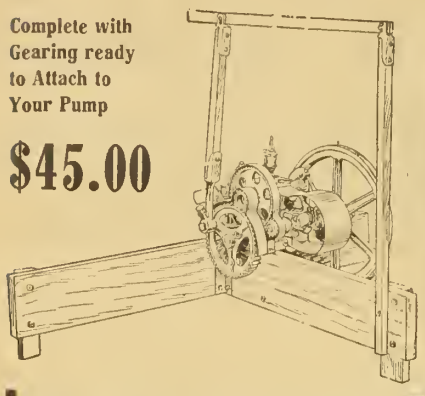
A View in the Pavilion Taken Soon After the Opening of the 1908 Fair



Aermotor Gasoline Engine

Complete with Gearing ready to Attach to Your Pump

$45.00



Will pump all the time, wind or no wind, and deliver as much water as an 8 ft. Aermotor in a good wind.

From 225 to 1600 gallons per hour, depending on height water is to be raised.

Air cooled, uses Gasoline or Distillate.

A reliable, durable engine at a very low price. **Can You Afford** to be without one.

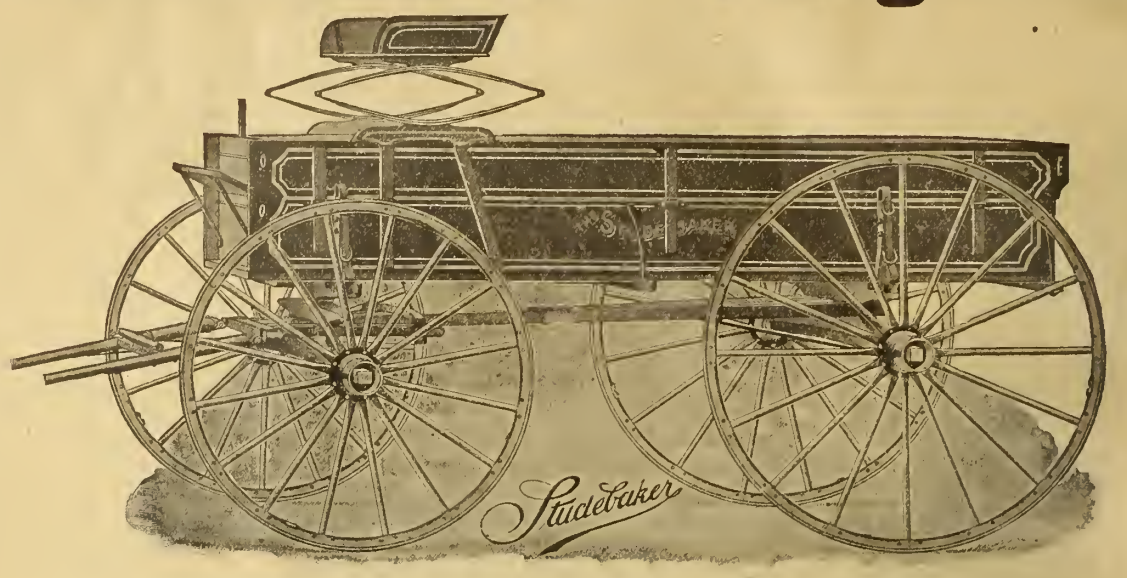
Send for Special Circular.

Tanks Towers Pumps Distillate Engines

Smith-Booth-Usher Co
Machinery and Supplies
Successors to
S. J. Smith Machinery Co. and L. Booth & Sons
212-214 S. Los Angeles St., Los Angeles
Home, Ex. 1090—Sunset, Main 1090

When writing advertisers, mention Cultivator.

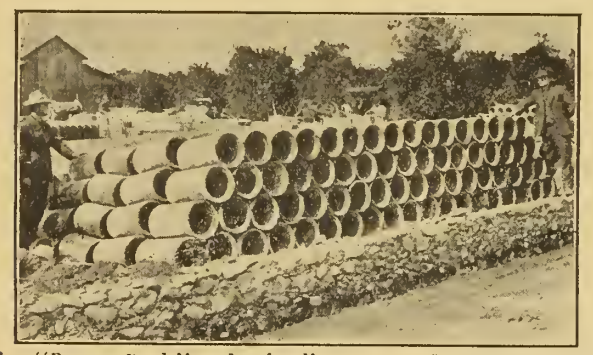
Studebaker Wagons



You are now marketiug your crops of hay, grain, fruit or vegetables. You need a wagon. Get the best.

We can furnish the exact wagon needed for every condition. Write for catalogue or call at our store and learn about the best wagons made.

Newell Mathews Co.
Wagons, Carriages & Implements
200 North Los Angeles Street
Los Angeles, California



From photograph showing amount of

Ten-Inch Pipe

made by four men from 10 bbls. of cement in 9 hours — 280 two-foot joints, or 560 feet. This pipe was made with the

"K T" Moulds

An equal amount can not be made with any other tools in the same period of time. Write for "Brown Book" and price list.

THE KELLAR-THOMASON MFG. CO., Covina, Cal.

A Railway on the Ranch

Saves Much of the Hard Labor

The equipping of the ranch with a ***Portable Railway*** is a very ***Profitable Investment*** and ***not*** very expensive.

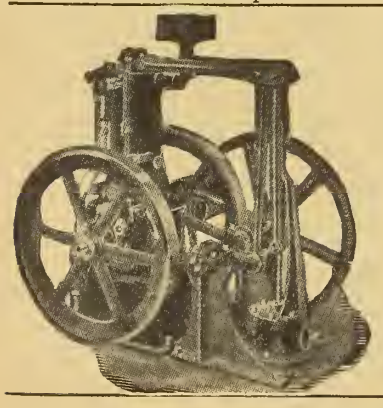
Our booklet S. F. 60 gives several suggestions for applying it to the Dairy and Ranch.

Works at Koppel, Penn.

ARTHUR KOPPEL CO.

212 So. Los Angeles St. Los Angeles, Cal. — *Chronicle Building San Francisco, Cal*

Eastern Offices:
Pittsburg
New York
Chicago
Boston



A Handy Little Engine

Just the thing to run the feed cutter, the pump, the churn, the grinder, or anything on the ranch. It's well named

The Little Wonder

Write or call on

Wm. Gregory
602 No. Main St. Los Angeles, Cal.

Make $2,000 a Year Raising Sugar Beets

WE have claimed and have proved to a great many buyers that our land at Corcoran, was as GOOD as the BEST in the world for Sugar beets. Here is proof:

Mr. T. H. Schultz, 460 West Sixth Street, Long Beach, Cal., is known all over Southern California as one of the most successful Sugar Beet growers in California. Mr. Schultz went to Corcoran and thoroughly investigated our land, and so well was he satisfied that he bought a large tract and this year will plant the same to Sugar Beets. Mr. Schultz says:

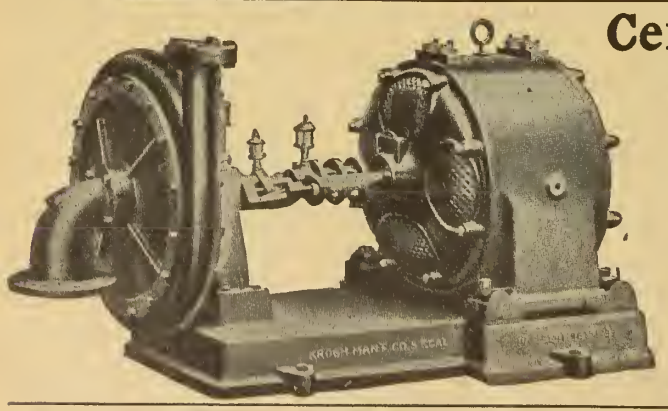
"After a most careful investigation of the soil, climate conditions, water supply, etc., I am satisfied that I can not do better than to add a large tract of land in Corcoran, on the Pacific Farms Tract of land in Corcoran, to my holdings, and have done so, and I recommend this land to any buyer for sugar beet raising or for onion growing."

NOW doesn't it stand to reason that if our land is good enough for "experts" it is good enough for those just starting in—and is it not a wise move to be a near neighbor to those who know how?

YOU can make a success by going into the sugar beet raising industry, and you will make a success of it on our land.

PRICE of our land is $100 per acre, on easy terms. This price includes the water developed, the ditches made and the roads built, so that your tract fronts on a good road. Call or write for "Profitable Realty," our magazine which tells how to get an income for ilfe in California.

GEORGE C. PECKHAM & COMPANY
202-6 Union Trust Building - Los Angeles, California
Member L. A. Chamber of Commerce



Centrifugal Pumps

For high or low heads

Direct Connected or Belt Driven

Highest obtainable efficiency

Krogh Man'f'g. Co.

127 to 123 Beal Street
SAN FRANCISCO, CAL.

Send for New Catalogue No. 50 just issued.

Pioneer Rubber Sanded Roofing

PIONEER ROLL PAPER CO.

Makers of Rubber Sanded and Rubber Flaxine Roofing and Refiners of Asphaltum.
Department 11. LOS ANGELES, CAL.

Crimson Winter Rhubarb and Berry Plants

Our Specialty

1000 choice Navel Oranges, togetber with a few other Citrus Trees. April and May are best months to plant Rhubarb for heavy Crops next winter. It has never been equalled as a money maker. $1.50 per dozen, $6 per 100. $40 per 1000. Pedigreed plants.

J. B Wagner
The Berry and Rhubarb Specialist Pasadena, California

California Cultivator

Vol. XXXI.—No. 11 Los Angeles, California, Thursday, September 10, 1908 Subscription $1 a Year

Two Cultivator Representatives at the State Fair

Details of Some of the Exhibits

By M. C. Holman of San Francisco

THE Fifty-fifth Annual State Fair was bigger, better and more interesting than ever before. There were more than 1000 exhibitors, including counties, cities, associations and private firms and individuals. Every inch of space in the great pavilion was taken long before all of the exhibitors had called for room and a portion of the surrounding lawn was fenced in to give a place to delinquent applicants. Secretary Filcher, in his remarks upon the work, said: "This fair stands at the head of the list. We have more counties represented, more new features and a greater number of exhibitors than ever before."

The formal opening of the fair occurred at eight o'clock on Saturday, August 29, and presented one of the most beautiful, patriotic and impressive ceremonies ever witnessed. The inside of the pavilion was a maze of beauty. Countless flags, emblems, ribbons, and yards of bunting combined to make a sea of many colors. At the word of command picked men from three companies of the National Guard of California stood at attention. A few remarks by the president, Mr. Rush, were followed by the band playing The Star Spangled Banner. With uncovered heads the visitors watched the great American flag drawn to the rafters, and the fair was well under way.

The pavilion was a hall of wonder and a joy forever. No one could carefully examine the splendid displays without being refreshed in body and strengthened in mind. As an educational factor the fair stands well forward as a state effort. So many and varied were the exhibits that space will not permit us to mention all. Some of the more important ones may be specially noted.

There were sixteen counties showing the best from their gardens, fields and orchards. Each exhibition was tastefully arranged and gave an idea of what is possible in agricultural lines.

The folowing were some of the more important exhibitors:

Bowman Carriage Company. Two sections; carriages, wagons and farm implements. This firm was completely burned out on the day previous to the opening, but managed to save enough vehicles to make an excellent showing.

A. Meister & Son. Buggies and wagons.

Alameda Rug Works. Complete line of California made rugs.

A. S. Hopkins Co. Broom factory in operation. This was one of the principal centers of attraction.

Santa Rosa Shoe Company. Their product compares favorably with eastern made shoes.

Pacific Knitting Mills. Sweaters, jerseys, underwear, etc.

Thomas Lewis. Fertilizer. Good exhibit showing the effect of using his particular preparation.

G. C. Roeding. "First Run" olive oil. Exceptionally fine exhibit, showing a clear, absolutely pure oil.

Burbank's spineless cactus was an interesting feature of the Santa Rosa exhibit.

Breuner's House Furnishing Company. Complete exhibit. A very attractive spot and much admired.

Walsh-Richardson Company. Full line of harness and saddles.

G. H. Waters, Pomona. Canned goods.

Sylmar Olive Oil. Attractive display of the association's famous product.

C. H. Wagner, Pasadena. Exhibit of rhubarb showing many varieties and the development of the plant. Prize stalks measure more than thirty-three inches long. Mr. Wagner is now experimenting upon medicinal rhubarb, the seed of which is obtained for him by the government from the center of China.

Pioneer Roll Paper Co., Los Angeles. Interesting exhibit, showing the application of their roofing paper to all classes of buildings.

Separators. The United States, International and Sharples companies made very creditable showings.

Standard Oil Company. Harness dressing, axle grease, hoof oil.

The agricultural division of the University of California exhibited an excellent assortment of grasses, grapes, plants and fifty varieties of grain. In conjunction with this was the exhibit of the State Board of Animal Industry, showing various germs which affect domestic animals.

The Central California Land Agency of Turlock presented in miniature the Turlock irrigation district. A dam over which flowed a bountiful supply of water made an exceptionally interesting feature. Adjoining this was a view of the fertile valley with samples of fruit and vegetables raised there.

Educational Features.

This part of the fair was given special attention with the result that many institutions of learning made excellent showings.

The work done by blind children of the state institution made a favorable impression. They make hammocks, brooms, mattresses, etc.

Capital City Commercial College. Complete exhibit, showing artistic penmanship, text books, methods, forms, etc. This is one of the most thorough schools on the coast.

Howe's Academy displayed some exceptionally creditable work.

Besides these special exhibitors there were shown embroideries, art work, wood carving and hundreds of other skilled products.

Machinery Hall.

Adjoining the main pavilion was the space given to pumps, engines, and kindred subjects. This was one of the most interesting portions of the fair and attracted thousands of visitors who found much to instruct and entertain them. Nearly all of the machinery was in motion and the pumps were kept constantly working. A great central tank holding about 50,000 gallons of water was the source of supply. Shooting in every direction were various sized streams, making a veritable fountain.

Among the most important exhibitors in Machinery Hall may be mentioned:

Western Gas Engine Company. Splendid showing of the "Western" engine and hoisting machinery.

Byron Jackson Machine Works. Famous deep well pump in operation. Large and small engines and pumps.

Samson Gas Engine Company. Excellent exhibit of gasoline and distillate engines.

Standard Gas Engine Comany. Complete line of "Standard Engines."

G. W. Price Pump Company. Exhibit of 24-inch pump having a capacity of 35,000 gallons a minute. Pumps in operation.

Arthur Koppel. Ranch railways and cars. Very interesting exhibit of labor saving conveyances.

Department Farm Implements.

Almost every kind of farm implement was on exhibition. Among those making specially attractive displays were:

Junior Monarch Hay Press Company, John Deere Plow Company, Earth Boring Machine Company, Henshaw Buckley Company, and Herron, Rickard & McCone.

Live Stock.

The second division of the fair was that of live stock. Situated at a distance of about three miles from the pavilion is the race track and within its high walls were gathered the choicest of the choice in animal breeding. What this portion lacked in quantity it more than made up in quality and the statements of several of the judges testified to the high grade showing. All available space was taken and more was called for. Every fancier brought his choicest offering to be placed upon the scale of critical and scientific judgment. It was truly a magnificent display of blooded stock.

The opening of this portion of the fair occurred on the afternoon of August 29th, and consisted of races, leaping the gap in an automobile by "Dare Devil" Breton, and showing of the stock.

A more dignified opening occurred on Sunday when the equine parade attracted thousands of people. It consisted of beautifully decorated carriages, which followed closely the lead of a six-horse tally-ho, in which were seated about thirty of the fairest daughters of California, each carrying a beautiful white parasol.

The blooded horses followed the carriages and presented a pleasing picture by their spirited movements of life and energy.

Among the exhibitors of Berkshire hogs we specially mention the following: G. A. Murphy of Perkins, Carroll Cook of San Francisco, and the estate of the late Thomas Waite of Perkins. Mr. Murphy showed the largest boar at the fair. It weighed slightly under 1,000 pounds, girth 6 feet 8 inches; length 5½ feet.

Poland China hogs were exhibited by G. A. Murphy of Perkins, T. A. McCaslin of Sacramento, T. B. Gibson of Woodland and M. Bassett of Hanford. Their selections were so nearly perfect that it was difficult for the judges to place the prizes, a very small feature often determining an award.

Continued on page 263.

Last Fair in the Old Pavilion

By John Isaac of Sacramento

THE State Agricultural Fair at Sacramento has been one of the largest and best attended ever held there. It was asserted when the present management took charge and undertook its reform that no state fair, at least no California state fair, could succeed without the aid of gamblers, touts and sure-thing men. It was at that time as near moribund as it could well be and stil live, and it was determined to make the experiment and at least let it die decent. The old state fair had degenerated into a mere horse show and a series of running events. The agriculturists, in whose interests it was supposed to be run, were conspicuous by their absence and the whole affair had fallen into disrepute.

Under the new regime, gambling was abolished as a feature of the fair, an effort was made to restore its prestige as a state institution, but most of the counties fought shy of it, and it was a difficult operation to get up a good fair, but it was done. The second year was better and this year we have had the best fair ever held in the State.. On the opening night there were 3500 people at the pavilion and this number increased every night until that large structure would hardly accomodate the people.

The Counties Were there.

Among the counties which were prominent in the pavilion Los Angeles held front place, and

Continued on page 259.

Harness That Stands Strain

It is worse than waste to let harness get dry, brittle and rotten. To stand the hard strain of daily use it must be made soft with

EUREKA Harness Oil

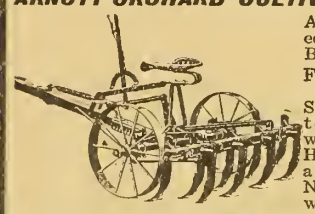
Clean the harness; let it absorb all the oil it will; wipe dry with a cloth, and your harness will be strong and tough as new leather.

Nothing like Eureka Harness Oil. Made by

STANDARD OIL CO (Incorporated)

EVERYTHING FOR THE FARMER

ARNOTT ORCHARD CULTIVATOR



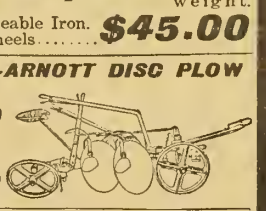
Acknowledged the BEST. Five feet wide. Spring teeth if wanted. Horizontal lift. No neck weight.

Steel and Malleable Iron. Dust proof wheels..... **$45.00**

SANDERS-ARNOTT DISC PLOW

SINGLE **$60.00**

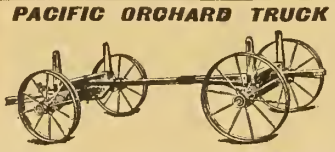
DOUBLE **$80.00**



COLUMBUS WAGONS

Three inch Skein. Four inch Tire. Brake and Pole. **$80.00**

PACIFIC ORCHARD TRUCK



3¼x10 Skeins. 28x30 in. wheels..**$32.50**

LEATHER TRIMMED

Guaranteed Twelve Months

$65.00

MONITOR WINDMILL

8 ft $30.00

10 ft..... $45.00

The New 8 and 10 Foot MONITOR

MONITOR ENGINE

Simple Economical

2 H. P....$130

4 H. P. $250

6 H. P. $350

Catalogue No. 9 Sent Free on Application Address Department G.

ARNOTT & COMPANY Inc.

112-118 South Los Angeles Street

QUALITY ARNOTT GUARANTEED

Los Angeles California.

With the Citrus Growers

POULTRY MANURE.

THERE is a common belief that poultry manure is worth more or at least as much as a good commercial fertilizer. We have been asked if it is as good as commercial fertilizer, best method of applying to orange trees, and how it will do to mix with stable manure.

Analyses show that on an average, fresh poultry manure contains .05 of a pound of phosphoric acid, .56 of a pound of potash and 1.10 pounds of nitrogen to every 100 pounds. According to prices one year with another, this material is worth about $5 per ton, not a very high grade material when compared with commercial fertilizer. It is, however, one of the valuable farm by-products and is well worthy of the best care.

This manure is most economically applied in the irrigation water, because poultry manure contains a large amount of silica in solution and when it dries, it solidifies and imprisons the fertilizing ingredients so that they are not soluble in water and, therefore, not readily available. If put into the soil with water, the fertilizing elements are washed into the soil and remain in contact with the damp earth and are taken up with the soil moisture until such time as they are assimilated by the roots. In this way, the fertilizer elements cannot be wholly tied up by the solidifying silica. These ideas suggest that the proper care of poultry manure consists chiefly in keeping it moist until it is put into the irrigation water.

The reason why hen manure contains so much silica is because fowls swallow so much gravel, sand and even glass to aid in grinding their food. They swallow a set of false teeth with every meal. An examination of the glass which they swallow will show that where there were once sharp edges, there will be smooth surfaces. Most of this goes into solution and solidifies again when the droppings dry, thus encasing a great deal of the fertilizer elements.

Poultry droppings and stable manure cannot be economically mixed for two reasons. The most economical way to keep stable manure is to dry it as fast as it is made. It would not be profitable to mix the other with if you did that. If you keep the stable manure damp or wet till it is spread out the hen manure would keep all right until then, but it is not practical to apply the stable manure in the same way as we advise putting on the other, and so auother difficulty would arise then.

The values above, of course, are not in all cases true and not constant because the food given any animal will have an influence on the contents of the manure.

Fed on grass aud a graiu ration, the manure will not be as rich in ui trogen as if alfalfa were substituted for the grass. The values given above are figured on six cents per pound for potash and phosphoric acid and nitrogen at sixteen cents per pound.—J. W. Mills.

The high prices received from navels packed by C. E. Rumsey and L. V. Brown at Redlands is proof of the worth of greatest care in packing and will probably be an inducemeut to other packing-houses to better their methods.

FERTILIZER SUGGESTIONS.

A writer in the Escondido Times in replying to a former article in which it had been suggested to fertilize citrus orchards with complete commercial fertilizer, gives a few suggestions which have value. He suggests that the plan be amended by advising the farmer or orange grower to grow leguminous cover crops, supplemented with say, for California worn soils, 600 pounds per acre of an acid phosphate to analyze 18 per cent available phosphoric acid, broadcasted or drilled in at the time of sowing the seed for the cover crop, which should be done immediately after the first fall rain comes, but leave furrows for further irrigating, should that become necessary.

He then adds: "During the early spring, before the rains cease, plow under your cover crop six inches deep, and this mass of vegetable matter will soon begin to decay and form humus in your soil, and the vegetable acid produced by this decaying crop will, to a certain extent, become a soil solvent and render locked-up plant foods more available. We would not supply potash to the orchard soils here until the cover crop and phosphates have been given a thorough trial, because most soils contain this element of plant food in sufficient quantity and which becomes more available with the use of the nitrogenous cover crops, phosphates and good tillage.

"We would thus avoid paying out good money for one of the necessary plant foods (potash) until practically demonstrated that it is needed. Nor would we put a single dollar in any chemical to furnish nitrogen or ammonia. Nitrogen is the most expensive of all the plant foods when bought, yet the least expensive when taken from the atmosphere through a nitrogenous cover crop of Canada peas, vetch or burr clover; therefore we say avoid buying mixed commercial fertilizers, and put your money into only such of the chemicals as experimenting will soon demonstrate that your land needs. Ranchers should club together and buy in car lots. An acid phosphate to analyze 18 per cent available phosphoric acid can be bought f. o. b. Escondido for $25 to $27 per ton in twenty-ton lots.

"Now as to the economy of this system of manuring your land let's figure an example of cost per acre. Say you use 600 pounds acid phosphate 18 per cent at $1.35; $8.10. Cover crop seed per acre from $1 to $2.50. Ten dollars and sixty cents expense. If you must supply potash also, then add $3.50 for 100 pounds of sulphate of potash for each acre, and the cost will be but $14.10, or about 20 cents per tree for oranges or lemons. An increased production of fifteen pounds of a better grade of fruit per tree will repay the expenditure. Such a system of yearly fertilization, varying the amount of phosphates and potash as experience will suggest, should produce large crops and make our orchards equal to the best. The use of the cow pea as a soil renovator in the southern states has given wonderful results, and a field of this legume has rightfully been named the poor man's bank. The cool nights of California makes its use here impracticable, but the Canada pea, which does well, is also a good nitrogen gatherer.

"What we have written applies only to an economic method of restoring

Nitrate of Soda

Nitrate Sold in Original Bags

NITRATE AGENCIES CO.

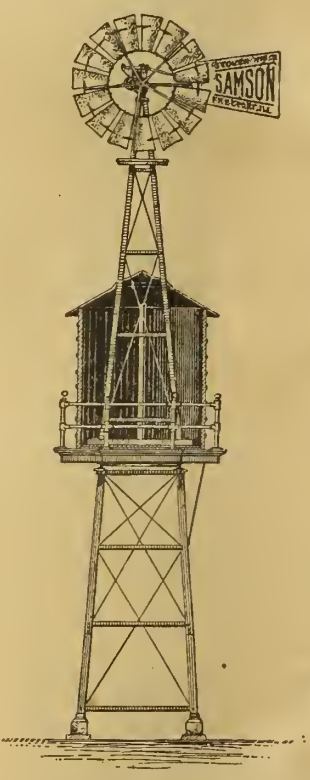
64 Stone Street, New York
140 Dearborn Street, Chicago, Ill.
Keyser Building, Baltimore, Md.
36 Bay Street, East, Savannah, Ga.
305 Baronne Street, New Orleans, La.
Holcombe & Co., 50 Clay Street, San Francisco, Cal.

Address Office Nearest You

Orders for All Quantities Promptly Filled—Write for Quotations

SAMSON WIND MILLS

Have double gears, removable bearings and center lift, which double the life of the mill. They will last longer, pump more water and give better satisfaction than any other WIND MILL.



This is an up-to-date Sub-structure, Tank and Wind Mill outfit complete; substantial, economical and attractive. We build all kinds. Write us or our general agents for full information and prices, description &c., before purchasing.

The STOVER MFG. CO.

FREEPORT - ILLINOIS

30 California Avenue

CRANE CO., LOS ANGELES and SAN FRANCISCO

General Agents for California

ALL ABOUT THE

Orange* and *Lemon

Is told in our new book on Citrus Culture, embracing every phase of the subject from the seedling bud to the final disposition of the fruit in the Eastern market. The largest and best book on the subject ever printed — 50,000 words, 100 illustrations. You will want a copy, which we will send you for the small sum of 25 cents. Remember we are the largest growers of orange and lemon trees in the world.

The San Dimas Citrus Nurseries

R. M. Teague, Prop., San Dimas, Cal.

EDISON PHONOGRAPHS, VICTORS, ZONOPHONES

Records and Supplies, delivered at your nearest railroad station upon receipt of full retail price. Write for particulars and ask for catalogue. **Peter Bacigalupi & Sons, 1113-15 Fillmore St. San Francisco**

or adding fertility to the soil, as our experience as a citrus fruit grower is limited—not yet being out of the a b c class—and we leave the many other things requisite to the successful growing of citrus fruits to be told by the captain and others who have the inclination and a larger experience."

THE SAPOTA.

Our friend, C. P. Taft, of Orange, who has manifested great interest in introducing and testing new varieties of tropical and semi-tropical fruit, recently brought the office specimens of the Sapota, which has fruited on his place in Orange county. It is hard to describe this fruit, but as a rule those who test it are much pleased with its flavor and texture. It is not exactly like the Cherimoya or custard apple, although in the texture of the flesh of the fruit it is somewhat similar. There are several trees in Southern California and all of them show certain variations in the shape and appearance of the fruit. Whether the more desirable varieties may be reproduced by budding or grafting has not been tested. Regarding this fruit Mr. Taft says: "Of the other fruits experimented with, the white Saptota (Zapote blanco), a Mexican introduction, bears very well. The tree is an exceedingly rapid grower, much after the habit of the walnut, but evergreen. In August and September the peach-like fruit, greenish yellow, with large seeds shaped like those of an orange, matures well and is excellent, this being the normal season for ripening. At other times fruit if found is apt to be worthless and even dangerous. It is not ready to eat until quite soft but can be picked hard and ripened off the trees and so readily sent to market. The fact should be here stated that as all Sapotas so far as grown are from seed, there exist the usual variations characteristic of seedlings as to size, shape and flavor, resulting sometimes in bitter or worthless fruit."

SUIT OVER ORANGE BOXES.

Some months ago the California Pine Box & Lumber Co. began suit against the California Fruit Growers' Exchange of Los Angeles to secure $70,000 due on account. A few days ago the exchange filed a cross-complaint in the superior court demanding judgment for $110,692.04, or twice the amount of the claim it holds against the lumber company on account of the overcharge for shook and loading strips furnished under a contract made in September, 1907. The extra $55,000 is demanded as damages.

It is set up in the cross-complaint that the exchange, under contract of last September, was to receive, as required, shook and loading strips for 1,500,000 boxes, at prices ranging from 14¼ cents to 16½ cents each, according to the brand. A further clause, it is claimed, provided that the exchange was to receive the benefit of any reduction in price that might be granted by the lumber manufacturers in the life of the contract.

In June of this year, it is alleged, the price to certain consumers was reduced to 12¼ and 14 cents each. The difference between the agreed price and the lowered price, or an average of about 2 cents a box, is demanded.—California Fruit Grower.

Geological Survey has a force of men working through the Santa Clara and Salinas valleys.

ORANGE CROP WILL BE GOOD.

Reports from all parts of the citrus belt of which this city is the center, are very flattering and the indications are that the crop this year will be fully as good as that for the season which has just passed.

Calamity reports, as is usual with all industries, were sent out early in the season, the wail being that the fruit was dropping off the trees badly, to be followed with a second report that the thrips was getting in its deadly work, and that large areas of trees were being ruined. The visit of the entomologists of the State Department had the effect of nullifying this latter rumor, since although there is no doubt but that there are some of the flies in the orchards here, they have not as yet done any damage to amount to anything and those who are studying the problem affect to believe that climatic conditions are such here that it will never obtain any very large foothold.

Lindsay district is the first to be in with a report as to good crop outlook for the year, an article in the current number of the Gazette stating that the growers in that section were vastly encouraged and that the crop there this year would undoubtedly be the equal of that of last season.

Growers about Plano are particularly enthusiastic and the crop in that portion of the belt, it is stated, will be the best for years, according to the present outlook. Globe growers are finding their trees in good shape, and Zante fruit men are also feeling good over the outlook.

The present season, from all indications now, bids fair to be one of the most successful in the history of the industry in this section. All of the association packing houses in this immediate section are adding new machinery, the very latest methods of packing and handling are to be used, and no new thing will be left undone which will be the means of realizing a little better price for the crop.

At the headquarters of the exchange it is stated that before the season pack starts more than 65 per cent. of the crop will be in the hands of the exchange, which means that the prices will be maintained to the highest point that is consistent with the market conditions.

Many orchards report that the crop will be especially large, some asserting that the yield in their groves will exceed that of last season by as high as 50 per cent. These figures are, of course, for individual orchards, as there are some holdings where the crop probably will be little better than normal. This condition is not one to alarm the experienced ones from a standpoint of over-production since it has almost invariably been the case that when the crop has shown a decided increase in amount the fruit has graded smaller and did not affect the gross number of boxes in the same proportion. Weather conditions for this year have been good, however, and the fruit has been filling up well and will grade better for size in a good many cases than it did last year. Those studying the problem believe the crop, color and the flavor will excel, and if there should come a few days of cold weather just before the Thanksgiving season, the weather conditions for the crop will have been almost ideal for the year.

One thing that the growers in this section have learned as the result of experience for the present summer is the fact that the trees do not need the great amount of water that they have been in the habit of giving to them. A good many of the growers only irrigated twice this season and will probably irrigate only once more. It has been found that the trees require a deal less water when the best attention is given to the question of cultivation.—Porterville Messenger.

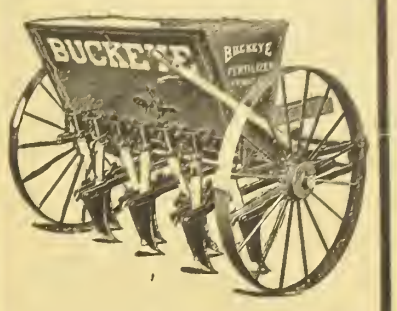
Prune buyers have paid as high as 4¼ cents and at that price growers are not at all anxious to dispose of the small crop in hand.

Fertilizer Drills

GET THE BEST

Buy the Buckeye

7 Hoe 7 Inch or 8 Hoe 8 Inch

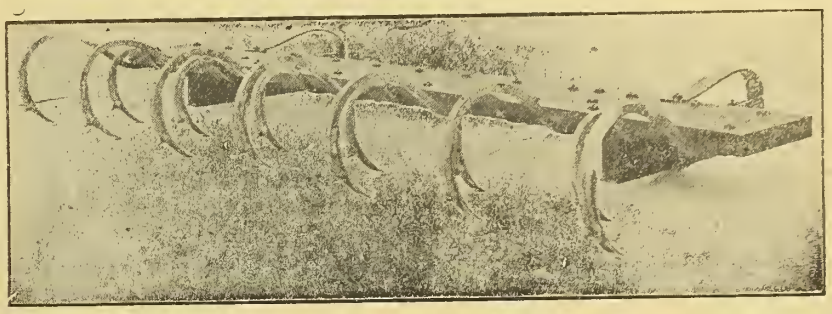


Will furnish set of plates when requested (without extra charge) for sowing peas or vetch.

Hawley, King & Co.

Los Angeles St. bet. 2nd and 3rd Sts.
Los Angeles, Cal.

WILLIAMS' GOOSE-NECK CULTIVATOR



Especially adapted for citrus orchards. Sizes 8 to 14 feet. Lightest draft. Free trial to responsible parties. No agents. You pay only one profit. Write today

WILLIAMS & SON, Manufacturers
Orange, California

TENTS

Fumigating and Lemon Curing Tents our Specialties

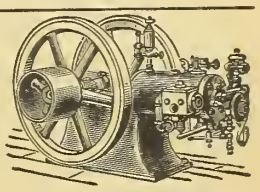
Irrigating Hose, all sizes. Prices and Samples quoted upon application. Write your wants
Wagon Covers, Hay Covers, and Canvas Covers of Every Description.

Mellus Bros. & Co

Phones—Home, F 4871; S. S., Main 3500
250 East Fifth St., Los Angeles, Cal.

A Gasoline Engine 35 H.P.

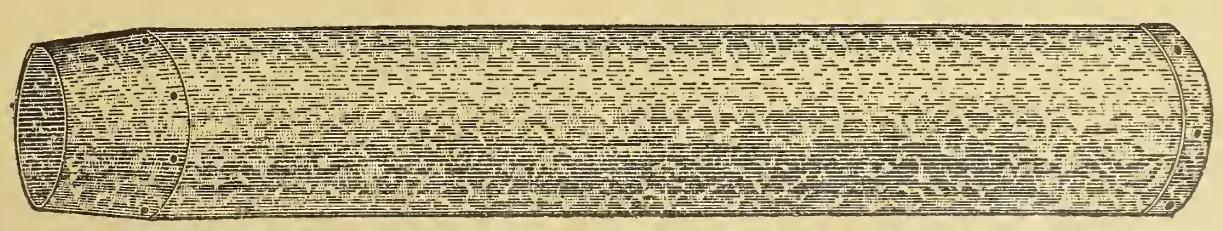
Used short time; in good condition.
For Sale at Half Price. A Bargain.



National Wood Pipe Co.,

404 Equitable Bank Building
Los Angeles, California

When writing advertisers, mention Cultivator.



AMERICAN SURFACE IRRIGATION PIPE

SAVES WATER, GRADING AND TIME

The **only** way to **irrigate Alfalfa. Cheaper** than **Flumes.** This is only **one** of our **specialties.** We make **Riveted Water Pipe** in lengths of **ten feet** from **single sheets.** Let us **prove** to you that we make **Pipe** and **Tanks right.** WRITE FOR CATALOGUE.

AMERICAN STEEL PIPE & TANK COMPANY
FORMERLY TALLERDAY MANUFACTURING COMPANY

636-7 Pacific Electric Building Los Angeles, Cal

Do Irrigation Work---Quicker and Easier

For Leveling Fields—For Cutting and Clearing Laterals

The photo is from an actual field-scene in New Mexico, where a 20th Century Grader is leveling seed-beds on the great truck-farm of Herman Blueher. He says: "Your 20th Century Grader has no equal for land-leveling, seed-bed making, ditching and for all kinds of irrigation work. I have reduced my force one-third since buying this machine." The

20th Century Grader

weighs only 600 lbs—light and handy—and is easily handled by one man and two horses. It is all steel and malleable iron. Price very reasonable. It pays for itself in one season. If your dealer hasn't it ask for name of nearest agent. Write now for new free booklet with large cuts showing every part.

Baker Manufacturing Co.
281 Dearborn St. Chicago, Ill.

Placer Nurseries

We have now growing for next season's delivery a large stock of all leading varieties of trees and vines. We propagate only the best commercial sorts. Our trees and vines are the best that good care can produce and in their selection, propagation and growing we spare no labor or expense; and they are true to name That is what you want.

Contract now the trees and vines you will want for next season's planting.

Write us.

Silva & Bergtholdt Company
Newcastle, California

Water Pipe Cheap

25 CAR LOADS NOW BEING UNLOADED

250,000 feet of this shipment is second-hand pipe, practically as good as new, and is now on sale at a big discount by the Adams Pipe Works, 2025 Bay street. Sizes and prices: ¼ inch 1½ cents per foot; 3-8 inch, 2 cents per foot; ½ inch, 2½ cents per foot; ¾ inch 3½ cents per foot; 1 inch, 4¾ cents per foot; 1¼ inch, 6 cents per foot; 1½ inch, 7 cents per foot; 2 inch, 9¾ cents per foot; 2½ inch, 15 cents per foot; 3 inch, 18 cents per foot; 3½ inch, 20 cents per foot; 4 inch, 32 cents per foot.

Oil well casing prices and sizes: 2 inch, 7 cents per foot; 2½ inch, 9 cents per foot; 3 inch, 13½ cents per foot; 3¼ inch, 15 cents per foot; 3½ inch, 17 cents per foot; 4 inch, 18 cents per foot. All pipe is carefully inspected, new coupling and new thread are put on every piece, every joint is guaranteed to be first-class, serviceable pipe. This pipe is sold in any amount; small orders are given the same attention as large ones. Mail orders promptly filled. To reach the Adams Pipe Works, take car marked Pacific Boulevard, starting east on 7th St. from Broadway. All lines will transfer to East 7th St. new line. Ask conductor to let you off at Bay St., and go east half-block. Phones, A1917, Broadway 1564. Los Angeles, Cal.

Oldest and Largest in the Southwest

SECURITY SAVINGS BANK

Los Angeles, California

CAPITAL AND RESERVE $1,200,000.00
TOTAL RESOURCES OVER $20,000,000.00

We Pay Interest

4% on Term Savings and on Six Months Certificates of Deposit

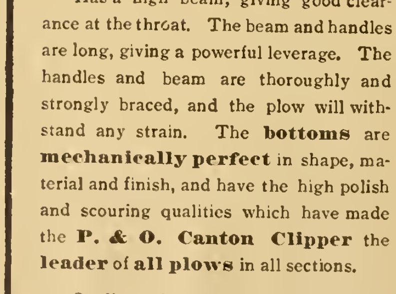
3% on Ordinary Deposits

By special arrangement 'Ordinary' accounts may be checked against without presentation of a pass book, and 3 per cent. interest will be paid on the minimum monthly balances.

THE CANTON CLIPPER

Has been on the market **since 1842—two-thirds** of a **century**, and is made in the largest and oldest permanently established plow factory in the world. It is

The Perfect Plow



WHY?

Has a high beam, giving good clearance at the throat. The beam and handles are long, giving a powerful leverage. The handles and beam are thoroughly and strongly braced, and the plow will withstand any strain. The **bottoms** are **mechanically perfect** in shape, material and finish, and have the high polish and scouring qualities which have made the **P. & O. Canton Clipper** the **leader** of **all plows** in all sections.

Quality and merit wins, and the Canton Clipper has both. Hundreds of thousands are in daily use—a lasting testimonial to their superior features.

You will make no mistake in buying a **Canton Clipper,** as they never disappoint.

Pacific Implement Co.
GENERAL AGENTS
131 Kansas St. San Francisco, Cal.
B. Hayman, Agent, Los Angeles, Cal.

Orchardists near Biggs have been having a strenuous time to secure sufficient help to harvest the fruit.

Deciduous Fruit Culture

DECIDUOUS FRUIT IN THE SACRAMENTO VALLEY.

The future of deciduous fruit growing in the Sacramento Valley bears promise of a wonderful increase, especially in the line of table grapes. The area of this great valley is hard to realize. The Imperial Valley is a vast area that looks large and is a standard of greatness in the southern end of the state. Its boundaries can be seen from a central point, but not so with the Sacramento Valley. It is about one and a half times as wide and over three times as long as the Imperial Valley, and is blessed with a river water supply that is equally as abundant, more evenly distributed and capable of greater development. In addition to this, by far the greater area has an inexhaustible subterranean supply near the surface that may be pumped cheaply. All of the water in this great valley is clear except in flood time, which gives it a certain advantage for irrigation, but on the other hand, it lacks the fertilizing elements found in the Colorado River sand.

Kinds of Land.

The entire area of the Sacramento Valley, however, is not adapted to fruit growing at the present time, as it contains a large amount of overflow lands that are only available for pasture at certain periods of the year. There is an immense body of land easily outlined by the growth of oaks, that is particularly well adapted to the growth of a large variety of deciduous fruits.

The great variation in character and depth of soils, gives a wide range of possibilities in fruit growing. There are always uncongenial combinations of soil and climate for the perfect growth of certain fruits which is in a way a blessing, as it specializes certain districts. For instance, Tokay grapes can only be grown to perfection in certain districts.

As to Walnuts.

Any one questioning the adaption of the soil to the growth of walnuts need only to look at the immense native trees, some of which are over four feet in diameter and over sixty feet high. These trees, when grafted to French or Persian walnuts, make a perfect union, though of an inferior grade. While the soil is ideal for them, the still hot days of July and August give the kernels a dark color and very often ruin a large per cent of the crop by actually burning the nuts. This is, however, considerably modified by the culture given the trees. The nuts on trees which receive no cultivation or irrigation are 50 to 80 per cent burned during the hottest weather, while those on cultivated land are but slightly injured. What irrigation would do toward producing a better nut, we cannot say.

Peaches.

There is a vast improvement in the appearance of the peach orchards during the past two years. Gum disease was formerly prevalent. Spraying has solved the problem. "Spray early" is the slogan now among the growers. Late rains make late spraying uncertain.

There is an immense crop of peaches this season, many orchards being nearly ruined by the trees breaking down. It has been discovered that early irrigation renders thinning unnecessary, all of the fruit making large sizes. This is the case on the peach lands of Sutter county at least, but it has its bad feature, and that is the breaking down of the trees. Growers will learn that it will pay to prop their overloaded trees or else prune severely to produce a strong, stiff tree.

Apricots.

There is little planting of apricot trees, and many old orchards have given way to vineyards. This will have a tendency to make apricot prices stiff in the future, and the low prices offered for this fruit the past season will only aggravate these conditions.

Grapes.

Many hundreds of acres of Thompson Seedless grapes are being planted each year, and the area which is adapted to their growth seems unlimited. They are bringing only $12 to $16 a ton delivered at the dry yards this year, but their productiveness makes them profitable at that price.

The combination of Tokays on the red lands and Purple Cornishan on the darker clay lands makes the area for these two popular shipping grapes extensive.

Figs.

Fig culture is claiming much attention, and the area suitable to its culture is still unknown. The White Adriatic is the most popular variety, and is being extensively planted. The Calimyrna fig is claiming very little attention, though it will undoubtedly be planted extensively wherever it is proved that it is well adapted to the locality.

When one stops to contemplate the area that may be used in the cultivation of the various varieties of fruits in the Sacramento Valley, it can be clearly seen that the population of the valley will eventually aggregate millions of people producing fruits and farm products for all parts of the world, just as Southern California is destined to produce its citrus fruits.
—J. W. Mills, Marysville.

ADVERTISING.

The California Fruit Growers' Association, working in conjunction with the Union Pacific Railway, determined upon a publicity campaign to get people to buy oranges. The fruit growers wanted an enlarged market and the railroad wanted a long haul to the market, so together they bought newspaper space to tell Iowans of California oranges. The first shipment of oranges comprised a full train and the fruit found a ready market. A second train of twenty-five cars brought more than the market price. Iowans this year increased their consumption of oranges by 70 per cent. over any year preceding. The people were satisfied with the fruit, the Union Pacific was satisfied with its returns from the freight charges, and the growers were well pleased with the prices which the fruit brought. All three got their money's worth and the railroad and the association have their principal expended in advertising back in their pockets and along with it the reward of enterprise.

But the profit is not all accounted for yet. Interest on the original advertising outlay will be collected by the railroad and the fruit growers for years to come.

Does advertising pay? No practical man of affairs presumes any longer even to consider the question one of a debatable nature.—Racine (Wisconsin) Times.

CONSERVE THE SOIL.

MR. JAMES J. HILL, in his masterly address at the Growers' Congress, on "The Natural Wealth of the Land and its Conservation," dwelt at some length and with great emphasis on the exigencies of the increasing exhaustion of our soils under the system of agriculture thus far practiced. "There are two ways in which the productive power of the earth is lessened: first, by erosion and the sweeping away of the fertile surface into streams and thence to the sea, and second, by exhaustion through wrong methods of cultivation. The former process has gone far. . . . Millions of acres, in places to the extent of one-tenth of the entire arable area, have been so injured that no industry and no care can restore them.

"Far more ruinous, because universal and continuing in its effects, is the process of soil exhaustion. It is creeping over the land from east to west. . . . The richest region of the West is no more exempt than New England or the South. The soil of the West is being reduced in agricultural potency by exactly the same processes which have driven the farmer of the East, with all his advantage of nearness to markets, from the field.

"The average yield of corn per acre in 1906 was less than it was in 1872. We are barely keeping the acre product stationary. The average crop of the country now ranges from 12½ in ordinary years to 15 bushels per acre in the best seasons. And so it is on down the line."

He also pointed out the overshadowing importance of the conservation of the soil. "I have dwelt upon the conservation of farm resources because of the commanding importance of this industry and because of its relation to our future. Nearly 36 per cent. of our people are engaged directly in agriculture. But all the rest depend upon it. In the last analysis, commerce, manufactures, our home market, every form of activity, run back to the bounty of the earth, by which every worker, skilled and unskilled, must be fed and by which his wages are ultimately paid. The farm products of the United States in 1906 were valued at $6,794,000,000 and in 1907 at $7,412,000,000. All of our vast domestic commerce, equal in value to the foreign trade of all the nations combined, is supported and paid for by the land. Of our farm areas only one-half is improved. It does not produce one-half of what it could be made to yield; not by some complex system of intensive culture, but merely by ordinary care and industry intelligently applied. It is the capital upon which alone we can draw through all the future, but the amount of the draft that will be honored depends upon the care and intelligence given to its cultivation.

"Were any statesman to show us how to add $7,000,000,000 annually to our foreign trade, it would be the sensation of the hour. The way to do this in agriculture is open. Our share in the increase would not be the percentage of profit allowed by successful trading, but the entire capital sum. On the other side stands the fact that the unappropriated area suited to farm purposes is almost gone, and that we have been for the last century reducing the producing power of the country. Nowhere in the range of national purposes is the reward for conservation of a national resource so ample. Nowhere is the penalty of neglect so threatening."

In conclusion Mr. Hill briefly indicated the method by which reform may be brought about. "I have endeavored to outline some of the principal issues at stake in the better conservation of our national resources, and especially that one about which all the others revolve and by whose fortunes we shall eventually stand or fall—the land itself. They are for us quite literally the issues of national existence. The era of unlimited expansion on every side, of having but to reach out and seize any desired good, ready provided for us by the hand that laid the foundations of the earth, is drawing to a close. The first task, it seems to me, must be to force home the facts of the situation into the public consciousness; to make men realize their duty toward coming generations exactly as the father feels it a duty to see that his children do not suffer want. In a democracy this is a first essential. In other forms of government one or two great men may have power to correct mistakes and to put in motion wise policies that centuries do not unsettle. A part of the price of self-government is the acceptance of that high office and imperative duty as a whole by the people themselves. They must know, they must weigh, they must act. Only as they form and give effect to wise decisions can the nation go forward And we should not be here today were it not that the principle of a conservation of national resources as the foremost and controlling policy of the United States henceforth is coming to be seen by many, and must be heartily accepted by all, as the first condition not only of continued material prosperity, but also of the perpetuation of free institutions and a government by the people. The work now being done by the Department of Agriculture and the agricultural colleges of the various states furnishes a broad and intelligent foundation upon which to build a new era of national progress and prosperity. It calls for a wise, generous and continuing policy on the part of both Federal and state governments."

PROMOTION COMMITTEE MEETING.

California in her relation to the tourist is going to be fully set forth and discussed at the Tenth Semi-Annual meeting of the Counties Committee of the California Promotion Committee, which is to be held in Los Angeles, Saturday, November 14, next, according to the report just made of the Commtttee on Theme, which was appointed at the last semi-annual meeting held last June at Santa Cruz. The theme as selected for the Los Angeles meeting is "The Tourist in California," and the committee which has charge of the programme is now at work subdividing the theme into interesting topics and selecting the various speakers who will give the ideas on the subject concretely for after general discussion.

The tenth semi-annual meeting of the committee bids fair to be one of the most interesting that has been held by the committee, and already the numerous inquiries received about the meeting show that there will be a heavy attendance from all parts of the state. A special programme of entertainment will be provided by the people of Los Angeles, which will give the delegates and visitors opportunity to see all of the points of interest in and about that city.

These meetings of the Counties Committee are constantly growing in interest, and they have now become one of the great features in harmonious development work in California, through the close co-operation of all the organizations of the state, which have been brought into affiliation by the work of the California Promotion Committee.

At the meeting of the Counties Committee last June, every county in California was represented, as was the case at the previous meeting held at Fresno, and it is expected that this will not only be the case at the Los Angeles meeting, in November, but the representation so far as commercial and civic organization is concerned, will show a much greater attendance.

FRUIT BUD FORMING.

Often the question is asked, in what time of the year do such and such trees and vines form fruit buds?

Strawberries develop fruit buds in fall for the next year's crop. Raspberries, blackberries, grapes and almost all of what are called small fruit form fruit buds in spring. Apple trees and almost all other trees form fruit buds in the fall, mostly during the months of July, August and September, owing to the season. In dry weather they will form buds earlier and often, in case of wet weather change fruit buds, when not fully developed, into leaf buds.

If trees are injured by rabbits, mice, borers and by too deep plowing close to the trees, thus cutting many surface roots, their growth is checked and their vitality injured, which causes the tree to form too many fruit buds. A tree very badly injured may leaf out in the spring, bloom very full, may half mature the fruit and die; then most people are ready to say that tree bore itself to death, when the death blow that nearly killed it occurred months before.—Jacob Faith in Southwest Mail.

HORTICULTURAL ECONOMY.

"Horticulture is affected more or less by nearly every science, and by nearly every art. Every walk in life is affected by the horticulture of the country, and in turn as we are able to take the advantage of the best of everything, we will be able to prosper. During some periods, our greatest needs lie in the direction of better methods for controliing insects. At other times informaion on disease is needed most urgently. At one time we were in great need of information on fertilizers. It seems to me that what we are now needing most of all is information that will enable us to put our crops into the hands of the consumer at the least possible cost. We need a sort of horticultural political economy."

The State fair at Sacramento last week was given the most liberal attendance that any fair in California ever had. It was the last exhibit ever to be made in the old pavilion that is on the corner of the State Capitol grounds.

IT'S PENNY WISE

Policy to set out a good tree, costing good money, and then let the sun burn the bark or the rabbits gnaw it, when for $1 an acre you can get Yucca Tree Protectors that are practically indestructible. Write for free sample of the wrap. Yucca Manufacturing Company, 1380 Willow street, Los Angeles.

Thou Shall Reap What Thy Sow

$22.50 CASH WITH ORDER

Buys a first-class Fanning Mill for beans and all kinds of small grain. Sow cleaned seed and increase your yield from 20 to 33 1-3 per cent.

Los Angeles Vehicle and Implement Co. 110 and 112 North Los Angeles Street Los Angeles, California

TREE TANGLEFOOT

A Sticky Preparation Applied Directly to the Bark of the Trees

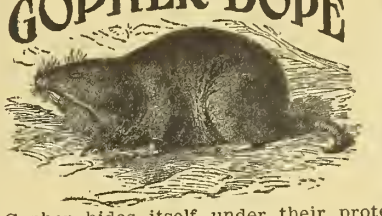
Will not injure trees. A band 5 inches wide and 1-16-inch thick cannot be crossed by any climbing insect pest. Remains sticky five to ten times as long as any other known substance. You can test it at slight expense, as no apparatus is required. Used by the carload in New England against the Gypsy and Brown-Tail Moths. In California it preserves prune orchards from the Canker Worm Wherever the Gypsy or Brown-tail Moths, Tussock Moths fall or Spring Canker Worm or Web Worm appear TREE TANGLEFOOT is of great value, and should be used when the caterpillars begin to crawl while they are very young.

Price 25c per lb. Liberal discount on quantities. The only safe and effective banding preparation. Send for testimonials.

THE O. & W. THUM COMPANY

Manufacturers of Tanglefoot Fly Paper Grand Rapids, Michigan

GOPHER DOPE



Gophers destroy annually a large per cent of the crops, trees, lawns, etc., and they are a great nuisance to land owners all over the country.

The Gopher drives burrows or tunnels of very great extent and wherever it gains admission into a garden it works much damage to the roots of the plants. Every root that crosses the tunnel the Gopher will eat and not only herbs and flowers but even fruit trees of many years' growth have been killed by this destructive animal. In such cases the extremity of the tunnel is always to be found among the roots of some tree, which acts at the same time as a defense and a larder, for the Gopher hides itself under their protection and eats away their tender shoots.

A great many things have been devised to exterminate this pest with some success. Gopher Dope works on a different plan. It is in a powdered form and about one-quarter ounce placed well down in each hole and also in the run ways will soon rid the place of gophers. It gets in their eyes and pouches and on their feet. They track it through their tunnels. They will not stay where it is used. It will not harm domestic animals or fowls. It must be used thoroughly and systematically, the Gopher given time to work in it and any new holes thoroughly treated. If this is done you will soon find the place free from them.

Do not irrigate for one week after the dope is used.

Gopher Dope is sold in 50c, $1.00 and $4.00 tin cans, and is for sale at grocery, drug and hardware stores, also at feed yards, and is absolutely guaranteed or money refunded.

Free on board cars at Los Angeles. Live agents wanted in every county.

Yours very truly,

B. & G. Disinfecting Co., 415-417 Laughlin Bldg., Los Angeles, Cal.

Home Phone A 9089

EUCALYPTUS SEED

Eucalyptus rostrata, the Red Gum
E. corynocalyx, the Sugar Gum
E. tereticornis, the Forest Red Gum
E. globulus, the Blue Gum
E. citriodora, Lemon-Scented Gum
E. cornuta, the Yate Tree
E. polyanthema, the Red Box
E. leucoxylon, Victorian Iron Bark
and Many Other Valuable Sorts

I shall be pleased to correspond with prospective buyers and give particulars as to prices on the seeds I am offering. Trial packets of any variety 15c each, 2 for 25c, or twelve for $1.25. Also young trees of many varieties for sale. Send for circular and cultural directions.

THEODORE PAYNE
NURSERYMAN AND SEEDSMAN
Home Phone A2480
345 S. MAIN ST., LOS ANGELES

Eucalyptus Seed

We are headquarters on all varieties of this seed. Be sure and get our prices on high quality stock. 80 varieties, your selection, 15c per pkt. Or we will mail postpaid, 1 pkt. each, E. Rostrata, Globulus, Tereticornis, Rudis, Corynocalyx, Leucoxylon for 50c with Cultural Directions.

MORRIS & SNOW
425 South Main Los Angeles

Eucalyptus

We have made a specialty of eucalyptus for the past ten years. We are no mushroom concern. We are prepared to accept contracts for raising eucalyptus for next season's planting. Take advantage of our **Low Prices on Contracts. Do It Now.** Twenty of the leading varieties to be seen at our nursery.

Saint & Warner
Sycamore Grove Nurseries
4584 PASADENA AVE., LOS ANGELES

GERMAIN SEED CO.
326-330 So. Main St.
Los Angeles, Cal.
Headquarters for Eucalyptus, all varieties, both in seed and plants. Write for catalogue and cultural directions. They are FREE.

For the Season of 1908-09
We Shall Have to Offer
Pedigreed Fruit Trees
SEVERAL NEW FRUITS AND NUTS OF IMMENSE VALUE TO CALIFORNIA
Eucalyptus Trees
BY THE 1000 OR 100,000
NO BETTER STOCK GROWN
Please send us your name and address, and you will get all particulars.
Leonard Coates Nursery Co. Inc.
Morganhill, Santa Clara Co., Cal.

SEED GRAIN
Black and Red Oats, Wheat, Barley, Bean Screenings, Etc.
constantly on hand and for sale at lowest market rates
Bray Brothers Buyers of Grain and Beans Members Merchants Exc.
220 Clay St., San Francisco, Cal.
Established in 1855. Correspondence Invited.

When writing advertisers, mention Cultivator.

General Agriculture

WEATHERING OF FARM MACHINERY.

A machine of wooden parts if exposed to the weather will warp and the parts of the machine will be thrown out of adjustment and it will do poor work. The paint will come off in a season and cracking and rotting begin. Rust will soon affect the metal parts and within a very few years the machine, which with proper housing when not in use would have lasted twice as long, is consigned to the scrap heap.

The open shed for machinery is used in many places. This is not satisfactory, though much better than leaving machinery in the field. The closed shed with a good floor made of either planks or gravel is more practicable. All machinery should be kept in the shed when not in use. Plows, cultivators, shovels and all unpainted metal parts should be oiled when put away for some time. For this purpose some heavy oil which will not run off or evaporate too quickly should be used. Fill all oil-holes at the close of the season. It will prevent rusting of the bearings. The natural life of the common farm machinery should not be three or four years but multiples of these. And if good sheds were provided and used and machinery kept well oiled and in good repair the life of farm implements would be much lengthened.

"POISONED SOILS."

Elsewhere is given a popular account of a theory of soil poisoning which has been developed and declared, so it is said, by government experts in soil investigation. We would not care to enter into any controversy on this subject. It may be, very probably is, true that some plants have the effect of producing poisonous substances in the soil, or rather the process of growth leaves a residue that is detrimental to other plant growth. When fire burns wood an ash is left which is a dead substance and which would prevent further combustion. So when the elements of the soil are combined so as to make plant growth certain changes are made which will prevent other plant growth.

But the significant thing about all this discussion of "poisoned soils" is the effort to account in some way for things which contradict old established theories as to soil fertility and plant growth. It seems that the science of agriculture, as it is in the books, has built upon a theory that the soil contains certain elements of plant food, that these are limited in quantity, that the plants use up some of this food and that when the plant or the seed is carried away the supply of plant food is decreased. The next step is to add to this plant food by supplying something from the outside fertilizers. In addition there is a way of adding to this plant food by the planting of certain crops. Yet all this fails to account for the fact which has been discovered that the usefulness of a soil may not be found out by a chemical analysis.

In short, the facts do not fit in with the old theory. Hence some new theories or additions are necessary.

Now, may it not be that the old theory about the exhaustion of the soils is a trifle off? May it not be in fact that the plant food is being manufactured from year to year in the soil rather than that there is a draft from a storehouse supply of fixed amount?

It is shown, so these experts say, that by adding a certain substance to the soil, which substance is not of itself a plant food, a sterile or dead soil may be converted into a highly fertile soil. Is it not possible that the addition has changed the physical condition of the soil so as to permit the use of the plant food already there? At any rate, why assume that there is a poison in the soil which has been removed in some mysterious way?

But, however it may be, the subject is an interesting one. It leads inevitably to a further discussion of the subject. It leads to investigations and experiments. And above all else, it leads away from the conventional theories which seem to have bound down all scholarly consideration of soil physics. If it does nothing more it will certainly lead to a consideration of the effect of cultivation upon the soil, and out of this will come a broader knowledge of the details of farm work.—Campbell's Scientific Farmer.

(Courtesy Kings County Promotion Association.)

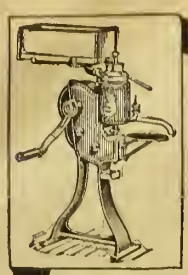
A GREAT INDUSTRY OF KINGS COUNTY.

A Million-dollar Factory, Absolutely Fire-proof, and Fields of Beets Which Show a High Percentage of Sacharine Matter.

VINEGAR MAKING.

First clean the barrel in which the cider is to be placed by scalding frequently with boiling water, subject it to live steam or fumigate with sulphur to destroy mould spores. Use only mature fruit, free from decay and mould. Grind apples in a cider mill, press out the juice and place in barrel. Do not fill the barrel, but let the depth of cider correspond to the surface exposed. The greater the surface exposed to the air, the sooner (under proper conditions) will the vinegar be ready. Dissolve a yeast cake and add it to the cider. This will set up a fermentation which should not be interfered with, but allowed to go till it stops. If you have mother of vinegar in an old barrel, place a little of it in the cider to inoculate it. This contains acetic acid germs and will increase, forming a scum which should not be broken. Keep the barrel in a warm place. A good temperature is eighty degrees Fahr. Most people place a quart bottle in the bunghole of the barrel, possibly to keep out the flies. This is a mistake, as it prevents the free access of air. It also excludes one particular fly, a small yellow one, that is found about the vinegar vats and over ripe fruit. It carries acetic acid germs to the cider and hastens the manufacture.

If kept at the proper temperature, and ripe fruit has been used, the vinegar may be used in four months. It ought then to be racked off into another clean barrel.



The 1908 Improved
U. S. CREAM SEPARATOR
Meets every emergency in the Dairy

It has a solid, low frame; waist low supply can without the back breaking low crank; simple yet thoroughly efficient bowl, holding World's Record for cleanest skimming; is thoroughly lubricated, as gears run in a pool of oil, and has ball bearings at high speed points, making it the easiest running separator made.

Do not delay longer in the purchase of a separator and buy no other until you have seen our catalogue No. 20 sent to any address on receipt of a postal.

Vermont Farm Machine Co., Bellows Falls, Vt.

Prompt deliveries from 16 distributing warehouses in the U. S. and Canada

502

Prompt Delivery Assured
California Customers from San Francisco warehouse. No delays. Address allletters to Bellows Falls, Vt.

CUTTER'S
Anthrax and Blackleg VACCINES
Are given the preference by 80% of California stockmen because they give better results than others do.
Write for prices, testimonials and our NEW booklet on Anthrax and Blackleg
The Cutter Laboratory
Berkeley, California

STROKE SELF FEED HAY PRESS

2 men can run it.
3 tons in one hour.
Easy draft.
Smooth bales.
Will save its cost.
Shipped on trial.
SATISFACTION GUARANTEED.
414 E. 10TH ST.
THE AUTO-FEDAN HAY PRESS CO. TOPEKA, KANS.
BRANCH OFFICE, 1621 W. 12TH ST., KANSAS CITY, MO.
Ask for Catalogue No. 28
1521 West 12th St., Kansas City, Mo.
Agent, John Schilling, Jr., Davies Warehouse 2nd and Central Ave., Los Angeles, Cal.

PASPALUM DILATATUM
King of dairying and fattening grasses. The great Australian drouth resister. Primest heavy seed direct from the grower, 4 lbs. (ample for trial) post free, $2.00. Full information.
C. F. JULIUS
Central Bucca, Coffs Harbor, New South Wales

Live Oaks Farm
Frank A. Meacham, Proprietor.
Importer and breeder of RED POLLED CATTLE, SHROPSHIRE SHEEP, RAMBOUILLET SHEEP, HORNLESS AMERICAN MERINO SHEEP. Both sexes for sale. Take electric car at Petaluma or Santa Rosa for LIVE OAKS STATION. Address all mail to
Petaluma, Sonoma Co., Cal.

HOLSTEINS
We Have For Sale a Number of Registered Young Bulls and Heifers **$100**
All our stock comes from the celebrated herd formerly owned by the Pierce Land and Stock Co., the premium herd of Holstein Friesians in California. **Oakwoods Stock Farm Co., Lathrop, Cal**

VENADERA HERD
OF REGISTERED JERSEYS
I have for sale a number of richly bred young bulls, some of them from cows that have high official yearly records.
GUY H. MILLER,
Route 3, Modesto, Cal.

Berkshires--Shorthorns
My Berkshires took every blue ribbon and Gold and Silver Medal in the female classes. Choice pigs at low prices. G. A. Murphy, Perkins, Cal.

John Lynch Breeder of Registered **Shorthorns**
MILK STRAIN
Box 321 Petaluma, Cal.

PURE BRED BERKSHIRES
Young Stock For Sale
Wm. H. Bird Box 6, Compton Cal.

The Whiting Jersey Stock Farm Company
Is making the very best strains of blood fresh from the island of Jersey a specialty.
Whiting Jersey Stock Farm Co. Heber, Imperial Co., Ca

Geo. C. Roeding, Fresno, Cal., breeder of
Thoroughbred Holstein Bulls and Heifers
Thoroughbred Berkshire Boars and Sows

Live Stock and Dairy

SORGHUM FEEDING.

IT IS too bad there is prejudice in the minds of dairymen against sorghum. This valuable and easily grown food for dairy cows is neglected from want of a little knowledge in feeding it. Perhaps the prejudice has arisen from cases where a little previous thought would have prevented the injury to the animals. The thought most needed in this world is forethought for hind thought comes a long way behind the disaster. The dairyman watches with apprehension the grasses growing shorter and shorter in the fields, and, each milking, less and less milk in the cans. Waiting and waiting for the sorghum to grow tall enough to cut for fodder is seemingly an endless weariness. Sorghum grows very slowly when first planted, then it rushes away into maturity with greatest rapidity.

Time to Cut.

The sorghum is ready to cut for soiling when it reaches the third joint in growth. The plant must not be cut below the first joint, or it will not sprout again. If cut only to the first joint and watered, it will start to grow at once and make several cuttings before it is necessary to let it go to seed. In many of the warmer parts of the state the frosts are not severe enough to kill it down completely and it comes again in the spring from the same root. In California it is almost impossible to secure sorghum seed that has not a mixture of broom corn in it. The seed has to be gathered from time to time, as it ripens rather irregularly in the field. When it is left to mature all at one time the birds take the first ripened seeds and leave the farmer short. The linnet is the sinner. I never see any other birds harvesting the seeds. Linnets are not a protected bird at any season of the year. I think it is reasonable they should not be, for they multiply very fast and are destruetive to the fruit tree buds.

Feeding.

When the sorghum is ready at last, now comes the glad time. The dairyman and his men rush out with the teams, cut a quantity, and gloating, feed it to the waiting cows. The dairyman's heart is full of kindness and he thinks as he looks at the eager herd: "You hungry beasts, fall to and eat your fill, at last, for there is plenty more coming now." The cows gorge themselves on the lusciousness; for the sin of gluttony quickly comes the punishment of pain. In many cases, the cows have been more starved than the dairyman thought. The dairy cow is deceptive in that she stores up her fat internally and not until this inner fat is used up does she begin to lose condition otuwardly. Now the cows stuff themselves on sorghum, bolting down great mouthfuls. Some bloat, but recover; the worst bloated ones die, while others merely have bad cases of indigestion. There is a racket for awhile around that barn, with men running in every direction to relieve the poor suffering things, everybody excited and worried. After the flurry is over, the victims buried, the dairyman cogitates for awhile, then resolves never, never to grow any more sorghum! Foolish resolution! Better resolve that he will find out why sorghum, loved by the cows, cannot be fed to them with safety. That is the proper way for a man to talk; the other way of deliberately sacrificing the valuable sorghum crop is too unreasoning for even the cows!

Personal Experience.

I have fed sorghum to horses, cows and pigs; sheep I have not owned and therefore leave them out of the count. I have fed more or less sorghum for twenty years and do not remember losing a single head of stock from it I have fed alfalfa the same number of years and believe that a hundred head of calves and cows would not cover the number that have died directly from alfalfa bloating. I still feed and pasture alfalfa and always hope to have it for feed. I know it is the best of feeds but must be handled with care. Sorghum is good feed. If used one season I doubt if the dairyman will ever again be without at least a small patch of it. The feeding at the first of the season must be carefully watched. Here is where the eye of the master saveth his kine. If the cows are being fed cut or soiling crops in the yards the change is readily made. Mix in a quarter of sorghum with the other feed, cutting the sorghum into foot lengths to prevent one cow getting too much After a few days leave it full length, then gradually increase the amount until at the end of ten days the racks may be filled up completely and the cows allowed to eat all they desire.

Pasture.

When cattle are at pasture the sorghum is fed on the ground, widely scattered. Five stalks to a cow is enough until they grow accustomed to it. The practice of turning cows into the corn or sorgnum fields after the rains have started mildews and rotting I do not believe is safe. Decaying vegetation is not wholesome for either man or beast. The regular corn stalk disease, whatever may be the cause of it, has never been known in California. It is recognized as something obscure in the Middle West. The few cases where sorghum has been found to secrete prussic acid, eight in number, are too few for us to consider the matter as threatening to the herd.

Whenever there is more sorghum than is needed for soiling the cows, it can be cured into palatable hay. The horses are very fond of it and grow sleek and fat. The sorghum on the ranch is being cut for the silo after a small portion of the seed is removed. The seed will be used for next season's planting and save buying, for at six cents a pound it is not very cheap seeding. I note with pleasure Mr. Woodward's kind note on home made cutter for corn. I have one on somewhat the same pattern. The men find it too slow and prefer the hand knives. They really do a quarter more in a day with the corn knives. I think this comes from the fact that in California we hire only able bodied men to do field work, while back East the farmer works with his men and is not always able-bodied.

He must consider his own strength and take an easier if somewhat slower way of doing things. Next year I mean to have a regular corn harvester to cut the corn in good style. This year is a makeshift year, anyway. I took hold in the middle of things to again manage the ranch, while the wise man has been enduring the weariness of life in a sanitarium.—M. E. Sherman.

THE GOAT SITUATION.

A Texas writer states the present situation on mohair prices and problems confronting the goat men, as follows in American Sheep Breeder:

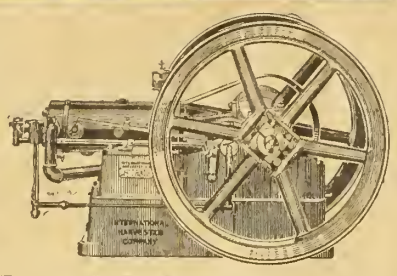
I regret exceedingly the very low price paid for mohair in the past several months, in fact, there has hardly been any market at all for mohair for something like about four months. If it were not that wool has also suffered quite as bad we goatmen would be feeling blue over the situation. Last year mohair brought from 36 to 42 cents per pound for the twelve months' clip, this year about 20 cents. Last year wool brought from 22 to 32 cents, this year from 9 to 18 cents. Of course the panic was mostly responsible for this condition, but I hardly think it entirely responsible for it, as I fear it is due more to unlawful combinations. I urged upon the goat owners in 1905 to organize with a view to controlling the market, but I met with no encouragement.

I again urged the same thing in 1906, and by considerable effort and going to considerable sacrifice of time, labor and stamps, I succeeded in getting a meeting of the most of our prominent goat breeders in San Antonio during the international fair in November of 1906; but notwithstanding we started in with a very respectable organization and with fair prospects to accomplish something and possibly did help the market for the clip following which was better than common, somehow unexplained to me, we allowed our organization to die a natural death and if we accomplished anything we soon lost all the advantages gained. There should not be an easier job than to combine the goat raisers and effectually control the mohair market in the United States. There are only three States in the Union that produce mohair to any considerable extent, Texas, California and Oregon. Texas and Oregon produce, I suppose, more than one-half of all the mohair produced.

Imported Brings More Money.

I believe I would be safe in saying that I can create a mohair famine in the United States by combining one hundred of the greatest mohair producers. We produce in the United States about 3,500,000 pounds of mohair annually, and there is consumed a considerable quantity in excess of this. There is imported, approximately, 3,000,000 pounds, but Mr. Hoerle, of New York, says a considerable quantity of this 3,000,000 pounds is short hair and should not properly be classed as mohair, hence we have no way of knowing just what quantity of this is really mohair, yet we do know that the quantity of mohair imported is considerable. The duty on mohair is 12 cents per pound and the freight and duty with original costs makes the imported product cost about 55 cents. I believe the mohair as produced in the United States, or at least one-half of our clip, to be equal to the imported mohair, the other being from grade goats, and having been clipped at six months, is too short and has too much kemp to grade with the imported. Yet it costs 55 cents to import this mohair. Those of us who produce a grade equal to that get about 36 to 38 cents for the same grade of hair in the United States. I contend if the imported article is worth 53 to 55 cents, then why should we take 38 cents for mohair just as good? Mr. Hoerle, who resides in New York city, and is in a position to know better than any of us, in speak-

The GREAT AMERICAN DESERT is DISAPPEARING



THE great ranges are fast being taken up by individual settlers, and thousands of prosperous farmers are taking the place of the few cattle kings that were monarchs of the ranges a score of years ago.

It is the story of the magic touch of water upon the dry land.

I. H. C. Gasoline Engines in Irrigation Enterprises.

If you have not kept yourself posted on irrigating matters, you will be surprised at the important part I. H. C. gasoline engines are taking in the reclamation of these waste lands.

Hundreds of settlers and farmers have no other means of getting water upon their lands than these engines.

These settlers and farmers are cultivating all sizes of farms, from garden spots to "forties" and "eighties" and quarter sections and even larger tracts. They are among the most prosperous farmers in the irrigated sections. They are raising grains, alfalfa and other grasses—vegetables, fruits, etc.

They find that with an I. H. C. engine they can get water in large quantities upon their land, and that they can get it dependably and economically. They find the I. H. C. engine method of pumping more direct, more profitable and more satisfactory than any other means heretofore employed.

I. H. C. gasoline engines are simple, dependable and powerful. They pump water economically, and you will find that they run with very little attention.

If you have an irrigation problem it will pay you to investigate and see what an I. H. C. gasoline engine will do for you.

Vertical engines in 2 and 3-Horse Power.

Horizontal engines (Portable and Stationary) in 4, 6, 8, 10, 12, 15 and 20-Horse Power.

Also, gasoline traction engines, pumping, sawing and spraying outfits.

Call on the International local agent, or write the nearest branch house for catalog and colored hanger.

WESTERN GENERAL AGENCIES: Denver, Colo., Portland, Ore., Salt Lake City, Utah, Helena, Mont., Spokane, Wash., San Francisco, Cal.

INTERNATIONAL HARVESTER COMPANY OF AMERICA, CHICAGO, U. S. A.

(Incorporated)

ing of the recent great drop in the mohair market says: "Some of the early clips brought as much as 36 to 38 cents, then some mills and some speculators combined.

Worked the Game.

One mill closed up entirely, for a short time, probably for repairs, and others partly; and then a general calamity howling began, which was heard with terror by every breeder in the United States." We mohair producers became panic stricken and rushed our hair upon the market at any old price and, of course, the speculators and the mills reaped a rich harvest. They are now educated to a low price and it will be difficult to get the price to what it should be. An article is not sold at what it is worth so often as what the same article can be bought at in the market. It does not imply because mohair is sold for 20 cents that it can be produced profitably at this price. No man posted would contend that you could produce mohair in the United States and make money at these figures. There is no money to be made at less than 25 cents for the six months' clip. Mohair should bring from 25 to 35 cents for the short clip and from 45 to 60 cents for the long. By properly organizing and controlling these things we would have no difficulty in getting approximately these prices.

Mr. Hoerle says in speaking of wool: "During the March sales in London, the best Australian Delaines brought from 90 to 92 cents on a scouring basis, which is equal to $1.25 laid down in New York, duty paid. Our own best Ohio Delaines brought then only 75 cents and the mills themselves admit that the latter is fully equivalent to the former." He winds up by saying that mohair is in the same boat, which every well posted man knows to be true. If wool, when scoured is worth $1.25 per pound or even 75 cents per pound, why is it that mohair which is free from loss by reason of grease and dirt, wool losing as much as three-fourths of its weight when scoured brings less than one-half of this? In other words wool that sells at 25 cents, when freed from its grease and dirt costs the purchaser for the scoured product 75 cents per pound and how is it that mohair which is free of dirt and grease will not also bring 75 cents per pound when the manufactured article made out of mohair brings more upon the market than the manufactured article made out of wool? These are things that we mohair producers should think over and we should organize and get our rights.

Cotton Growers Succeeded.

Look at the cotton farmer. Why I remember of seeing cotton sell on the streets of Dublin at from 4 to 6 cents per pound and I have heard farmers say repeatedly that if they could only get 8 cents they would be satisfied, but when their organization was first formed they clamored for 10 cents and they got it and then they clamored for 12 cents and they got it, and last year they asked 15 cents and had not the panic come, they would have succeeded in getting that and notwithstanding the panic most cotton was sold at from 11 to 14 cents. Think of it, cotton from 11 to 14 cents, mohair 18 to 20 cents. Cotton fabrics 15 cents per yard, mohair fabrics 75 cents to $2.50 per yard. The prices on cotton did not go to pieces like wool or mohair and why, because the farmer was organized and would not stand for it. I have heard the cotton buyers and the speculators and the merchants and the well read and posted man argue that cotton could not go over 8 cents, because the Chinaman and the Filipino and the African and peons of South America and of Old Mexico and the citizens of India were our largest consumers, these being very hot countries and on account of cotton fabrics being both cheap and cool the trade with these people was where we disposed of our great surplus in cottons and then the wise ones said these people were so poor they could not buy if the price was greater than 8 cents, and they also predicted that in a few years the German and the French and the English and the Belgium colonies in Africa and India and Mexico and Argentine republic of South America would produce cotton in great quantities with pauper labor and would sell it at 3 cents per pound, but I notice that cotton has steadily climbed in price and all the wise ones have proved false prophets.

Three Million Organize.

If the cotton producers, about 3,000,000 or more of them, can organize and accomplish such results why is it that a handful of a few hundred goat raisers can not gather in an organization and get their rights? The United States produces about 12,000,000 bales of cotton or about 600,000,000 pounds. We goat men produce about 3,500,000 pounds of mohair. Erath Co. Texas, raises in value in cotton more than all the mohair producers in the United States. One hundred of the greatest mohair producers could accomplish wonders and 500 would control absolutely the entire or almost the entire output of the United States.

Can't we get a few hundred together when the cotton people have several millions banded together? I shall not apologize for taking up the greater part of this article in discussing the want of an organization, because if there is any one thing that is needed just now it is just such action and the exigencies of the case require just such a lecture as this.

A few years of just such prices for mohair would hit the industry in the United States such a staggering blow as it would be years and years recovering from. Suppose all those who have been select breeders and built up the very best flocks in the United States and their fathers before them, and their predecessors by years and years of intelligent and select breeding should become disgusted and sell out to Tom, Dick and Harry, who would breed down instead of up, as the most of our goat men are doing, and in a few years we should destroy in this way all the fine goats in the country, where would we go to get seed to start the industry new again? Have you thought of that? Only two places on the civilized globe that they can be had, that is worth having outside of what is in the United States, and that is Turkey and South Africa, and the government of Turkey absolutely prohibiting the exportation of a single head from that country, and there being $500 export duty on every head taken from South Africa. To destroy the industry in the United States would be the short-sighted policy of killing the hen that laid the golden eggs. There are millions of acres of land in the United States that are practically worthless except to produce goats and mohair. We should be exporting mohair instead of importing it and having it bring millions to this country instead of sending millions away for it.

Organize.

Now I have in the past given good advice to the goat men and I will give you some more that will be worth more to you and to the country and to the mohair and goat interests than any heretofore given by me and that is this: "Join a compact organization that has for its object to better prices for mohair and goats; or sell out at once to some man who will." I am not suggesting what organization but if there is none in existence induce some leader to start one and not only join, but have all your neighbors do so, and don't expect to have the invitation fee 10 cents or 25 cents, as it will take money to accomplish this, and we should be willing to pay it as the results will be many times our money back to those of us who remain in the business.

Those of us who have money that we could spare should make loans upon the mohair of those who can not hold and in this way aid each other to hold until a living and a decent price can be obtained. Did you ever stop to think that the last spring's mohair clip came only to about $600,000 in the entire United States? I can find enough enterprising men in Dublin as small and as insignificant as the town is to corner the mohair market at these prices. If it were not a violation of the law to form such combination, I would attempt the forming of such combination by capitalists with a view of cornering this product. It is time that the goat men were waking up or selling out to some man who is capable of waking up, or soon all those who are thoroughly awake will get out of the business. What we need is an old time revival. Mr. Hoerle says, "our system of marketing bears the blame." To this I agree.

Creamery Supplies

Cream Separators — Milk Cans
Combined Churns — Milk Bottles
Babcock Testers — Brushes
Butter Moulds — Wrappers
Engines and Boilers — Milk Coolers

PASTEURIZERS
MILKING MACHINES

Creamery and Dairy Supplies and Machinery of all Styles and Sizes

Send List of Goods Wanted and we will Quote Prices

O. J. WEBER CO.

555-57 S. Los Angeles St.

LOS ANGELES, . CALIFORNIA

HOG CHOLERA CURE.

The Cultivator is asked regarding the recent discovery of the prevention of hog cholera. This cure was announced at the convention held at Ames, Iowa, in May, and regarding it we note in an Eastern Exchange:

The great news of the convention was the discovery of a cure for hog cholera, and the exact nature of the disease and the successful methods of combating it were fully and practically demonstrated, so that each official present obtains such a mastery of it that he may return to his own state fully armed to cope with the disease.

For over thirty years the United States experts have labored continuously on the problem. Doctor De-Schweinitz began the work, which at his death has been taken up and carried to a successful culmination by Doctor Dorset and his assistants.

At first attempts were made to develop antitoxins by the use of artificial cultures, but the ultramicroscopic nature of the germs made this impracticable.

Later, knowing that animals which had recovered from this disease were immune, these men concluded that immune bodies must exist in the blood of such hogs. But it was soon found that these immunizing bodies were not sufficiently numerous in the blood of the recovered hogs to render exposed animals immune when injected into their blood.

Consequently these animals were hyperimmunized by injecting them with infected blood and by feeding them

EVERYBODY
BUYING
DE LAVAL
CREAM
SEPARATORS

The wonderful improvements made in the 1908 DE LAVEL CREAM SEPARATORS—added to their 30 YEARS record of ONE MILLION prosperous users throughout the world—have convinced practically all WELL-INFORMED buyers of their overwhelming superiority, as well as actual cheapness, and they are being bought in even greater proportion this fall than in the spring or ever before.

A catalogue to be had for the asking shows the reasons WHY.

DE LAVAL DAIRY SUPPLY CO.

108 So. Los Angeles St. LOS ANGELES
42 E. Madison Street CHICAGO
74 Cortlandt Street NEW YORK

General Offices: 101 Drumm Street, SAN FRANCISCO.

107 First Street PORTLAND, OREG.
1016 Western Ave. SEATTLE
Box 1052 VANCOUVER, B. C.

the viscera of animals that had died of the disease.

By this method of treatment the serum of these hyperimmunized hogs became sufficiently impregnated with antitoxin body to render hogs immune when they are injected with it.

A number of experiments performed by Doctors J. H. McNeil and Stange amply prove the success of the method.

Experiment No. 1 included 16 hogs, consisting of Poland Chinas, Duroc Jerseys, Chester Whites and some crosses.

Six of the animals were treated by injecting 20 cubic centimetres of mixed serum taken from several hyperimmunized hogs into the inner muscles of the thigh; six more were treated with 20 cubic centimetres of the same serum and in the same manner, but in addition two cubic centimetres of blood taken from a sick animal was injected into the opposite thigh.

These 12 hogs with four untreated hogs (checks) were exposed to a natural outbreak on the farm six days after inoculations were made. A number of animals on the farm had died and several were sick at the time the exposure was made.

As a result of the exposure two of the animals treated with serum alone died. Another was sick for several days.

Of those that received serum and blood, two died. Three of the four checks died. None of the animals became sick as a result of inoculation.

Experiment No. 2 included eight hogs. These eight were injected as lot No. 1, with 20 cubic centimetres of the same serum and two cubic centimeters of the same blood.

Forty-eight days later they received a similar treatment with a different serum and blood which had been found virulent.

The animals were exposed to a natural outbreak on a farm twenty-four days after the last treatment.

None of the animals became sick as a result of the exposure, while 75 per cent of the untreated animals exposed at the same time died of hog cholera.

Experiment No. 3 included eight hogs. This lot were treated with 20 cubic centimetres of the same serum used in experiment No. 1 and first injected in No. 2.

Forty-eight days later they each received 20 cubic centimetres of another serum in the same manner, and twenty-four days after this tretament they received from 25 to 30 cubic centimetres of serum (depending upon the size,) and were exposed immediately under the same conditions as lot No. 2.

Of these one died, while three of four untreated animals exposed at the same time died of hog cholera.

Experiment No. 4 included six hogs. Four were treated with 30 cubic centimetres of serum and two with 30 cubic centimetres of the same serum and two cubic centimetres of virulent blood (tested.) The amount of serum used was increased on account of larger animals.

All were exposed in closed pen containing three sick animals. The pen was one of the Bureau of Animal Industry exposure pens. The sick animals originally in the exposure pen died in four or five days and post-mortem examinations showed lesions of hog cholera.

None of the treated animals became sick, but three of four untreated hogs exposed in the same pen died, and the fourth was sick several days.

Experiment No. 5 included six hogs. Of these four were treated with 30 cubic centimetres of serum as used in experiment No. 4. Two were treated with 30 cubic centimetres of serum and two cubic centimetres of disease-producing blood.

All animals were kept from all sources of infection for two days and were then exposed to the disease under the same conditions as those in experiment No. 4.

None became sick, while 75 per cent of the untreated animals died and the remainder became sick.

Not a single animal became sick as a result of the treatment.

On the evening of May 30th a public meeting was held at the college. Secretary Wilson on account of a hurried call from town was unable to be present. Doctor Melvin, Chief of the Bureau, said, in part:

"There are about 9,000,000 hogs in this state. When one considers the deaths that occur in some seasons from hog cholera the loss is tremendous. If this remedy is successfully placed before the farmers it will doubtless mean the saving of millions.

"If thoroughly systematized, it is expected that the herds where the disease exists can be treated, and those surrounding the outbreak, and thus reduce it to a minimum. This should eventually result in the total eradication of the disease."

THE STUDENTS' JUDGING CONTEST.

At third annual National Dairy Show, which is held in Chicago December 2 to 10 inclusive, will be held a students' judging contest. Any student of an agricultural college or of a secondary school which is under the direct supervision of a state agricultural college, who is regularly matriculated in at least a two-years' course in agriculture or dairying and who has taken not less than twelve weeks work during the calendar year in which the show is held, may enter.

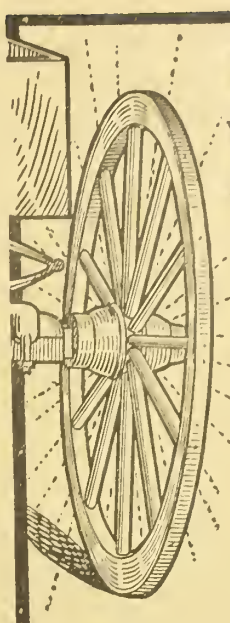
There are six teams who have already expressed a desire to enter this dairy judging contest. Any institution interested in this contest may obtain a copy of the rules and regulations governing it by writing directly to B. H. Rawl, Dairy Division, Washington, D. C.

The dust from clay soil is especially absorbent and without any admixture whatever will almost instantly neutralize offensive odors and render innoccuous miasma-breeding pools and slimy open drains. Where the latter are necessary it is well to fill them in frequently and replace them by fresh ones, unless they can be flushed out or treated with disinfecting fluids as often as they become offensive to sight or smell. A few cart loads of dry earth can easily be put under shelter in stable or out buildings. It proves an inestimable convenience in the poultry houses and stables, when cleaning is difficult and when some rapid absorbent is necessary in the case of sickness among the larger animals or fowls. Temporarily, too, any of these that may die and cannot be interred, may be covered with a dust blanket until they can be more deeply hidden from sight.

Thoroughbred Poland China Swine
Black Minorca and Barred Rock Poultry
High Grade Stock of Best Strains.
Young Stock For Sale
M Bassett Hanford, Cal

Cream Separators, all sizes, all prices. O. J. Weber Co., 555-557 S. Los Angeles street, Los Angeles.

Wood Soled Boots and Shoes. Boots, $3.25; Shoes, $2.00. O. J. Weber Co., 555 South Los Angeles St., Los Angeles, Cal.



Don't Wait 'till They Sing

You make yourself unneccessary expense for repairs every time you use a poor wagon grease or allow an axle to go dry.

An occasional application of

MICA
Axle Grease

removes two thirds of the trouble and cost of keeping a wagon. Try "Mica" next time you go for a load—you'll *see* the difference and the horse will *feel* it.

Mica Axle Grease is almost as good as roller bearings. Ask the dealer for it.

STANDARD OIL COMPANY
(Incorporated)

The Monarch
Stump Puller

The Monarch is a Puller constructed on the most correct and scientific principles, and is made of the strong-and best materials obtainable.

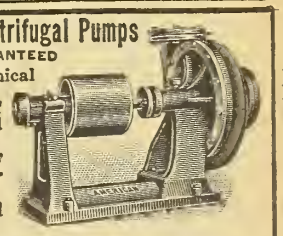
The Monarch

Is the most successful and most popular Stump Grubber on the market today.

Write Us for Catalogue of Stump Pullers, Farm Implements, Wagons and Vehicles.

Pacific Implement Co.
133-153 Kansas St. San Francisco

American Centrifugal Pumps
GUARANTEED
Highest mechanical efficiency.
Saves 25% of power over all other pumps.
Give us your pump specifications.
Manufactured by



THE AMERICAN WELL WORKS
Aurora, Ill., U. S. A.
Branch Offices:
Chicago, Ill., First National Bank Building.
New York, N. Y., 2-4 Stone St.
San Francisco, Cal., 305 Market St.
New Orleans, La., J. H. Menge & Co.
Dallas, Texas. Joplin, Mo.

When writing advertisers, mention Cultivator

Sugar-Beet-Pulp (Kow Breakfast Food) For Sale

At fifty cents per ton F. O. B. cars or wagon, fresh from factory. Conceded to be the cheapest and best Dairy Food in California. Write for freight rate if too far to haul.
Also MOLASSES at $1.50 per barrel.

Los Alamitos Sugar Company Los Alamitos, Cal.

California Cultivator

ESTABLISHED 1889

Subscription Price One Dollar per year, payable in advance. Dates of expiration of subscription accounts appear each week on the address label. John Jones 7-08 means July 1, 1908. Notify us by mail if you desire to discontinue.

Thursday, September 10, 1908

Address All Communications to

CULTIVATOR PUBLISHING CO.
115½ No. Broadway, Los Angeles.
733 Merchants Ex. Bldg., San Francisco.

Copy for Change of advertisement must be in office on Saturday preceeding date of issue. New advertising copy should reach the office not later than Tuesday to insure insertion.

CULTIVATOR PUBLISHING COMPANY
H. A. PERKINS, EDITOR AND GEN. MGR.

C. B. MESSENGER - - - - Associate Editor
FRANK H. THOMAS - - - Advertising Manager
H. G. HUTCHINS - - Subscription Manager

EDITORIAL CONTRIBUTORS:

J. W. MILLS - - Deciduous and Citrus
JOHN ISAAC - - - - Horticulture
J. B. NEFF - Walnut Culture and Irrigation.
Mrs. M. E. SHERMAN - Live Stock and Dairy
Q. A. LOBINGIER - - Vegetable Garden
S. S. TWOMBLY - - - - - - Poultry
W. E. FOSTER - - - - - Pigeons
L. M. FALL - - - Law Queries
RALPH E. SMITH - - Plant Pathology
S. A. PEASE - Plant Diseases and Injurious Insects

Entered at the Post Office at Los Angeles, California, as Second-class matter.

Contents

FIFTY-FIFTH AGRICULTURAL FAIR, Cover.

CALIFORNIA STATE FAIR, 243.

CITRUS.—Poultry Manure; Fertilizer Suggestions; Sapota; Suit Over Orange Boxes; Orange Crop Will Be Good, 244, 245.

DECIDUOUS.—Deciduous Fruit in Sacramento Valley; Advertising; Conserve the Soil; Promotion Committee Meeting; Fruit Bud Forming; Horticultural Economy, 246, 247.

GENERAL AGRICULTURE.—Weathering of Farm Machinery; Poisoned Soils; Vinegar Making 248.

LIVE STOCK AND DAIRY.—Sorghum Feeding; The Goat Situation; Hog Cholera Cure; Students' Judging Contest, 249, 250, 251.

EDITORIAL.—Not So Original; Education for the Farmers; Farmers' Institutes; Farm Names; Small Hop Crop, 252.

AGRICULTURAL NOTES OF THE PACIFIC COAST.—Northern, Central, Southern, the Coast, 253.

POULTRY.—Prevention of Roup; Poultry Brevities; Teaching Chicks to Roost; Molting Period; Raising Guinea Fowl; Turkeys on the Farm; Vegetable Stimulants, 254, 255, 256.

ORNAMENTAL GARDEN.—Back Yard Gardens, 257.

QUERRIES AND REPLIES.—Butter Won't Separate; Peaches Not Coloring; Ropiness in Milk; Poultry Manure; Mites, 258.

VETERINARY.—Sunstroke; Glanders; Undeveloped Teat; Paralyzed; Dilator, Fistula; Spavin, 258.

HOUSEHOLD.—Outclassed; Chrysanthemums; How to Restore Leather; Raspberries and Blackberries; To Exterminate Ants; Recipes; Homely Hints, 260, 261.

PRODUCE MARKETS.—Los Angeles Market; San Francisco Market. Citrus Markets, 262, 263.

NOT SO ORIGINAL.

We sometimes feel our own importance and believe many of our own ideas are quite original, whereas we may be but repeating what others have worked out years ago. For instance, in our warfare against scale and other pests of growing plants, California has made a strong fight to introduce the "bug which eats the bug." In this field we have felt we were on original ground, and perhaps in a sense we have been; at least pronounced success in one or two cases has attracted attention to that feature of economic entomology in a way which has done good the world over. But we now note a page of an old Moore's Rural New Yorker, bearing date of August 11, 1860, which was kindly sent to this office a short time ago by a subscriber, containing reference to the Ichneumon fly, destroying the wheat midge. A shrewd old farmer of York State had kept his eyes open and wrote in to the paper as follows:

"They were very numerous on the heads. A few evenings before I saw the midge fly quite plenty in heads of wheat, but since this insect appeared I have not seen any. The Ichneumon (if this is it,) appears on the heads of wheat at the same time of day the midge formerly did: that is, near sundown, when it is still. Those I saw were very busy reaching their noses into the crevices of the heads of wheat. They resemble the pea bug somewhat; forward they resemble the ant, their nippers being the same fashion. On the 18th and 19th I saw them in fair daylight, and found they had a little tinge of yellow each side of the back; under the nippers they have a feeler, which is used very dexterously. Whatever name they go by, I am sure of what they are about. I have just seen them in a later sown piece of wheat, kernel half grown, and not the least indication of midge. I wish those who have late sown wheat would see if they can discover anything of the kind. I look upon it as the harbinger of better days for the farmer."

FARMERS' INSTITUTES.

The season is now approaching when institutes will be held with more regularity, and it is in order for the farmer to so shape his work that whenever an institute is held within reasonable distance that he may attend and also take along the entire family. We believe that one reason why the farmers' club has become so popular in Southern California and the Grange in Northern California is because the social feature in which the whole family could engage has been made a strong factor. It is advisable because of the added interest which it gives to the institute and, besides, educates the children that they will always be ready to seek such opportunities to get the best and latest information regarding soil culture and the disposition of its products.

ALASKA-YUKON.

The Live Stock Department of the Alaska-Yukon-Pacific Exposition has completed the "Preliminary Prize List" for the exhibition of the various breeds of live stock at the Exposition during Sept. of 1909, An expenditure of $100,000 will be distributed among the successful exhibitors and for the promotion of live stock interests in connection with the exposition. F. A. Welch, Salem, Oregon, is the secretary.

FARM NAMES.

The names for farm homes continue to come to the Cultivator, and a nice bunch of attractive names is already in hand. But owing to articles regarding the State Fair and other features this week they are unavoidably laid over. We hope these names will continue to come, that we may get a list of several hundred of those who care enough for their home place to dignify it with a name.

The farmers hitherto have had less than their full share of public attention along the lines of business and social life. There is too much belief among all our people that the prizes of life lie away from the farm. I am, therefore, anxious to bring before the people of the United States the question of securing better business and better living on the farm, whether by co-operation between farmers for buying, selling and borrowing; by promoting social advantages and opportunities in the country, or by any other legitimate means that will help to make country life more gainful, more attractive, and fuller of opportunities, pleasures and rewards for the men, women and children of the farms.—President Roosevelt.

The 100-bushel wheat seems to be turning out about like the seedless apple—it is a reality but not worth having. The 100-bushel wheat lacks the good qualities of the kind that produces 25 to 50 bushels to the acre. The seedless apple looks good, but no one who ever ate one wanted another. There is a limit to the bounties nature will bestow and it is pretty safe, as a rule, to discount stories of enormous productiveness or of fruits and vegetables that possess all the good qualities with none of the bad. Every rose has its thorn.—Portland Oregonian.

We hope ultimately to double the average yield of wheat and corn per acre; it will be a great achievement, but it is even more important to double the desirability, comfort and standing of the farmer's life.—President Roosevelt.

SMALL HOP CROP.

It is estimated that the production of hops in the United States this year will fall materially below that of last. This decrease will amount to at least 40,000 bales. Last year's production amounted to about 300,000 bales.

This year's production by states is approximately as follows: Oregon, 110,000 bales; California, 75,000 bales; Washington, 20,000 bales; New York, 55,000 bales—which makes a total of about 260,000 bales. The reduction is owing entirely to reduced acreage caused by the low prices of the past two years. It is estimated that in California at least 10 per cent. of the acreage has been plowed up and another 10 per cent. has not been worked at all. Oregon shows also about the same percentage of reduction, while Washington claims that over 50 per cent. of its acreage has been plowed out.

A look at the leader on the first page this week may remind some of our readers who have been subscribers for several years that the Cultivator always comes in with a good report and fresh illustrations from our State Fair. This year there were two representatives at the Fair, last year three, the year before two, and each time there have been good illustrations of exhibits. While this year there have been some sensational and other features that were worthy of criticism, on the whole the State Fair has broken away from much that is objectionable and the Board of Agriculture is now honestly endeavoring to make it an agricultural fair. May they be supported in the effort, and may they continue to eradicate these objectionable features.

To encourage a more general use of California products throughout the world, and as a part of the broad campaign which the California Promotion Committee has instituted along these lines, the Committee will address a letter to the handlers of California fruit, the packers, driers, canners, exchanges, etc., suggesting that there be included in every package that is shipped to market an attractive lithographed display card to be placed in the show windows of the dealers. The suggestion is that the lithographs be unique and catchy and say something not only about the fruit itself but about the places where the fruit is grown. In this way not only the product but the entire State will be advertised.

It is especially important that whatever will serve to prepare country children for life on the farm, and whatever will brighten home life in the country and make it richer and more attractive for the mothers, wives and daughters of farmers should be done promptly, thoroughly and gladly. There is no more important person, measured in influence upon the life of the nation, than the farmer's wife, no more important home than the country home, and it is of national importance to do the best we can for both.—President Roosevelt.

Preliminary returns indicate a yield of winter wheat of about 14.3 bushels per acre, or a total of 425,940,000 bushels, which compares with 14.6 bushels and 409,442,000 bushels, respectively, the final estimates of last year's crop. The average quality of the crop is 90.1 against 90.5 last year.

Shop Talk

DRY FARMING BOOK.—As was suggested last week, editorially, now is the time to think of next year's crop and how it is to be handled. There is much more dependent upon the preparation of the soil for seed than many farmers know about. Especially in the West where the rainy season is a little uncertain, knowledge along this line is of great value.

As has been suggested before H. W. Campbell's "Dry Farming Manual" seems to fill this need and the Cultivator is receiving orders for it. For a short time we are going to make the Special offer of a years subscription with the book at the regular price of $2.50. The manual is the 1907 issue and is the latest out. There will never be opportunity to get it at a better figure than this and we suggest that all interested take advantage by remitting and renewing at once.

Agricultural Notes of the Pacific Coast

Northern California

Construction work is in progress on the new Feather River canal.

Canneries at Newcastle are paying $17 per ton for cling peaches.

Newcastle will produce about 2000 tons of cling peaches this season.

The bean crop of the Gridley district was materlally injured by the hot weather.

The late bean crop of Sutter county has been somewhat damaged by warm weather.

Extensive forest fires have been raging in the vicinity of Blue Tent, Nevada county.

There has been considerable trouble in the hop fields owing to unruly and ugly pickers.

One pear shipper near Marysville has shipped 50 carloads from his ranch this season.

Marysville is having a visitation of mealy bugs which are very perplexing and hard to control.

Southern Butte county has about finished its grain harvest which has been of excellent quality.

Trinity Land and Cattle Company anticipates starting a creamery at Trinity Center, Shasta county.

Lodi grape growers are organizing in order to secure fair treatment from the California Wine Association.

Oroville is forming an improvement Club for the purpose of inducing cleaner streets and a better appearing community.

Yuba county claims she is producing some of the finest Bartlett pears that can be found in any section of the United States.

Hop men of Sonoma county have decided to pay 80 cents a hundred for picking hops while those near Sacramento will pay 70 cents.

Water users at North San Juan, Nevada county, are arranging to have a more regular and more permanent supply of irrigating water.

Northern California fruit growers are making a sensible effort to secure the use of better fruits on the table of California hotels and restaurants.

The fruit district about Newcastle has shipped sufficient green deciduous fruit this season, that if made into one train, it would be over two miles long.

The creamery at the University farm at Davis opened on September 1st. The management will pay regular market price for milk or cream on butter fat basis.

Experimental work carried on by the Soil Survey branch of the Department of Agriculture at Oroville has shown that heavy adobe soil will grow alfalfa satisfactorily

An immense Tokay vineyard will be planted at Cicero, east of Galt and in Sacramento county, and the same company will also plant a large acreage to eucalyptus trees.

The California Wool Growers' Association holds a meeting this week to discuss matters regarding the tariff and the trouble with the United States Forest Reserve.

Placerville, one of the oldest mining sections of California, is now developing into a fruit section, and it is estimated that over $150,000 worth of fruit will be produced by that section this season.

Central California

Red spider is doing much damage in San Juan valley.

Gathering of beets for the Salinas sugar factory began on September 1.

Pajaro valley will market something over 2000 carloads of apples this year.

Stanislaus county claims to have the only herd of Dutch Belted cattle in the State.

Pajaro valley claims to produce more than twice as many apples as the entire state of Oregon.

Monterey county sugar beets are in excellent condition and show an exceptionally high content of sugar.

Santa Clara county schools are considering the installation of a more thorough course in elementary agriculture.

One firm of buyers at Merced have agreed to pay one cent per pound for all sweet potatoes delivered for the remainder of this season.

An Exeter, Tulare county, tobacco grower is now harvesting one of his first crops in this State. It is thought it will prove a very profitable crop.

Prof. Twight, formerly of the U. S. Department of Agriculture, has invented an arrangement for the control of thrips which he thinks will be a success.

Farms about Watsonville will produce large quantities of black oats this year. It is estimated that the section will produce 30 train loads of 30 cars each.

Tulare county orange crop is reported to be in exceptionally fine condition, and all the packing houses of that section are being refitted with new machinery.

A strike promoted among the workmen of the sugar factory of the Pacific Sugar Factory at Visalia failed to materialize and the workmen all returned to their places after one day.

The apple picking season at Watsonville is now in full swing, but many of the shipments up to the present have been to San Francisco, Los Angeles or other local points.

Some of the leading apple growers of Pajaro Valley are up in arms over the shipping of green apples of low grade, and insist there shall be more attention paid to careful grading.

The State Veterinarian has issued a proclamation to sheep men supplanting that of last year, which called for the dipping of all sheep, and now permits the dipping only of those which are actually diseased.

Careful estimates made in the Pajaro Valley place the following estimates for its output of apples this season: Bellfleurs, 1600 cars; Newton Pippins, 800 cars; mixed varieties, 600 cars; canners and driers, 500 cars.

Prof. W. T. Clarke, of the State University, recently addressed the apple growers of Watsonville, reviewing much of the history of the fight against the codling moth there and urging continuance of the campaign along more careful lines.

"Kings county sends greeting to the butter eaters of the south," is the statement of the Hanford Sentinel in an item noting the shipment of 19,040 pounds of butter, and further adds that a carload similar to that leaves for the south three times a week, or nearly $60,000 a month for butter.

Southern California

Riverside is ripening peaches and has peach blossoms on the same tree.

Santa Ana is to have a Carnival of Products, devoted to things produced in Orange county.

An El Molino, Orange county, rancher was recently fined $25 for catching quail in a trap.

It is now expected that over 1000 acres of cotton will be planted in Imperial Valley next spring.

Imperial farmers have been distressed more or less by wild ducks destroying recently planted corn.

Covina is making a thorough job of fumigation in her citrus orchards, for both purple, red and black scale.

Carnation growing is the latest effort in Imperial Valley, one grower near El Centro having started in the business.

The apple orchards of Yucaipe and Oak Glen districts, San Bernardino county, will yield much larger crops than anticipated.

The chief of the government nursery at Lytle Creek Canyon will make large plantings at Mill Creek Canyon this coming season.

A start toward an agricultural fair is to be made by a rancher near Escondido, calling for a fair on or near his place on the 15-17 of October.

J. B. Neff announces institutes for the end of this month in Orange county as follows: September 21-2, Smeltzer; September 23-4, Tustin; September 25-6, La Habra.

Prof. Smith of the Pathological Institute is urging the greatest of care in spraying tomatoes or at least being ready to spray them as soon as the wet season comes.

After some years of inactivity owing to failure to obtain necessary rights of way, the Victorville Dam Site and Water Company, San Bernardino county, will resume work.

The Southern California Sugar Company, which is building a factory at Santa Ana, has secured storage for its seed and is planning for handling a large quantity of beets for next season.

Walter Hill of Hemet has taken thirteen tons of peaches, Elbertas, from one acre. They measured two and a half inches across, and nearly all of them were No. 1s. He sold the entire crop for table use in the city.

Cantaloupe growers of Imperial Valley recently held a meeting at Brawley in the effort to bring the growers together to protect mutual interests and to secure more perfect organization than was had during the past season.

The orange growers of Hemet and Valle Vista held a meeting recently and organized the Hemet Orange Growers' Association. It will have its own packing-house and warehouse by the opening of the coming season, and will be a member of the Highgrove and Moreno division of the California Fruit Growers' Association. Two hundred and fifteen acres of oranges were represented at the meeting. A board of directors was elected, namely, D. A. Kingsbury, Mrs. Clara Graham, T. W. Hill, G. H. Johnson, W. G. Phillips, F. W. Stetson and G. C. Nevins. The officers will be elected this week.

The Coast

North Yakima fruit shipments this year were double those of last.

Orange growers at Tucson, Ariz., have formed a co-operative marketing association.

North Yakima, Washington, is making shipments of Herefords to the Hawaiian Islands.

The fairs of Oregon will all give more attention to the poultry department than heretofore.

One conserving company at Sunnyside, Washington, will make 500 tons of tomatoes into catsup.

State Fair of Oregon will open at Salem on September 14th and will continue until the 19th.

Seventy-five carloads of fresh fruits were shipped out of Weiser, Idaho. This is its heaviest fruit shipment to date.

Oregon has passed a law with extensive provisions against objectionable weeds along roadsides and in fields.

Alaska is making heavy demands on the markets of Portland for potatoes, buyers paying from $1.10 to $1.25 for strictly fancy stock.

Cash premiums to the amount of $20,000 are to be given in the Pacific National Live Stock Show to be held at Portland September 21-26.

Phoenix, Ariz., Board of Trade is making an endeavor to get together an exhibit to be made at the National Irrigation Congress at Albuquerque.

Anticipating the opening of government land near La Grande, Ore., nine men began standing in line before the land office, twenty days in advance of the opening.

Owners of land under the Prosser Falls Land Power Company System at Prosser, Washington, will ask the government to take charge of the work of putting the land "under water."

Mrs. Dimick, an onion set grower at Hubbard, Oregon, has 300 acres of farm land, of which 8 acres are in onion sets. These 8 acres produce more than all the remainder of the 300 acres.

Southern Oregon is now having active business in its handling of the prune crop. Packers are offering 5 cents a pound for 30 to 35s, with a quarter of a cent less for each additional five prunes. This price is quoted by all packers.

Apple growers of the northwest have been compelled to pay an increased freight rate on their apples to all eastern points. The former rate from the Willamette Valley was 80 cents; on the thirteenth of this month the rate will be $1.00.

The greatest array of high-bred stock ever gathered together in the Northwest is promised for the fair circuit of the Northwest this fall. The circuit starts on September 7 at Seattle with the Western Washington Fair; next is the Oregon State Fair at Salem, September 14-19; Pacific National Show, Portland, September 21-26; Washington State Fair, North Yakima, September 28 to October 3; Spokane Interstate Fair, Spokane, October 5-10; Western Washington Fair, Walla Walla, October 12-17. At these six expositions there will be $100,000 in cash premiums for live stock.

PER 2 BUSHEL SACK **$1.90** PER 2 BUSHEL SACK

Buy the World's Famous Egg Food No. 4

MIDLAND

IF YOU WANT EGGS
YOU WILL FEED NO OTHER.

Used by the largest and best breeders in the country. Thousands of poultrymen are using it, and it is the acknowledged standard of the world. Haphazard feeding is no longer profitable. Try Midland Food and be convinced.

Petaluma Incubators and Brooders

The acknowledged standards of perfection. All poultrymen who have used these machines have supreme confidence in their ability to hatch and breed. Hence their ever increasing popularity. Winners of the Gold Medal at the St. Louis World's Fair for the greatest hatch, with 40 different makes of incubators in competition. How's that?

St. Louis, Mo., Dec. 8th, 1904.—Petaluma Incubator Co., Petaluma, Cal: My dear Sir—The awards have been held up owing to a controversy between the Exposition officials and the national commission, but today I am able to state the award of a gold medal on your Petaluma Incubators has been confirmed. You are at liberty to make use of this in any way you see fit and in due time the diploma will be issued and the medal obtainable. Congratulating you upon this evidence of the merits of your incubators, in which there was very great competition, I beg to remain, yours very truly, J. A. Filcher, Commissioner.

And Now Comes New Reward for Merit

Read the following telegram received from the Lewis & Clark Exposition at Portland:
"Petaluma Incubators and Brooders just awarded Gold Medal at Lewis & Clark Exposition."

WRITE FOR CATALOGUE 47—A BEAUTY

Petaluma Incubator Co.

Main Office and Factory, Petaluma, Cal., Box F.
Los Angeles, 636 South Main Street.
San Francisco Office and Salesroom, 83 Market St.

Coulson's No. 3 Condition Powder

Is just the thing for molting hens. It acts as a tonic and digestive. Keeps the hens laying longer into the molt and quicker after it. Our FREE Booklet, "THE RIGHT WAY" gives full particulars and special offer. Manufactured only by

Coulson Poultry and Stock Food Company
Petaluma, California

Poultry Supplies

Best of All Kinds at Lowest Prices

West Coast Seed Co.

707 So. Spring St., Los Angeles, Cal.

Mammoth Bronze Turkeys---S. C. White Leghorns

From our large, vigorous White Leghorns, the largest eggs produced by any Leghorn breeder in the West. $1.50 for 15, $7.00 for 100 and $60 for 1000.
To make room for young stock we must dispose of a large number of this year's breeding birds. They are two years old and the pick of our flock and must be sold at once. Write us your needs. The price is right.

STUHR-WILLIAMSON POULTRY COMPANY
878 Bandini Ave. Home Phone 1490 Riverside, Cal.

Black Langshans Well, we won again at Los Angeles. Two firsts, one second, one third on five birds shown. Best stock ever in show room in California. Eggs, $2.00 to $5.00 per 13, $10.00 to $20.00 per 100.

White Rocks Large and vigorous. Improve your stock with a setting or get a fine flock with an incubator lot. Eggs, $1.50 to $2.50 per 13, $8.00 to $12.00 per 100.

S. C. White Leghorns Order eggs now, we have plenty of them. Have had all winter, great big white ones. Eggs, $1.00 to $2.00 per 13, $6.00 to $10.00 per 100.

Phone East 915 **Foster's Poultry Yards, 128 W. Avenue 41, Los Angeles**

When writing advertisers, mention Cultivator.

Profit in the Poultry Yard

We solicit short articles of a practical nature from the fancier and utility breeder, giving their experience with poultry. All inquiries pertaining to feed, management, disease and its prevention will be answered through these columns.

PREVENTION OF ROUP.

YOUNG stock from two to six months of age is very susceptible to roup, and all precautions should be taken to prevent these young birds from contracting the disease during this period. First, they should be protected from conditions that tend to produce chills, as overcrowding in the brooders and houses; by this means they become heated and the cold and damp of early morning chills them. They should be provided with plenty of good air without direct drafts.

They should not come in contact with roupy fowls or be yarded on ground where roupy fowls have been recently. They should be kept free from lice and mites, as these pests tend to weaken the vitality. Use a disinfectant in the spray that is used in the houses, thereby not only killing lice and mites, but also the active cause of roup and other contagious diseases.

The drinking water at this time should be carefully attended to; water should be kept in clean dishes and protected from the sun. And it is well where there is danger of roup and similar diseases to use a disinfectant in the drinking water. I know of nothing better than Douglass mixture. I like it better than bluestone or carbolic, as it not only acts as a disinfectant, but also as a tonic, while the others have not this virtue.

The poultryman should direct his efforts toward the prevention of this disease rather than treatment after a flock has become infected. A bird that has once suffered from an attack of roup will never be a profitable fowl. It delays development, retards egg laying, and the bird is liable to infect other members of the flock for a long time. Infected birds should be killed and houses and runs disinfected, and the greatest care exercised to prevent the spread of the disease. Roup probably causes more loss to the poultryman in California than all other diseases combined. If a place has become badly infected, it is better to keep fowl off for a year.

POULTRY BREVITIES.

More chickens die from overheating than from cold.

* * *

There may be profit from a hen more than two years old, but if so she is an exceptional hen.

* * *

Feeding dry mash in hoppers saves much labor, and the results are as satisfactory as when the hens are fed three times a day.

* * *

Eggs with brown shells are no richer as food either in flavor or composition, than white-shelled eggs, although there is a popular idea that such is the case.

* * *

Chicks as a rule should be fed often. After chicks are six weeks old, they may be fed the same dry mash fed the mature hens, providing this is a suitable one for growth and egg production.

* * *

Hopper feeding helps materially in having the pullets mature uniformly. Every pullet gets all she wants to eat, and the stronger ones do not gorge themselves as when fed at stated intervals.

* * *

One part wheat and two parts corn mixed and cracked at the mill a little finer than ordinary cracked corn, and to this add 10 per cent. of fine beef scrap. The above combination makes an excellent chick food.

* * *

Possibly Poison.

My hens are dying with peculiar trouble. One day they seem well and the next morning some will be found dying. They stretch their necks to full length and they seem to try to swallow, then draw head between legs while wings droop. They have full range in field of wheat. Feed nothing else.—A. B. C., Laton.

I am unable to say what the trouble is with this flock. The general symptoms hint to some form of poisoning and might come from eating the carcass of a decaying animal. Ptomaine poisoning is not uncommon. In such cases I look around carefully for some cause of this nature. Shut the hens up for a time and if no cases develop you may feel sure it was due to causes included above.

* * *

Roup.

My turkeys are troubled with a swelling along the bill under the eyes. What is the cause and what can be done for it?—M., Elsinore.

The swelling below the eyes in these turkeys is a result of roup in some of its various forms. If these swellings are opened they will be found filled with a cheesy mass; press this out and wash the wound with an antiseptic solution. Peroxide of hydrogen or a solution of carbolic acid made by adding a tablespoonful of acid to a quart of water answers the purpose. A small rubber syringe costing 25 to 40 cents is excellent for washing out the wound. Examination will probably show the presence of roup in the flock, but frequently the bird has recovered from the active form of the disease and this swelling is left as a result.

* * *

Teaching Chicks to Roost.

I have about 150 Barred Rocks chicks hatched in an incubator. They are now some ten weeks old and are causing us much trouble by bunching together on the floor of the pen crowding into corners and together. We have lost 25 or 30 in this way; there are roosts in the pen but they will not sit on them. What shall we do to teach them to roost?—E. R. H.

When chicks do not take to roost at a suitable age of their own accord they must be taught to do so. The easiest way to do this is to put them with two or three older chicks that have learned to roost; the younger birds will, as a rule, follow the example of those that go to roost. Another method that works successfully is to place a board 8 or 10 inches wide close to the wall and just far enough from the ground so they cannot get under it. When they find they cannot get under the board they will naturally get onto it and if they have been accustomed to crowding into the corners the tendency will be to extend the group along the board. A little time spent in helping this movement will pay. After the chicks get into the habit of sitting on the board gradually raise it until it is a foot or more from the floor and bring it out from the

wall far enough so if they crowd back they will fall off. They will soon learn to stay on the board. Then take board away and put one or two flat roosts three or four inches wide. They will be awkward on these at first but after a little will be roosting on them without difficulty. It is well to shut off all corners by placing a board across them, for if they crowd into these they pile up and smother each other.

* * *

The Molting Period.

At the present time everybody is interested in problems connected with the molting period. The following from the pen of L. E. Keyser in the Western Poultry Journal will be of interest:

Yearling hens make profitable winter layers if they molt early and quickly. If a hen molts and comes to laying in sixty days she will be as profitable as a pullet, even though she lay but seventy-five per cent as many eggs. It takes five months to grow a pullet, so there is three months' feed and time saved. I do not think it a good plan to dispose of all the yearling hens. If they are slow to molt or such as are undesirable, then they should be sent to market, but a hen which has produced a good supply of eggs during the past season will in all probability do well after the molt, providing she molts early. By watching our hens carefully we will have no trouble in determining which to choose for winter layers.

Hens which show no signs of molting by the middle of August can be assisted. My method is to pen them in a house with a small yard and reduce the feed. At this time I feed wheat only, giving one feed a day, at the rate of two quarts to fifty hens. This is kept up for a week or ten days, until all have ceased laying and become quite thin; then, if when plucking a few feathers we find they come out easily and no blood adheres to the quills, we let them out on a good grass pasture (alfalfa or clover is the best) or supply them with all the succulent green food they will eat. The feed of wheat is given in the morning and is gradualllly increased, while at night a mash of mill products and beef scraps rich in protein and ash is fed. Very little mash is given at first, but the quantity is increased each day until at the end of a week they are given all they will eat. The feathers soon drop off, new ones appear, and in from forty to sixty days the flock will be through the molt and back to laying again.

It is an open question whether it is more profitable to force the molt as above described, or allow the hens to take their own time at it. If the hens are laying well we can, by heavy feeding, keep up the flow of eggs and at the same time give the hens material for a new coat of feathers. It will take the hens an average of one hundred days to complete the molt and get in laying form, but during this we will be getting some eggs. By this process our hens usually average about a dozen eggs per day from a pen of fifty. Not all the hens lay continuously, but there are enough laying to keep up this average.

Hens molted by the quick process will probably lay more eggs during the winter, but not quite so many in the spring as those allowed to molt in the natural way. I think there is very little difference in the number of eggs the hens will lay in the next ten months whether molted by one process or the other. With the slow molt there is less danger of loss. Hens to be molted by the quick process should be strong and vigorous and free from lice. Weaklings are very apt to succumb.

This Roofing is Proof Against Rain, Sun, Snows, Winds, Storms and Fires

"The fire started on the roof."

So most newspaper reports show.

Most roofing materials, like tar, shingles, etc., catch fire like kindling wood. Often, just a spark from a chimney sets them ablaze.

But you can put a red-hot coal on Rex Flintkote Roofing, and it won't ignite it.

That's pretty positive proof that Rex Flintkote Roofing won't catch fire.

The sun soon warps shingles and softens tar-roofing.

Rains and snows soon rot those same shingles and soon soak through the tar-roofing.

Winds and storms play havoc with both these kinds of roofing, and with tin-roofing, too.

But nothing of the sort can happen to Rex Flintkote Roofing.

It is absolutely water and weather-proof under all conditions.

REX FLINTKOTE ROOFING

In the heaviest downpour, not a bit of moisture will penetrate it. You can test its water-proof qualities by putting the sample which we'll send you under the faucet or pump-spout and let the water run as long as you like.

The sun won't soften it or cause it to run, as tar does. It won't crack in cold weather nor curl in warm weather.

It lays absolutely flat and tight, hence winds and storms can't blow it loose.

Because water, weather and wear-proof, it will outlast any other known roofing material.

And it's easiest to put on—goes down like a carpet—any man with a hammer can lay it. It saves much of the expense of laying other roofing.

If you'll write us we'll send you free samples to test. Also an interesting book about roofing.

"Be sure to "Look for the Boy."

J.A. & W. Bird & Co. 89 India St. Boston, Mass.

Pacific Coast Agents, W. P. Fuller & Co.
San Francisco, Sacramento, Oakland, Stockton, Los Angeles, San Diego, Portland, Seattle, Tacoma, Spokane.

RAISING THE GUINEA FOWL.

People who have made a close study of the guinea fowl say that to get the best results in hatching one must keep as many males as females. However, these fowls are somewhat of the nature of geese and one male has been known to mate with two hens. The laying season generally begins in May and extends to August. A good hen should lay about 100 eggs during that time. Being of a roving disposition and naturally shy, they often come to a sad end, with little profit to the owner, when left unconfined. They hide their nests in grassy rock heaps and brush piles when thinking of sitting, and if it be known to them that the nest has been discovered they immediately leave it and seek a new one.

I have seen guinea hens that seemed to care little for their eggs, dropping them wherever they may chance to be. If one wishes to make a business of raising guinea fowl for market, he should enclose a piece of rocky ground with poultry wire and fill it with rubbish—old barrels, boxes and broken pieces of furniture. Let the grass, weeds and underbrush grow at their will and your guineas will enjoy their yard as a goat does his tin can. A common hen is a much better mother for the young guinea than is the guinea hen, as they are more careful of their young.

When the guinea has made her nest, and you have found it after she has gone to roost, never take out all of the eggs unless you wish her to build a new nest. If five eggs are left in the nest, all of the others may be taken. If the yard is not large enough to satisfy the birds their wings may have to be clipped in order to keep them in, as they are capital on the wing.

In the New York market there has developed quite a demand for young guinea fowl for broiling. There is a small but steady demand for the adult fowls also. Most of the stock is sent to market with the feathers on, the killing being done by sticking in the mouth.

June is the best time for hatching, as the chicks are very tender and are easily chilled. It requires from 20 to 30 days for incubation and the young fowl can be gotten ready for market about the first of November —Pennsylvania Farmer.

SHORT COURSE IN POULTRY.

Much interest is being shown in the course in Poultry Husbandry to be given at the University Farm at Davis from October 12th to 20th.

Professor Jaffa has been connected with the university for many years and has made an especial study of feeding problems. He is at the head of the poultry work of the Experiment Station at Petaluma. Mrs. Basley is well known throughout the state through her lectures at Farmers' Institutes on the care and management of fowls. Mr. Huntley is foreman of the Petaluma Poultry Station, and will instruct in judging fowls.

The all important problem of poultry diseases will be handled by two well known veterinarians: Dr. Haring is assistant veterinarian to the Agricultural Experiment Station, while Dr. McNair is a practicing veterinarian of Berkeley, and was at one time instructor in the poultry course at Cornell University.

Is Your Dog or Cat Sick?

You may lose your valuable dog or cat at this season of the year, when a simple remedy would effect a cure. We have that cure in the Celebrated CLAYTON'S DOG & CAT REMEDIES. In short, we have a cure for all ailments that "Fido" and "Tabby" are heir to.

Write for treatise on diseases of both. It's FREE.

Germain Seed Company
326-330 So. Main St., Los Angeles, Cal.

F. E. Baldwin's
WHITE LEGHORNS

THEY LAY
THEY PAY
At Every Pop
THEY SHOW
THEY GO
To the Very Top

First Prizes Everywhere Shown.
Bargains *now* to make room. Send for Prices and Free Booklet.

46 Washington Ave. - San Jose, Cal.

Black Minorcas
Exclusively
"Birds That Lay and Win"

Winnings at Los Angeles, 1908: Cocks, 1, 2, 4, 5; Cockerels, 1, 2, 4, 5: Hens, 1, 2, 3, 5; Pullets, 1, 2. 3, 4, 5. Pens, 1, 2; Cup for highest scoring Minorca male in show. Stock and eggs for sale. Catalogue free.
H.A.Wheeler, Box 123, Lordsburg

Now is the time to hatch **BANTAMS**
Golden Sebright, Buff Cochin, and Light Brahma Eggs, $2 per 15. Prize winners.
M. E. Dillingham Box 67, San Gabriel, Cal.

White Wyandottes Exclusively
Good, White, Typical Birds. Stock and Eggs For Sale.
W. A. SEYMOUR, R. F. D. No. 1, Anaheim, Cal.
Take Santa Ana Electric Line to Harper Station

GUTTING'S SUPERIOR WHITE ROCKS

Again won on five entries at Long Beach show; 1st and 3d hen and 2d pens, no cocks or pullits shown. Place your order now for exhibition birds for the winter shows. Eggs now $3 per setting. Send for circular.

E. GUTTING 124 W. SLAUSON Los Angeles, Cal.

Egg-More

Not a strong tonic and stimulant, but a highly nitrogenous Poultry Food very rich in protein. A little fed daily with good grains will keep hens healthy, make them molt early, feather out quickly and lay lots of eggs when they are scarce and high. If not sold by your dealer, we will prepay freight on 25 lbs., $1.90; 50 lbs., $3.60; 100 lbs., $7.00. Send for free Booklet with testimonials.

$50 Cash Premiums

$20 first; $10 second; $5 third; fifteen $1 each. Easily earned in an hour or more by any boy or girl, man or woman, but only one in each family, without any cost to you and no peddling or canvassing. And to each one competing, we will also give a useful article. Send postal for particulars mentioning this paper, to

West Coast Mill

707-709 So. Griffin Ave., Los Angeles, Cal.

Starbuck's Barred Plymouth Rocks

We trap nest our hens. Why set from poor layers? Bird laying qualities are inherited the same as any other. This year we have discarded all old matings and have gone to the next generation. Cocks have 9 generations of 200 egg mothers. Hens all from 200 egg mothers and from cock with 6 generations of 200 egg mothers, and are layingfine. We have divided into pens according to the way they are showing up in six months laying. $2.50 for 13 eggs from first pen. $1.00 from 2nd. until they have time to make longer records. (Except from our one best, not for sale. We claim the world's Barred Rock, 6 months laying record for this one.) Do you wish to hear about our prize winning Buff Orpingtons and Silver Wyandottes? We have something to crow about. No Sunday sales or visitors. ***Wm. Starbuck & Son, Fullerton***

Trap-Nested White Wyandottes

That won 22 ribbons out of 25 and 6 Silver Cups and a carving set and a cut glass vase. All the National White Wyandotte Club Ribbons. Second on 10 pullet pen, contest open to all breeds. Mammoth Bronze Turkeys, winners of 5 blue ribbons, all at Los Angeles County Poultry Association Show, December 7, 1907. White Wyandottes were judged by H. Berrar of San Jose, Cal., and W. W. Browning of Ogden, Utah. Hens and Pullets, $15, $20 and up.

MISSION VIEW POULTRY RANCH, MRS. C. D. HUBBARD, SAN FERNANDO, CAL.

Home Made Ice Cream and Candy

Appeals to Everyone in the Family

Has been going since the very day of publication. Full of all that is known about Home Made Ice Cream and Candy. Nearly Three Hundred Formulas.

Make 60 cent Chocolates for 15 cents

Taffies Nut Candies Butterscotch Everything

A 50c Book **You Get It Free With the Cultivator** For 1 Year's Subscription

Paid in advance. For old or new names who pay for the coming year. Enclose a $1.00 bill and ask for the "Candy Book." But remember, you will not receive the book unless the remittance pays for at least a whole year from this date. Address

Cultivator Pub. Co., Los Angeles, Cal.

Clubbing Order Blank

_____1908

CULTIVATOR PUBLISHING CO.,
115½ No. Broadway, Los Angeles

Gentlemen—Enclosed find $2.00 for which please credit my **Cultivator** subscription one year from _____ 190__ to _____, 190__, and also send **Sunset Magazine** one year to the following address:

NAME P. O. ADDRESS

_____ _____

SIGNED_____

ADDRESS _____

TURKEYS ON THE FARM.

On a large farm with buildings centrally located the turkey crop is one of the most profitable; but with a small farm, a neighbor's garden or corn field in close proximity, and a flock of neighboring turkeys ready to induce your own to ramble, no better incentive to neighborhood quarrels can be invented.

The mammoth Bronze is a favorite variety on account of its large size and hardiness. It is claimed to be a cross between the Mexican turkey and our own wild turkey. Certainly it retains several characteristics proving its wild ancestry. Some prefer to cross the Bronze gobbler with the White Hamburg hen, claiming thereby to gain in size and hardiness, and yet retain the more domestic habits of the White Hamburg; but this, like all other cross breeding, is sometimes more successful theoretically than when put into practice; mixing breeds, especially when done by the amateur, is considerable of a lottery.

The turkey hen is a model mother. However, it is usually considered economy to give the first clutch to hens, and thereby induce the turkey to soon commence laying again. Her first eggs are usualy deposited before freezing weather is over, consequently should be gathered daily and kept in a cool dry place until a sufficient number are obtained to employ a hen; seven or nine eggs are about the limit for the average sized hen to cover. The second clutch should be given to the turkey to hatch.—Exchange.

VEGETABLE STIMULANTS FOR HENS.

Green onions and green peppers are powerful aids to a full egg basket.

We plant the onion seed in rows, quite thick, and pull out the young onions in between when large enough.

When the onions are sufficiently thinned, we begin at one row and cut the tops. By the time the last row is reached, the first row is ready to cut again.

Two packets of onion seed and two dozen pepper plants will keep a flock of thirty hens in a healthy state all the year.

The onion tops are chopped fine and mixed with the soft food that is given to the chickens every morning. This food consists of scraps left from the table mixed with boiling water and thickened with bran; the onions are then stirred in. It is given hot every morning, and fully repays the time taken to prepare it.

The pepper seeds are sown in boxes early in the spring and transplanted to the open when the weather permits, Very rich soil and an abundance of water are necessary.

By the time the onions are declaring a strike, from the constant cutting, the little peppers are big enough to use; chop them also. As autumn comes on the peppers become fiery, and this is just what molting hens seem to need.—The Farm Journal.

The sex of the future chicks can not be distinguished by examination of the eggs. Round eggs, pointed eggs and other so-called indications have been tested hundreds of times, not only by experimenters, but also by poultrymen and farmers, the result being that nothing is known in advance of hatching, so far as the sex is concerned. Mating birds of different ages has also been a subject of experiment in controlling the sex, but no satisfactory results have been obtained. Eggs for hatching should be kept on racks in a cool place, and turned round three times a week until used under the hen. They should hatch, even if kept a month.—American Stock Keeper.

High Priced EGGS

Are what all poultrymen like to get during the fall and winter; but without the very best of health in the flock and a good variety of sound, wholesome feed it is hard to get such eggs.

Nature requires that hens have a rest just prior to and during the molting period; the result is a scarcity of eggs, with higher prices, and a larger profit for those who can overcome the difficulty. The one that can get eggs during the fall will be just that much ahead of his neighbors and others who fail to do so, which in the end is the difference between success and failure.

COULSON'S EGG FOOD is the feed that will turn failure into success by enabling you to secure eggs in the fall and winter while prices rule high.

Improvements have been effected in the composition of the EGG FOOD during the past year, so that it is now richer in the various nutrients required by the laying hen, and is a better feed than ever before. Coulson's balanced ration poultry foods are guaranteed to contain nothing but wholesome ingredients.

"THE RIGHT WAY," our booklet fully describes COULSON'S IMPROVED MASH EGG FOOD and other balanced rations for poultry and gives full particulars of guarantee and directions for feeding and care of poultry from the time they are hatched. If you have no copy of it, you should drop us a line today; a postal card will bring it to you.

We have agents selling our poultry foods in nearly every town in California. If you cannot obtain what you want from your dealer, write to us and we will tell you where to get it.

Coulson Poultry & Stock Food Co.

Petaluma, Cal.

Germain Seed Co., Los Angeles
Distributing Agents for So. Cal.

The Ornamental Garden

BACK-YARD GARDENS.

THERE are few home makers who have not at one period or another come in contact with that most difficult of problems—the unsightly back yard. With its gaping fence, its vigorous growth of weeds and most frequently its share of rubbish and litter, it seems to defy any attempt which might be made at its improvement. More than one discouraged matron has abandoned the back yard to its fate, leaving it the one eyesore around an otherwise attractive home. Yet there is no reason why this spot should not be made pleasing and even beautiful, if the secret of so doing be possessed by the owner.

The first step needs no directions, for it necessarily consists of clearing away the rubbish and litter which have accumulated through the years of neglect, and which would prove effective obstacles in the way of plants and flowers. When this is done, however, and the space presents a tidy appearance once more, the real difficulty presents itself. The yard is clean, but it has a bare, uninviting aspect, which ill accords with the velvety lawn, with its gay flowers, which fronts the house. Vegetation of some kind must take the place of the luxuriant crop of weeds recently removed, in order to really accomplish the reclaiming of the back yard.

Which Flowers?

Upon the space, as well as upon the amount of sunlight that it gets, the choice of flowers depends, although there is one rule which might be invariably used to govern the selection. Plant only those flowers which are hardy, profuse bloomers and easily cared for, as lack of time, perhaps, more than anything else, is responsible for the condition of the back yard.

Old Fashioned.

A very pretty idea, and one which cannot fail to give satisfaction to the owner, is to make of the back yard an old-fashioned garden, where the flowers popular a century ago may bloom. Petunias, marigolds, nasturtiums and a number of others will adapt themselves admirably to the back-yard garden. Not only will they bloom in the shade, but from early summer until the frosts they will flower continuously, keeping the garden bright. Then, too, they fit themselves to the space, showing to equal advantage in the most diminutive plat.

For a small space, bulbs are not to be particularly recommended, unless, of course, time is not an object to the maker, as while they promise early bloom, they last but a short time and require moving, if other flowers are to take their place.

One Plan.

If space permits, a tiny walk, intersecting the garden and bordered on either side by sweet alyssum, or with any of the low, prolific bloomers which adapt themselves to this purpose, should by all means be included in the garden plan. Besides the alyssum, a row of taller plants with blossoms of a contrasting hue render both the border and themselves more effective.

Equal to Front.

There is no reason why the back door should be less attractive than the front entrance. There are many ways in which its appearance might be improved, but none more effective than the tiny trellis which shades and beautifies the doorway. Over it may be trained one or more of the numerous varieties of vines, which are particularly adapted to trellises. Clematis Paniculata, a beautiful and well-known one, possesses decorative value, not only for its glossy, dark green foliage, but for its fragrant white blossom. The Mexican or Mandarin vine, known by names as numerous as the colors of Joseph's coat, are rivaled by the humble morning glory, scarlet runner and climbing nasturtium vines in the back-yard garden.

Harmony and simplicity are the combinations to be sought after in the garden. And the last-named vines harmonize perfectly with the annuals which are most suited to the back-yard garden.

Some Vines.

Trained against the fence or the side of the house, the vines make a pretty background to the bit of gay coloring of the flowers.

In a Salem back yard, where the tiny space allotted scarcely deserved the name, the treatment used was worthy of notice. No front piazza was had, and no room for the building of one was available. Therefore, the bit of yard hemmed in on either side was given a flooring of boards, against the wall were trained morning glory and bean vines, so as to give a bit of greenery, and here, on warm afternoons, the sewing basket and rockers were brought, the buildings on either side shading the spot throughout the day. It was a unique plan, which utilized a space where even flowers of the hardiest nature would have found existence difficult.

Cover the Fence.

Another unique little garden, whose principal plants were vines, lay between an old-fashioned garrison house and its newer neighbors, separated from the latter by a high board fence. For its planting, scarlet and white beans were chosen, and though scarce soil enough could be had to cover the beans at their planting, the owner persevered in her task, and later on in the season was rewarded for her labor by a fine lot of hardy flowering vines, which obscured the old board fence and which crept round the windows and doors.

It is such places as these, where there seems scarce soil enough to plant a mustard seed, where long use as a dumping place for ashes has effectually taken all fertility from the soil, that the would-be gardener is taxed to the utmost of her ingenuity. One consolation remains, however, for the plants which will grow in such places are those which require almost no care whatsoever. Vines are the best choice under such circumstances, and the simpler the selection, the better. Morning glories and scarlet runners are primal favorites, and there are several others which are available for just this purpose.

The unsightly spot in the angles of the house are unsightly no more, if covered by the broad leaves of the Dutchman's pipe, and the eyesore which has been a worry and vexation is removed. When space and light permit, by all means, include sweet peas; in the vines they will cover an otherwise ungainly fence, and it is impossible to have too many of them for cutting. The ground which would be impossible to plant in vegetables will furnish bouquets through the summer, and brighten the house as well as the garden.

It Doesn't Cost Much.

Economy is one of the chief objects gained in the back-yard garden. A package of seeds purchased for 5 cents at any store will plant nine square feet of ground, or will cover a wall ten feet in length with vines. In view of this, there is all reason in saying that the garden is within reach of all, both in time and money—two of the most important of the many considerations to be reckoned with.

Give your garden a chance to prove what can be accomplished there. Prepare the ground for the reception of seeds. If the space is large, have it dug for you, though if possible, take the time outdoors and accomplish the work yourself. You will enjoy it, and it will pay you a thousand times in health and strength. Do not try elaborate designs, for it will mean enlarged expense, besides taking more time, and the chances are ten to one that it will disappoint you after all. Instead make the flower arrangements as simple as possible, blending two or three pretty flowers and vines, and giving them plenty of room to grow and spread themselves. This will aid in counterbalancing the disadvantages of shade and poor soil. Give your back-yard garden a fair chance, and see if it does not repay all your care of it, by filling your summer days with brightness.—From Floral Life.

Berry Plants

Hopkins' Improved Strawberry plants in all standard varieties. One-year-old plants of Brandywines, A-1 and Lady Thompson still on hand; also one-year-old Himalaya Blackberry and Cal. Surprise Raspberry. Catalogue soon ready.

G. H. HOPKINS & SON
Burbank, Cal.

Burbank Crimson Winter Rhubarb

Plants and Seed for sale in any quantity. Warranted the genuine article. Orders filled promptly

A. L. Fratt, Ventura, Cal.

Pacific Seed Co.
C. Bagnall, Prop.
GROWERS AND IMPORTERS OF
Grass, Vegetable and Flower Seeds
All Kinds of Bulbs and Onion Sets
609 J St., Sacramento, Cal.
Send for Catalogue. Please mention Cultivator.

Now Is the Time to Plant

Cover Crops	Onions
Canadian Peas	White Burmuda
Vetch	New Queen
Fenugreek	**Cabbage**
Burr Clover	Winningstadt

Our Seed is the Best
Johnson & Musser Seed Co.
113 N. Main St., Los Angeles, Cal.

SEEDS and TREES of EUCALYPTUS
All Leading Varieties — Send for Special Price List

New Onion Sets, White Bermuda, any quantity.
Peas, Beans, Tomato Seed for late planting.
Tomato and ***Pepper Plants, Rhubarb Roots.*** Send for Catalogue.

Chas. Winsel, Seedsman
251 So. Main St. ***Los Angeles, Cal.***

Dutch and Japanese BULBS

Now ready. Send for our new Illustrated Fall ***Catalogue,*** now ready to mail. Remember, we are headquarters for

PLANTS SEEDS TREES

We are headquarters on the Pacific Coast for
EUCALYPTUS SEED and YOUNG TREES
Write Us for Special Quotations

Retail Store: 125 Market Street, San Francisco

In Writing, Address
C. C. Morse & Co., 41 Jackson St. San Francisco

A Bird's Eye View

of a city doesn't do justice to it, because it only gives an idea.

The same applies to this advertisement; it only gives a small idea of the Tubular qualities.

We want you to have a thorough understanding of the benefits derived from a Tubular Separator.

The simplicity, durability and efficiency of the Tubular are admitted by our competitors and vouched for by thousands of satisfied users.

It is built to skim clean and last a life time; and it does and will.

The Tubular bowl is so simple and so easy to handle that it can be cleaned in two or three minutes.

There are so many points of excellence to be found in the Tubular, that to get a thorough knowledge of them you must read Catalog 260.

THE SHARPLES SEPARATOR CO.,
West Chester, Penna.
Toronto, Can. San Francisco, Calif. Chicago, Ill.

SECOND HAND PIPE

Just bought cheap ten carloads of water pipe, sizes ½-in. to 6-in., which we offer cheap for cash: ½-in. 1½c. a ft., ¾-in. 2½c a ft., etc. Get the benefit of our close buying. All pipe guaranteed good as new and dipped in asphaltum. Write for completo price list.

WEISSBAUM PIPE WORKS
133 Eleventh St., San Francisco

IRRIGATING HOSE

12 oz. canvas, coated or plain; good for several seasons. 1¾ inches, 2½ inches, 4 inches, 6 inches, 9 inches, 13 inches. Galvanized or brass couplings.

Tents, Tarpaulins Picking Sheets, Picking Bags, Stack Covers

Our Tent Catalogue, mailed free, gives full information.

The Wm. H. Hoegee Co.
INC.
138-140-142 So. Main St., Los Angeles

Curing Raisins.

Please give method of making raisins from muscat grapes.— S. H. O., Anaheim.

Allow the grapes to become perfectly ripe and sweet. Place on trays and in the sun and in case of heavy dew or light showers, stack to keep as much from moisture as possible. As they become nearly dry the trays may be kept stacked during the heat of the day also, for it is not desirable to dry too rapidly. With good weather they should dry in from 6 to 8 days sufficiently to turn. After turning watch carefully to prevent too rapid drying, also to prevent becoming too dry and hard. When dried place in the sweat box which will equalize the moisture, the few which may be overdried absorbing moisture from the larger ones that are not yet quite dry enough. Sorting and grading and other commercial factors can be learned only by experience with those who know the business. This in mere outline is the process.

Queries and Replies

Questions to be answered in this department should be received at this office one week before reply is expected. Write plainly on one side of the paper and sign full name and address. Unsigned communications receive no attention.—Ed.

Butter Won't Separate.

Since a cow came fresh a few weeks since I have been unable to separate the butter-milk from the butter. In churning, the butter does not go into little lumps, but simply goes from the state of cream to butter very smoothly. I have churned at five and six in the morning, so as to have it as hard as possible, but that seems to make no difference. I never had this difficulty before she went dry, and was always able to separate it, no matter what time of day or what weather. This morning, after milking, when my husband brought the pail of milk in, there were a few little patches of grease on top of the milk. She is fed stock beets and green corn now.—O. J. L., Bells.

Try the following different ways and one will surely be found to be the cure. Have the cream fully ripened, that is, well on the acid turn. See that the churn is not over full. One third is about all a churn should be filled. Try giving the cream a dash of cold water just when the butter forms. This often liberates the butter from the cream. Milk from fresh cows on all green feeds often shows floating butter, or oil, on the surface. Ten pounds of grain hay or a quart of rolled barley a day will usually end this trouble. Too high a temperature may be another of the causes. If water is put in gallon glass jars and stood outside at night it may be packed away in a hay box early in the morning and hold its coolness all day. The cream can be treated the same way and ripened at sixty or fifty-five deg. and it will churn out all right.—M. E. S.

Peaches Not Coloring.

Our peaches do not color up. What is needed in the soil to give them a good color? Our soil is a sandy foothill loam.—A. L., San Bernardino.

There is nothing practical known that will make your peaches color up if your soil and climate will not do it. You do not name your variety. Some varieties have little or no color any place.

Wraping a wire tightly around the branches will give a higher color and earlier fruit of poor quality.—J. W. M.

Ropiness in Milk.

I have a milch cow that gives as good looking milk as any cow, but after standing until cream rises it becomes stringy and unfit for use. She is healthy and has good appetite and drinks well.—A. B., Arroyo Grande.

Bacterial growth in the milk is the cause of the slime, not the food of the cow. I have known it to be very bad when cows stood in swampy places; as soon as the cows' udders and legs were washed and the animal put on a dry field the trouble stopped. The stables should be swept out aud sprayed with carbolized water or whitewashed. Wash the cows' udder and legs and wipe them with a dry cloth before milking. Wash and scald everything used about the milk. After doing this once, repeat it, using either lime water or salt in the water of the last washing, turn up aud dry, by the heat of the vessel from the water. The temperature must be right for the development of this slime and it sometimes does not appear for several days. The freaky behaviour caused the milk maids in England in seventeenth century and eighteenth century to ascribe the slimy appearance to the night visit of kelpies. and bad fairies.—M. E. S.

Anthrax Cure, Milk Fever Outfits. See O. J. Weber Co., 555-557 S. Los Angeles street, Los Angeles.

Poultry Manure.

We have each week about half a cubic yard of clear fresh hen manure which we wish to use on orange orchard. The trees are about ten years old, fine, thrifty, bearing well. No other fertilizer, excepting horse and cow manure, has been used on this orchard. How much of this hen manure can we use advantageously for each tree, and how best apply it? What is relative value of fresh hen manure and fresh horse and cow manure in which there is but little straw? —E. H., Nestor.

Regarding quantity of manure to each tree, we have referred to Mr. Mills for answer. The answer to the other questions are practically all in Mr. Mills's article on Citrus page in this week's issue of the Cultivator.

Mites.

Something is bothering the tail of my horse, causing him to rub it against posts, etc., whenever he can. Seems to be some irritation, although we cannot discover anything.— L. F., Los Angeles.

Brush the tail out well and rub in, with the hand, lard, working the lard in to the bone all around the tail. This will usually be all that is necessary, and if it is, repeat twice a month and this will keep the bone free from this troublesome irritation. Where the trouble is of long standing, mixing in a tablespoonful of sulphur with half a pound of lard will increase the strength of the mixture. The men always have a piece of bacon rind at the barn and grease anywhere that a mule or horse rubs or bites. M. E. S.

Veterinary

Dr. R. T. Whittlesey, veterinarian, of 714 East Seventh street, Los Angeles, will answer questions in this department. In writing of sickness or injury to any animal be explicit in giving symptoms and particulars. Always enclose full name and address, but if assumed name or initials are preferred they will be used.

If an immediate mail reply is wished enclose $1.00 for such service, but for replies in paper only, no charge is made if the answer will be of general interest.

Please address all questions that are to receive gratuitous replies through these columns to California Cultivator, 115½ N. Broadway.

All communications to Dr. Whittlesey direct should contain a great big dollar.

Sun Stroke.

Will you please tell me what to do for a mare that has been overheated. I can't start any sweat ou her. She pants all the time.—H. B., Coachella.

Almost this same query came from Coachella a few weeks ago. Horses seldom recover from sunstroke. If you send her to a cooler climate she will improve some.—R. T. W.

Glanders or Diseased Tooth.

Please tell me what ails my mule. About ten days ago she started to swell on the throat and jaw; runs at the eyes; acts a great deal like distemper. Yesterday I lanced the side of the jaw but nothing came from it except a few drops of blood. She does not eat much and lately she has been slobbering at the mouth and tongue. I have examined her mouth but can find nothing wrong. I examined her eyes this morning; the one on the side affected was much more red or pink than the other. Please let me know through the Cultivator what to do for her.—J. C. J.

The symptoms are suspicious. You should have her tested for glanders. If she proves not to be infected poultice the parts until there is farther development. It may be from a diseased tooth or an injured bone, in which case it will be necessary for you to call on a veterinarian.—R. T. W.

Undeveloped Teat.

I have a very promising heifer about to have a calf. She has three teats well developed and shows to be full of milk, but the fourth one is small and appears to be blind altogether, that is, no milk in it. Can anything be done in the way of opening it to let the milk flow down into it the same as the others? I have been getting her gentle and found this out by chance.—Ventura Subscriber.

If there is no opening through teat, it should be opened with a troca and a milk tube inserted. Keep it in until the milk flows through the teat without its use. Keep the tube corked except at milking time. When the milk flows through teat, the calf will develop it if compelled to suck that one.—R. T. W.

Paralyzed.

What can be done for a mare that is apparently paralyzed on the right side of head, right eye being partially closed, the right ear hanging down, and the upper lip turning off to the left side of the head very decidedly?—W. T., San Jose.

There is no cure. There is usually an improvement for a time, but seldom complete recovery.—R. T. W.

Use of Dilator.

I have before me a catalogue in which is advertised a teat-opener for opening obstructed teats. Are they safe and reliable for hard-milking cows? How far into the teat should they go? This is 4½ inches long.—J. S. M., Upland.

There is more or less danger connected with the use of all dilators, especially if there is any cutting done. The dilation of the openings by the introduction of a probe-like instrument is the safest. The distance depends on the length of the teat, unless it is the end of it that is to be enlarged.

Fistula.

I have a horse. I presume he has a fistula. Has a lump on the point of right shoulder blade. An opening formed within two inches of top of neck. I lanced it before the opening was thoroughly formed. It runs yellowish matter, and around the opening and where I lanced is quite firm. The horse is not lame and has a good appetite. What is best to kill it permanently. Am subscriber to your paper Please let me hear in the next issue. —Jas. Melbourne, Holtville

You have undoubtedy got a fistula now, whatever it was before cutting. My advice is for you to call in the best veterinarian you can get. Your county stock inspector is the man. Otherwise you will save trouble by killing the horse instead of the fistula, as it will probably keep getting worse if it has any depth now.—R. T. W.

Spavin.

Will you tell me what ails my mare? While working her last winter on the four-horse scraper she was stiff when started to work in the morning; later seemed all right. Has been getting worse until am unable to work her. Have not worked for four or five months. Lameness is in left hind leg. Sometimes now walks on three feet. There is no swelling. She does not flinch when any part of leg is pressed No trouble with the hoof.—R. T., Escondido.

From your description I should think your mare has a "spavin," and if you will examine the hocks I think you will see it plainly. Severe firing is the only treatment that is of much use. This will have to be done by some one who knows how or you might make her worse, if it is possible.

For Mehring Foot-Power Milking Machines see O. J. Weber Co., 555-557 S. Los Angeles St., Los Angeles, Cal.

Continued from First page.

LAST FAIR IN PAVILION.

her exhibit was at once varied and complete, hardly anything that can be grown being absent. The whole was well displayed and was crowded with visitors. Beside the county display there were a number of exhibits by Los Angeles manufacturers, prominent among them being that of the Tourist automobiles. Other counties represented are Fresno, Monterey, Sutter, Alameda, Sacramento, Sonoma, Santa Cruz, San Diego, Santa Barbara, Butte El Dorado, Glenn, Napa, Tehama, Stauslaus and others.

All of these have made excellent displays and it is impossible, in a short space, to do them justice. A feature of the Napa exhibit, among many good features, was a collection of apples, There was a large display of this fruit including a number of varieties and all of them good. It proved that apples can be grown in California.

A strong and taking feature of Fresno's display was, of course her product—raisins. In the midst of her masses of this fruit, a seeder was kept in operation, and the raisins as soon as they had passed through the machine, were distributed to the spectators.

Not to be outdone by the generosity of Fresno, Stanislaus county on Wednesday presented every visitor to the fair with a cantaloupe, and probably presented some with several, for every one who held out his hand got a melon every time. It was Turlock's day and she will long be remembered in Sacramento for her cantaloupes.

The Alameda exhibit was, as it always is, par excellent. Alameda is at a once a great fruit, agricultural and manufacturing county, and she was well represented in all branches. A special feature here was her preserved fruits and flowers. These were put up by Prof. Nicholos who has a patent process, which will preserve the most delicate flower perfectly, both in color and form.

Educational.

The University had a very large display of cereals, and what perhaps excited more attention and interest than anything else, a display of 29 varieties of eucalyptus wood worked up into various articles of use on the farm. In fact there were several displays of Eucalyptus. One by the State Forester who exhibited a set of parlor furniture made of blue gum wood with other articles made of other species. There is now such interest being taken in this wood that any display of it awakens the keenest interest.

Dairy Supplies.

Another exhibit which was always a center of interest was that of the dairy machinery and appliances, and there were several good ones. The DeLaval Company, especially, had a very large exhibit of separators and all other appliances of the modern dairy In the machinery department there was the usual large display, very much of it being pumps and pumping appliances, most of them in operation. This in California always attracts an audience and these were surrounded by people during the whole show. There were, besides, a number of road making machines, threshing and harvesting machinery, hay balers, and in short, all kinds of machinery called for on the farm.

Sensations.

In addition to the many attractions furnished in the way of music, trapeze performers, etc., those who delight in sensations were regaled with a wedding in den of lions. In order to get up this exhibit a young couple were offered their house furnishings if they would take part. The pavilion was crowded to see the performance which came off as per programme on Wednesday night. The only comment upon it was disapointment that the lions took the whole affair with so much indifference. They did not even look up while the ceremony was in progress.

Stock.

At the Agricultural park in the outskirts of the city, there were some good racing events every day of the fair and the grounds were well patronized.

The stock was an extra good one, the exhibit of horses by Crouch & Son, of Lafayette, Indiana, being an especially fine feature. The beautiful Arabian stallions from the stables of Miss Eleanor Gates, the authoress, were another center of attraction. Los Angeles was well represented on the grounds as in the pavilion and one of the finest displays of Clydesdales and hackneys was that of William McKie. George J. Read, also of Los Angeles, has a fine lot of horses, among them two prize winners. C. E. Lewis, of Antelope, has an exhibit of Percherons, among them a handsome pair of pinto draught horses which attracted attention from all

There were a number of fine herds of Jerseys, Holsteins, and Alderneys but a herd of Dutch belted cattle entered by Mrs. Jenny Strader, of Ceres, with their peculiar markings, was a feature of the grounds. The Glide estate has a herd of twenty-three blooded short-horns, Guy H. Miler of Modesto, has a fine herd of Jerseys, and A. Smith, of Corcoran, has also a fine herd of the same stock.

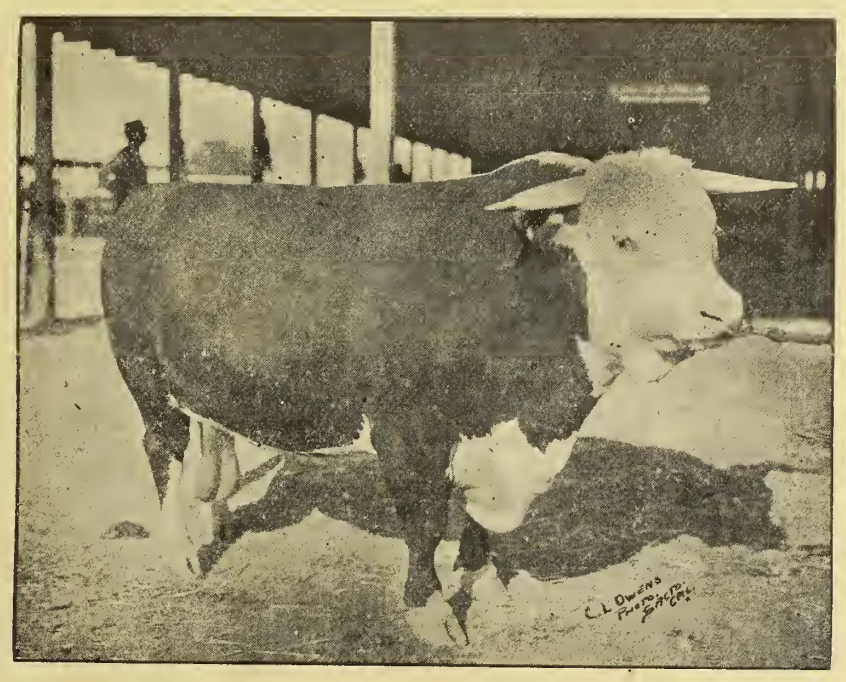
In the line of sheep, the display is not so large as usual; there were, however, some excellent specimes of South downs and Merinos. Baily and Sons of San Jose. had a large herd of Angora goats and the Waite estate of Perkins, Sacramento County, had by far the largest and best display of pigs, largely Berkshires, some of which reminded one of a large watermelon with a peg stuck in each corner.

The poultry display was more than usually good. This is housed in a new building which has been erected for the purpose. It is large, well lighted and roomy, but all the space was taken, and a better collection of birds was never brought together in the state.

Good Fair.

Altogether the state fair this year has come up to expectations. The state has been better represented by different counties which have taken part in it than ever before. It has been a financial success, and the attendance has been large from the opening day. A very large portion of the attendants were from the country showing that the agricultural fair once again apeals to the agriculturists, which it has not done before for years. The management has shown that a good fair can be made without the assistance of gamblers and touts.

This is the last fair that will be held in the old pavilion, as in accordance with the law passed for its removal, the work of wrecking that building will be commenced shortly after the close of the fair, and a much more modern and better fitted structure will be erected at Agricultural Park for the holding of future fairs.



GOLD MEDAL HEREFORD BULL

Fulfiller 2nd, exhibited at State Fair by Paul Clogstone of Clogstone, Idaho, won 1st premium, also gold medal.

SPANISH RAISIN CROP.

Statistician Robertson, who is probably as well informed as any man, comes boldly out with the statement that, in spite of all reports to the contrary, the Spanish raisin crop this year is not short at all. Reports which he has received as late as three days ago, and from reliable source, state unanimously that the prospects for the new crop of Spanish raisins both in the matter of quality and quantity are excellent.

The crop of Sultana raisins at Smyrna is reported to be of good condition, and the quality of the dried product will be up to the standard, but this will be short. The total of the Turkish Sultana crop last year, it will be remembered, was 47,000 tons.

Mr. Robertson says that last year's crop of Spanish raisins was about 27,000 tons.—Fresno Republic.

Fresno capitalists are organizing for the purpose of planting out an immense forest of eucalyptus trees. A $100,000 corporation is to be organized and eight sections of land are to be planted.

The Colfax, Washington, harvest season was the shortest this year in its history.

Classified Liners

Rates 1½ cents per word per issue. No ad accepted for less than 25 cents. Our classified columns are the clearing house for the readers of the Cultivator. Here you can insert an ad for the small sum of 1½ cents per word per issue, and be sure that it will be read by thousands.

MACHINERY.

WE CARRY A GENERAL LINE OF MAchinery, gas engines, air compressors, boilers, engines and pumps. 40 car loads of screw pipe and casing can be cut to lengths, also all kinds and sizes of fittings. Several hundred iron fence posts. R. KELLY MACHINERY CO., corner of Mission road and Macy street, Los Angeles. Cal.

FOR SALE—30 H. P. WHITE AND MIDDLETON distillate engine also centrifugal pump at a snap. 943 N. MAIN ST. LOS ANGELES.

FOR SALE— TWO 5 H. P. GASOLINE ENGINES also one 3 H. P. all in good running order. Can be bought cheap; 117 BRUNO ST. LOS ANGELES.

FOR SALE—COMPLETE PLANTS GASOline, electric and steam machinery of all kinds, new and second-hand bought, sold and exchanged. See us before buying. We can save you money. BAILIE & BRANDT CO., 943 N. Main st. Los Angeles.

FOR SALE—MEHRING MILKING MAchine with extra parts and covered pail, all in good order. WM. H. BIRD, Box 6, Compton, Cal.

FARM LANDS FOR SALE.

RANCH FOR SALE—105 ACRES AT $40 AN acre; 85 acres in cultivation; nearly all of remainder can easily be put in cultivation; 45 acres level land; 800 full bearing apricot trees; 5-room dwelling; good large barn; fruit drying plant; 5 miles north west from Moorpark; half mile of school; land suited to beans, hay and corn. For further information apply to WM. ROBINSON, Moorpark, Ventura county, California.

FOR SALE—1 TO 10-ACRE TRACTS ON CAR line, between Riverside and new cement works; good for chicken ranches, alfalfa or gardening; will sell on easy terms; plenty of water on each tract. C. C. POND & N. R. BELL, Riverside, Cal.

ORCHARD HOMES FOR SALE—FIVE acres and upwards; fine citrus and deciduous fruit lands on easy instalments and low interest. Write us today. Wyatt & Wilson, WINTERS, Cal.

POULTRY

BUFF ORPINGTONS—WOULD YOU LIKE the very best at the price of common stock? Sullivan's COMMONWEALTH STRAIN you may have at HALF PRICE FOR THE BALANCE OF THE SEASON. Write us and learn the reason; get record and illustrated catalogue FREE.—MR. & MRS. W. S. SULLIVAN, Agnew, Santa Clara Co., Cal.

FOR SALE—STOCK OF THE FOLLOWING standard bred varieties of poultry, Black and White Orpingtons, Brown and White Leghorns; won fourteen first and second prizes on fifteen entries, State Fair, 1908. J. J. VERKOUTEREN, Route 3, Hanfoord, Cal.

EGGS FOR HATCHING.

EGGS FROM MY PRIZE WINNING BARred Rocks; won all firsts, all seconds but one, and all specials on Barred Rocks at L. A. C. P. A. Show, 1907. Eggs from best pens, $3 per 15; $12.50 per 100. Stock for sale. CHAS. E. SMITH, Gardena, Cal. San Pedro Interurban car to Smith's Crossing.

INCUBATORS.

FOR SALE—ONE 360 EGG MUST HATCH incubator, $20. One 220 egg Royal incubator, $10. J. STITH, SANGER CAL.

WANTED—MALE HELP.

NINETEEN JOBS GOING AT PRESENT—Electricity, plumbing, bricklaying taught in few months; tuition back after two months; advanced students paid wages. Free catalogue. UNION TRADE SCHOOL & CONTRACTING CO., 120-126 E 9th St., Los Angeles, Cal.

SITUATIONS WANTED.

WANTED—A POSITION AS FOREMAN OR manager of orchard or ranch property, by a progressive young married man. Good recommendations. Address E. R. O., care of CULTIVATOR.

DOGS.

SABLE AND WHITE COLLIE PUPPIES—Sires, Brandane Wishaw Squire and Glen Fana Bounder, litter brother to Aufield Model. Dams, Ormskirk Gloriana and Presidio Nellie. $10 to $25; 2 to 8 months. GLENALPINE KENNELS, Grandville, Cal.

TREES.

FOR SALE—1,500 EUREKA LEMON TREES and 1,000 Washington navel orange trees, true to name. Also street and ornamental trees. Clean, healthy stock only offered. GEO. B. WARNER, SANTA ANA, CAL.

WANTED—ORDERS FOR EUCALYPTUS trees for spring delivery. Write for prices. Seed of the Rostrata and Sugar gum for sale. ENCINITAS FLORAL & PRODUCE CO., Encinitas, Cal.

PIGEONS.

HOMERS FOR SQUAB BREEDING—ARE prolific breeders and are banded. Price $2.50 per pair. WM. CULP, Escondido, Cal.

SHOPPING BY MAIL.

SAVE MONEY AND GET A BETTER choice by shopping in a large city. We will do your shopping for you. Send for our free book. It tells you how. LOS ANGELES PURCHASING CO., 306 Bradbury Bldg., Los Angeles, Cal.

Thoroughbred White Leghorn Cockerels For sale; price reasonable. MRS. J. F. SULLIVAN, Sunset P. O., Sunset City, Sutter County, Cal.

What MORE Could You Desire In A Savings Bank?

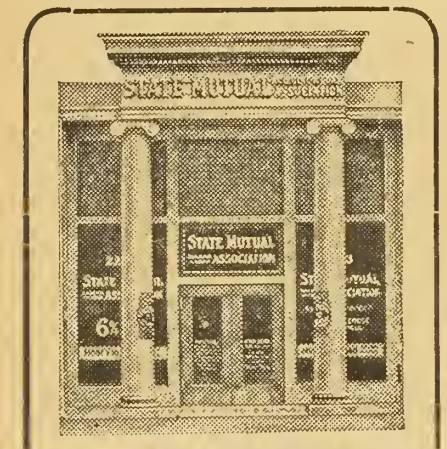
20,000 Depositors
Strong Directorate
Capital and Surplus Over
$900,000
Resources
$10,000,000

GERMAN AMERICAN SAVINGS BANK

Tallest Building in Los Angeles

SPRING & FOURTH STS.

Heart of the Business Center
Model Banking Facilities



6% INTEREST PAID
STATE MUTUAL
BUILDING & LOAN ASSN.
223 S. SPRING ST., LOS ANGELES, CAL.

ESTABLISHED 1889
Largest Association in California
Assets [Jan 1, 1908] $2,002,111
No Admission or Withdrawal Fee
Only 30 Days' Withdrawal Notice
Money to Loan for Building
OFFICERS AND DIRECTORS
DR. W. G. COCHRAN, President
A. E. POMEROY, Vice President
J. M. ELLIOTT, Vice President
W. D. WOOLWINE, Vice President
C. J. WADE, Secretary

D. M. CUTHBERT, Loan Inspector.
Send for Booklet and Statement
Mention This Paper

Your Eastern Trip

SOUTHERN PACIFIC

May be arranged so that you may travel by way of

New Orleans and the Sunset Route

San Francisco and the Ogden Route

Portland and the Shasta Route

Enjoying the balmy air of the South or the cool and bracing air of the North.

Personally conducted excursions every day from Los Angeles via all routes without change to principal eastern points.

Southern Pacific

Household Department

OUTCLASSED.

Everybody's kickin',
  Kickin' 'bout the heat;
Kickin' 'bout the prices
  We pay for things to eat.
Kickin' 'bout the railroads
  An' the government;
Kickin' 'bout the taxes
  An' the way they're spent;
Kickin' 'bout the autos
  An' the pace they set;
Kickin' 'bout the grafters
  An' the pull they get.
Old mule looks dejected,
  Says in tones demure,
"When it comes to kickin'
  I'm an amachoor!"

—Washington Star.

CHRYSANTHEMUMS.

SHE was kneeling just inside the fence, stirring and patting the already prepared soil of a flower bed with a pearl-handled trowel, ordered especially for this first summer in the country. And as she stirred and patted her lips murmured a few bars of a French labor song, and her brow wrinkled and smoothed with the trowel. She was pretty, with the winsome clinging beauty of the vine.

Presently she surveyed her work critically, approvingly. Certainly it was very nice and artistic. All it lacked now was the flowers.

As she raised her eyes she looked straight into a pair of admiring ones on the opposite side of the fence.

The man's gaze was averted instantly and he would have passed on, but she stepped to the fence with a pretty, impulsive gesture.

"Aren't you Mr. Ware of the next cottage beyond?"

"Yes."

"Well, I've been admiring your flowers," frankly, "and—yes, I may as well confess it, I was in your greenhouse yesterday and spoke with your gardener. He said you had the finest chrysanthemums in all the country round last fall—prizetakers, and all that."

"Yes, I had some very fine ones I believe," he answered, smiling back at her.

"How lovely!" clasping her hands. "I dote on chrysanthemums. My latest ball gown is figured with them. Will you tell me where I must get the prize flowers, and would I better plant them or just stick one side in the ground for—for slips—isn't it slips they're called?

"Why, no; I'm very sorry, but you're mistaken," he answered admiring the delicate color which came and went in her face, and glad to know that the face belonged to the next cottage. "You see, it's bulbs. My gardener had a great box full come the other day, and he's so choice of them he'll scarcely let me go near the box for fear I'll get something mixed."

"Oh, that's it," in a relieved voice; "I didn't know, but it's lovely. If they're bulbs there won't be any wilting. But where shall I get them?"

"If you will permit me," eagerly, "I will be only too delighted. My gardener shall bring them over and plant them for you himself."

"No, no," she prostested, "not that. I must do the work. It's to be my penance for frivolity last winter."

"Of course," he agreed. "Well, suppose I don't say anything about it to the gardener? I will pick out some of the handsomest and bring them over myself and—help plant them. May I?"

She looked at him thougbtfully.

"Why, yes! I don't know but you may," she answered. "You can tell me how."

"And do the digging," he supplemented. "I will put on gloves. It will be so droll and—and nice."

"And I think I've heard of you in New York at—at—"

"The Manhattan?" inquiringly.

"Yes, very likely it was the Manhattan. I'm Miss Richardson of Forty-second street."

"Who visits a Miss Trelawney—Olive Trelawney?"

Her hands came together in pleasant surprise.

"Do you know Olive? Why, she is one of my dearest friends."

"Indeed! Isn't it delightful? My sister knows her, and has heard her speak about Miss Olga Richardson. Really it seems that we are old acquaintances after all. I wil get the chrysanthemum bulbs now and hurry back."

"Certainly, it will be lovely."

Ten minutes later he was back, bringing as many large, plump bulbs as he could carry, and with delightfully profound remarks on the art of gardening and the usefulness of labor, they kneeled on opposite sides of the trowel-carved bed and planted the bulbs, one by one. As the last tuber was receiving its covering of soil a deprecating face appeared at an opening in the shrubbery.

"Av ye plase, Sorr," an anxious voice called, "have yez been afther seein' any b'ys or tramps lurkin' about?"

Two or three last pats were given to the little mound which covered the bulbs, then Mr. Ware turned.

"No, Michael, not this morning," he answered. "Why?"

"Because some rapscallion's been sthalin' the pertaties I put aside for plantin'. They was in a foine noo basket—" He stopped suddenly, adding: "I beg pardon, Sorr!" and disappeared behind the shrubbery.

The "foine noo basket" stood beside the newly-planted flower bed, empty. —Spokesman Review.

HOW TO RESTORE LEATHER.

To clean and restore the kind of leather that is used on furniture:

Dip a soft woolen cloth in boiling milk and wipe the leather with it, rubbing gently until all the dirt is removed. Then wipe the leather dry with a soft flannel. When it is clean go over the surface with a piece of flannel on which is spread a thin layer of prepared wax about as large as a pea. After waxing, go over the leather with a clean flannel, rubbing briskly but not too hard.

For the wax, cut two ounces of beeswax into small bits and put them in a bowl, place the bowl in a pan of hot water on the back of the range.

When the wax is soft take it from the fire and beat into a quarter of a cupful of turpentine and half a tablespoonful of paraffin oil. It should now be used, but if it becomes cold before you are ready to use it, put it in a pan of hot water and let it stand for a few minutes.

Ordinary black leather, such as is used for covering books and handbags, if it has become faded or discolored, can be restored with a fine quality of shoe dressing.

"What is the universal desire?" asked a seeker after truth. "Something to worry about," answered a plain citizen, not without careful thought.—Pittsburg Post.

STUDY AT HOME
READ—THINK—ACT
We are teaching over 3000 students at their homes, in Collegiate, Commercial and Normal subjects.
No interruption of regular work.
To study with us is a pleasure.
Lessons carefully examined and corrected, and promptly returned.
Send for complete catalogue.
We want local representatives throughout California.
Help yourself by helping us.
Modern School of Business and Correspondence, San Jose, Cal.
WRITE TODAY DEPT. D

All Work and No Play—
YOU KNOW THE REST
There's no better, cleaner, more beneficial "play" than Billiards and Pool. Expense? Not much. I have tables that suit your home, your purse. Catalogue?
C. Ridderhof, Laughlin Bldg., Los Angeles

LOS ANGELES PACIFIC CO. BALLOON ROUTE ELECTRIC RAILWAY

Los Angeles Pacific Co
Electric Lines
The Shortest, Quickest and Best Line
LOS ANGELES to the OCEAN
VISIT
VENICE, OCEAN PARK
REDONDO, SANTA MONICA
PLAYA DEL REY
Fish at Long Wharf, Port Los Angeles
Try a Trip on the BALLOON ROUTE DAILY EXCURSION, One Whole Day for ONE DOLLAR. Car leaves at 9:40 A. M.
Los Angeles Stations:
Hill Street Between 4th and 5th
Fourth Street Bet. Hill and Broadway

FARMERS' BOOKS
Order Through the Cultivator

FEEDS AND FEEDING.—By Prof. W. A. Henry. Is a thorough, accurate and reliable handbook for students and stockman, giving most practical and useful knowledge on plant growth and animal nutrition, feeding stuffs, feeding animals and every detail pertaining to this important subject, indispensable to every owner of live stock. 658 pages. 6x9 inches.
Cloth $2.00

AMERICAN GRAPE GROWING AND WINE MAKING.—By George Hussmann of California. With contributions from well known grape growers, giving wide range of experience. The author of this book is a recognized authority on the subject. Illustrated. 269 pages. 5x7 inches.
Cloth $1.50

STANDARD OF PERFECTION.—By the American Poultry Association and used as the standard for judging all shows. The thing for dealers in fancy stock.
Cloth $1.50

PERFECTED POULTRY OF AMERICA.—This is the most recent publication, and is one of the finest poultry books ever issued. It contains full page illustrations of all breeds and varieties of poultry, turkeys and water-fowl. On many of its pages are represented the feathers from each section of the fowl. Gives the information necessary for the selecting of the best specimen in your flock.
Cloth $2.50

A. B. C. AND X. Y. Z. OF BEE CULTURE.—By A. J. and E. R. Root, the leading authority on Bee Culture Its reputation is known to all Beekeepers. 536 pages.
Cloth $1.50

CAMPBELL'S SOIL CULTURE MANUAL.—By H. W. Campbell. The originator of the "Campbell System of Dry Farming." A complete guide to scientific agriculture as adapted to the semi-arid regions. Of great value to all Western ranches. 320 pages.
..... $2.50

THE NEW AGRICULTURE.—By F. Byard Collins. A new and authoritative work dealing with the changing agricultural conditions. Why "Back to the Soil" is calling millions from the cities to the farm. The debt which agriculture owes to science. Irrigation, fertilization, machinery, etc.
Illustrated, 374 pages, cloth.....$2.00

Cultivator Publishing Company

RASPBERRIES AND BLACKBERRIES.

Raspberries, both black and red, are not only especially valuable for canning and preserving, "more valuable than even the delectable strawberry," as one authority says, but easily adapted to a variety of agreeable forms of dessert. To begin with, they make an excellent shortcake, but this is true of many other fruits not commonly offered in that way. Blackcaps, in particular, served in a shortcake with a rich berry sauce are most satisfying. This special shortcake of black raspberries deserves to be better known.

Raspberry Shortcake.—Sift two cupfuls of flour with two teaspoonfuls of baking powder twice and rub into it thoroughly two large tablespoonfuls of butter, with a pinch of salt and a dessertspoonful of sugar. Mix quickly and lightly with a cupful of cold water. Divide into three parts and roll out each to the size of an ordinary layer cake. Bake in a quick oven. With light handling the result will be an extremely light, creamy shortcake. Spread each cake while hot with a little sweet butter. Have ready a quart of fine black raspberries, crushed by rubbing with the back of a silver teaspoon, and well sprinkled with sugar. Prepare these before baking the cake and use them to put together while warm, covering the top layer with a few fresh berries. With another supply of berries make a syrup by pressing through a sieve or fruit press and sweetening to taste. By scalding the berries with sugar a somewhat different flavor may be had, but the fresh fruit juice has its own merit. This is a reliable receipt for shortcakes in general, and good with rhubarb, oranges, strawberries or peaches. Cream in addition is to be a matter of individual choice, but not needed with the black raspberry.

Raspberry Cream—Beat the yelks of four eggs very light; add a cupful of sugar and beat again until smooth. Mix with it the juice and grated rind of a lemon and the juice pressed from a quart of red raspberries. Scald together in a double boiler. Whip into the mixture, when taken from the fire, the whites of the eggs beaten very stiff with half a cupful of powdered sugar. Serve very cold in glasses.

Farina with Berries—Farina or any other delicate cereal is very good cooked with raspberries or blackberries. Put the pulp and juice through a press to take out the seeds, sweeten to taste, and add to the farina when partly cooked. Eat with cream, either warm or cold,

These berries are also available for a good use with rice. The rice cooked separately with milk, sweetened, and flavored with lemon, may be arranged in a border and filled with the fresh fruit, sprinkled with sugar. Cream is, of course, the best addition. Tapioca gives another good form.

Raspberry Mousse—Crush a quart of raspberries and cover with two cupfuls of sugar. Soak half a box of gelatine in a cupful of cold water, then dissolve with another cupful of boiling water, stirring over the fire. Put the berries through a strainer and mix with the gelatine. When cooled and beginning to thicken, whip in lightly a quart of whipped cream. Put in the freezer, or freeze by setting in ice and salt without turning.

Raspberries and currants make an excellent combination, whether for a dessert, breakfast fruit, or in jelly. Red raspberries with lemon are improved for many purposes. Lemon is also good with the sweeter blackberries. With a pure, frozen cream, these are excellent mixtures, and a little preserved ginger also goes finely to give heightened zest.

Blackberry Pudding—Beat two eggs thoroughly, add two-thirds of a cup of thick cream from the cream jar. Make a cake with this and a cupful of sugar, one and a half cupfuls of flour, sifted with two teaspoonfuls of baking powder and a pint of blackberries. As the berries differ in juiciness, add a little more flour if the mixture is too soft, and a good pinch of salt. It should be of a firm, light consistency when baked. Eat warm with a liquid sauce, which may be of blackberry juice, strained, sweetened, and slightly thickened with flour or corn starch.

Raspberry drop cakes may be baked on a griddle, mixing the fresh berries with a good batter of an egg, a cupful of flour, and a cupful of milk, and a teaspoonful of baking powder.—Country Gentleman.

TO EXTERMINATE ANTS.

Of all the insect pests which trouble the housekeeper there are none that are so difficult to deal with as these interesting little creatures. To understand the difficulty of exterminating either the black or red ant, one must know something of their habits. Here is a brief outuline which will aid the housekeeper in carrying out a successful plan for the extermination of these pests: Ants live in colonies and are divided into males, females and neuters. The neuters do the work. The males and females rarely leave the colony. The swarms of ants that appear in the house are composed of neuters. The destruction of these ants will lessen the nuisance, but the insects cannot be exterminated in this manner, for others to replace them will be produced in the colony. The colony or nest must be found and the males and females destroyed. This is a difficult matter, and it is only by patient watching that one is able to follow the ants to their home. The colony may be in the soil outside the house, in which case it is easily found; or it may be in the walls, or under the floors of the house, where it is more difficult to reach them.

To exterminate ants trace them to their home. To do this it may be necessary to remove parts of a floor or the baseboard of a room. Wherever the nest is found such measures must be taken as shall kill all life in it. If the nest is in the house saturate it with kerosene oil or with boiling water. If the nest is in the ground have a long sharp-pointed stick, which press into the nest, remove quickly, and pour about two ounces of bisulphide of carbon into the hole; close at once by pressing the foot on the hole. Proceed in this manner until six holes are made, filled and closed. The fumes of the bisulphide of carbon will penetrate to every part of the nest, destroying all life. Be careful not to breathe the fumes of the chemical and be very careful not to have light or fire near when using it. A lighted candle, cigar or pipe might cause an explosion.

Ants may be trapped in either of the following two ways: Cover plates with a thin coat of lard, and set them in the places infested by the insects Place little sticks at the side on which they can mount to the plates. When the plates are full drop them into a pan of hot water. Or, wet sponges with sweetened water and place them about. When full of the insects, drop into hot water.

Strong odors will sometimes drive away these pests, but, as a rule, one does not want to use such odors where there is food. Among the odors that may be used are oil of pennyroyal, oil of cedar (a few drops put on bits of cotton, which are then placed in the infested places,) or gum camphor

To protect food, keep it as much as possible in closely covered tin boxes, or in the refrigerator, or on tables which are protected by having the legs placed in four dishes, in each of which there has been poured some tar water, to a depth of about four inches.—Ladies' Home Journal.

The Oldest Savings Bank in California

FOUNDED IN 1857

The Savings and Loan Society

101 Montgomery St., Cor. Sutter St., San Francisco

CAPITAL FULLY PAID $1,000,000.00

Exclusively a Savings Bank whose policy is for ***Conservatism*** and ***Safety,*** the result of ***50 years experience.***

Deposits may be made and withdrawn by mail.

San Francisco Savings Union

Founded June 18, 1862 Northwest Cor. California and Montgomery Sts., San Francisco

Conducts a Savings Bank Business Exclusively

Capital Paid Up, $1,000,000.00. Surplus, $1,183,632.06.

Total Assets, $27,508,850.00.

E. B. POND, President.

W. C. B. de FREMERY AND C. O. G. MILLER, ... Vice-Presidents.

LOVELL WHITE, Cashier. . . . . R. M. WELCH, Asst. Cashier.

DIRECTORS: John F. Merrill, Wm. A. Magee, W. C. B. de Fremery, H. C. Breeden, Jacob Barth, Fred H. Beaver, Wakefield Baker, C. O. G. Miller, E. B. Pond.

Every facility afforded for opening accounts and making deposits and withdrawals by mail. Correspondence invited.

Become an— **EXPERT BOOKKEEPER** Market and Post San Jose Cal.

H. E. COX, Pres. **Pacific Coast Business College**

RECIPES.

Sweet Cucumber Pickles.

An old cook book gives the following simple recipe: Take a small crock of pickled cucumbers; then make a rich syrup of New Orleans molasses, cider vinegar and whole cloves. Heat the molasses, vinegar and cloves and pour over the pickles, and in two days you will have a delicious, brittle sweet pickle.

Peach Pickles.

Use either clings or very firm freestones and for one gallon of pared take one pint of the best vinegar and two pints of sugar. Boil the sugar and vinegar to a syrup and drop in the peaches a few at a time and cook until tender, then lift out carefully. After the peaches are all cooked boil the syrup again, and if not sweet enough add another pint of sugar. A little stick of cinnamon and a very few whole cloves tied in a thin cloth should be boiled in this syrup. When the syrup is thick enough, put in the peaches, let come to a boil, and seal while still hot.

Use this same formula for pears, but just before the pears are put in the can, after the second heating, stick three or four whole cloves in each pear. They give the pears a delightful flavor.

Chow Chow.

1 peck green tomatoes, 1 peck ripe tomatoes, 3 heads cabbage, 10 small peppers, 12 onions.

Chop fine, add one cup of salt, and drain over night. Then take 2 tablespoons white mustard, 2 tablespoons black mustard, 2 tablespoons celery seed, 1 tablespoon mace, 1 tablespoon ground cloves, 1 tablespoon ground cinnamon.

Mix thoroughly with the chopped vegetables, cover with good vinegar and simmer for an nour.

HOMELY HINTS.

Hot water used both internally and externally is highly recommended by medical men as a cure for insomnia. Bathing the feet in hot water is particularly efficacious.

For a simple cough cure roast a medium-sized lemon. When hot through cut and press the juice upon three ounces of pulverized sugar. Take a spoonful whenever the cough is troublesome.

To make honey ointment take equal parts of honey and white flour and stir together with a little soft water, just enough to make a thick paste, solid, not liquid. This is one of the good old-fashioned remedies for sores and boils.

If one awakens with cold feet at night straighten out flat on the back and even if the bottom of the bed is cold it will be only a short time before the feet will become warm.

If a blanket is folded and placed on the mattress before the bottom sheet is put on, then folded back over the top sheet it will form a pocket so one can't kick the covers loose at the feet of the bed. This is especially useful in a child's bed.

If one will bathe the feet in cold water before retiring, rubbing them briskly, it will prevent cold feet at night. It will aso warm the feet quickly as it restores the circulation.

Home-made Linoleum.

To make a good home-made substitute for linoleum for the kitchen floor, take any old carpet that is whole but too shabby to use, clean it thoroughly and tack it down smoothly on the floor. Then make a good thick boiled starch of flour and water. Rub a coat of this starch into the carpet with a whitewash brush, and in about twenty-four hours or when the starch is thoroughly dry, give it a coat, and you will have a cheap and durable floor covering equal to linoleum at about one-fourth the cost. By giving it a coat of paint once a year, it will last for years.

TREASUR.E

Lady (to applicant)—"Yes, I advertised for a maid of all work. Are you an early riser?"

Applicant—"Indade, an' Oi am, ma'am. At me last place Oi was up an' had breakfast ready an' all the beds made a fore anybody else in th' house was up, ma'am."—Bagology.

San Francisco offers great opportunities. Prepare for them by taking a course in the San Francisco Business College, 733 Fillmore St., S. F.

The Produce Markets

Los Angeles Markets

LOS ANGELES, Sept. 9. 1908

Butter.

Butter shows no material change and quotations are exactly as last week. Receipts are sufficient for present needs.

Wholesale quotations now are:

Creamery ex per roll..............57½
Firsts.... 55
Dairy.... 25
Cooking...... ....23½
Butterine"...... .. ..15@20

Cheese.

Southern California...... .....16@16½
Northern fresh... 14
Longhorn...... ....17@18
Eastern singles.... ....15¾@16¼
Cheddars... ... .17
Imported Swiss...... ....28@28½
Swiss........ ....17½
Oregon........ 15
Limburger...... 18

Eggs and Poultry.

Eggs have suffered a severe decline. This was owing largely to the offering of ten cars of Easterns at a low price with no takers. This has proved that the local supply is not the largest factor in establishing quotations.

Eggs local candled.............33
Eggs case count buying price......29
Firsts fresh............ 31
Eastern fresh...... ....25@26
Eastern fresh jobbing price....23@26
Storage...... ....26½
Storage, short time........... 27@28

The high prices of feed caused early shipments of poultry and a consequent shortage at this time which has given a strong upward trend.

Wholesale prices..

Hens per pound.............. 14
Young roosters per lb..............17
Fryers.......... 18
Broilers per pound.......... 18
Roasters.......... 16
Old roosters...... 8
Turkeys..... ....16@20
Geese ....11@12
Ducks................ 11
Squabs...... ....1.25@1.50

Live Stock.

The following quotations are f. o. b., Los Angeles, on all stock.

Hogs from 175 to 200 pounds........6
Prime steers..... ....4¼
Heifers... ....3½@3¾
Calves per lb....... ....4½
Sheep ewes per head........3.75@4.00
Lambs per head...... ......3.00@3.25
Wethers.. .... .4.00@4.50

Potatoes.

Heavier receipts of potatoes have enabled the bears to depress the quotations on potatoes.

Market is in fair condition.

Wholesale prices are:

Sweets per ctl........... .. 1.50@1.75
Burbanks choice.... ....25@75
Northern Burbanks fy........... 1.25
Local Burbanks...... ....1.50
Highland fancy.... ....1.40

Onions.

Wholesale quotations are:

Silverskin new........ 90
Northern Red........ ....90@1.00
Australian Browns.... ....1.00@1.10
Danvers......... 90
Garlic...... ....9@10

Vegetables.

The following are commission house prices; deduct freight and commission to secure farm prices.

Asparagus per doz........ 85
Artichokes per doz Northern....75@80
Beets per doz................. 30
Bell peppers per lb large..........3@4
Bell peppers box.. ....15@20
Beans limas per lb ....2@2½
Beans string...... ....3½@4
Brussels sprouts per lb...........9@10
Cabbage sack........... ....75@85
Cabbage red per lb..................2
Celery per doz Golden heart....75@1.25
Corn per box............... ....40@45
Chili peppers per box.......... 20@25
Cucumbers per box... ....20@25
Cauliflower per doz ....1.25@1.40
Carrots per doz...... 30
Egg plant per pound...... .....1@1½
Green onions doz bunches......20@30
Horseradish...... ....12½
Lettuce per crate........ ......75@1.00
[illegible] per box 40
Okra......... 8
Peas sugar per lb.... 6
Parsley. 30
Parsnips...... ....35@40
Rhubarb per box...... ....1.25
Radishes per doz.......... ......15@20
Summer squash per box...... 20
Spinach per doz.. ....15@17
Turnips dozen bunches...... ...25@30
Tomatoes lug box........ ......25@30
Tomatoes yellow.... ....40@65

Citrus Fruits.

Valencias...... .... 2.30@2.50
Grapefruit seedless....... ....3.00
Grapefruit seedlings...... .. 1.75@2.00
Lemons fy ....2.00@2.25
Lemons choice...... ....1.50
Limes 15-lb box...... 75

Fresh Fruits.

Wholesale prices on the market are:

Red Astrachans new.................75
Astrachans packed box........1.35@1.50
Bellefleurs....... ....1.15
Alexandria 4-tier...... ... .1.00
Gravenstein 4-tier.... .. ....1.15@1.25
Skinners 4-tier........... .... 1.15
Crab apples....... ....1.50
Apricots cold storage....... 50
Cantaloupe locals large crate.....2.25
Casaba crate........ ....1.50@2.00
Figs per fig box............... 75
Figs blk per fig bx............... ..75
Grapes seedless Sultanas...........50
Muscats per lug box.. ....50@75
Grapes Malaga...... ....50@75
Grapes Thompson seedless.... ..35@40
Grapes Concord per crate..........1.35
Grapes Tokay........... ....1.35
Rose of Peru.......... 50
Grapes Black Hamburgs...... 50
Nectarines..... ....1.25
Pears per box........ ....1.15@1.35
Pears lug box............ ......75@85
Plums Sonoma.... ....50@60
Plums Kelsey....... 75
Plums egg...... ....50@60
French prunes...... ....35@40
Hungarian prunes...... 85
Peaches per lug box.............60@85
Peaches clings.... 50
Pineapples per lb 7
Quinces....... 85
Raspberries per box.......... 11
Strawberries per box.......... ....5@7
Extra fancy........ 10
Blackberries per box........ 8
Loganberries per box..... 6
Watermelons per lb...... ....¾@1

Dried Fruits.

Wholesale prices are:

Apricots...... ....7@9
Evap. apples fy per lb...........7½@8
Figs loose white...... 6
Figs blk........ 4
Peaches........ ....7@9
Pears.... .... -.....11½@12½
Nectarines...... 14
Prunes... ....4@4½

Beans Dried.

Wholesale prices:

Limas per ctl............ ....5.25@5.50
Lima, new crop.......... ....4.50@5.00
Pink No. 1........... ....3.55
Lady Washington.... ....4.45@4.55
Small white new crop.............4.65
Black eyes.... ....3.80
Garvanzas... ....4.80@5.00
Lentils... ....9@10
Bayou.... ....3.80

Nuts.

Almonds IXL per lb...........14@15
Pecans polished...... ....10½
Peanuts Virginia...... 8
Peanuts California........ 7
Walnuts No 1 SS...................14

Honey.

Wholesale quotations:

Extracted Water White..... ..7½@8½
Extracted Amber... ....6@6½
Comb W W................. 15
Comb white......... ... .14
Beeswax...... ....28@29

Hay.

Prices paid to producers f. o. b. Los Angeles are as follows:

Barley No 1........ ....13.00@15.00
Barley No 2......... ....10.00@13.00
Alfalfa northern per ton....11.00@12.50
Alfalfa local...... ....12.50@14.00
Plain oat No 1.............15.00@17.00
Wheat No 1........... ......13.00@16.00
Wheat No 2........... ......12.00@14.50

Grains.

Wholesale selling price f. o. b., Los Angeles.

Wheat new per ctl.................1.85
Wheat in 100-lb sacks...... ......1.90
Kaffir corn...... ....1.80
Corn Eastern sacked.......... ....1.90
White oats.. .. ..1.90

Feed Stuff.

Selling price F. O. B. Los Angeles as follows:

Cracked corn........ ....2.05
Shorts........ ....1.80
Bran........... ....1.65
Oil cake meal............ ....2.50
Feed meal...... ....2.10
Rolled barley 1.50

"So he praised my singing, did he?"

"Yes; he said it was heavenly."

"Did he really say that?"

"Well, not exactly that; but he probably meant that. He said it was unearthly."

—Melbourne "Weekly Times."

San Francisco Markets

SAN FRANCISCO, Sept. 8. 1908.

Butter.

Butter has advanced a cent a pound on extra.

California extras per pound...... ..26
California firsts.......... 24
California seconds...... 23
California thirds...... 20
Fresh packing stock...... ....20½
Packing stock No 2.................19

Cheese.

Cheese is weaker and featureless.

California young American fy....12½
Firsts...... 12
California flats fy..... ....10½
Firsts.......... 10
Young America fy 14½
Eastern fy........ 16
Oregon fy...... 13

Eggs and Poultry.

Eggs have advanced a couple of cents and are holding firm at the advance.

Official quotations of the S. F. Wholesale Dairy & Produce Ex. are:

Fresh ranch extras.......... ......36½
Eggs firsts per doz...............32½
Eggs seconds.... .. ..26½
Eastern selected.... 27
Eastern firsts 25
Eastern seconds.... 23

Hens per doz.......... ....4.00@6.00
Hens extra.. ....6.50@7.50
Young roosters......... ....5.00@6.00
Old roosters...... ....3.50@4.50
Fryers per doz.... ....4.00@5.00
Broilers per doz........ ......3.00@3.50
Geese per pair...... ....1.50@1.75
Goslings per pair...... ......1.75@@2.00
Ducks young...... ....5.00@6.00
Hen turkeys per lb..............20@21
Gobblers live...... ....19@20
Spring turkeys......... ....22@24
Pigeons young........ ....1.50@1.75

Live Stock.

San Francisco prices gross weight:

Steers No 1...... ....3¾@4
Do second quality...... ......3¼@3½
No 1 cows and heifers..........2¾@3
Second quality...... ....2¾
Hogs 100 to 130... 6
Hogs 130lb. to 250..............6¼@6¾
Rough heavy ....4¼@5½
Calves per lb......... ....3½@4¾
Lambs spring.... ....4¼@4½
Wethers No 1........ 4
Ewes No 1...... ....3½

Potatoes.

Wholesale market quotations:

River whites fy...... ....75@1.00
River Whites poor.... ....60@70
do per box.......... ....1.00@1.15
Early Rose new........ ....75@85
Salinas Burbanks.. ....1.35@1.50
Sweets Merced per lb..........1¼@2

Vegetables.

Wholesale quotations:

Asparagus per lb....... ....7@8
Asparagus No 2..... ....4@5
Bell peppers per box.............35@50
Celery per doz...... ....35@50
Cucumbers per box.......... ..20@1.00
Chili peppers per box...........25@50
Corn per sk...... ....1.00@2.25
Corn per crate... ....1.25@2.00
Egg plant per box..............40@65
Green peas per lb...... ....2@4
Lima beans....... ....5½@6
Squash per box..... ....20@35
Onions green per box...........70@75
Okra per box... ....30@50
Rhubarb per box....... ....50@65
Tomatoes River large box......15@50
String beans...... ....2@4½
Wax beans....... ... .2@4½
Garlic new........... ....6@7

Onions.

Onions yellow per sk... 50

Citrus Fruits.

Valencias fy.. ....2.50@3.50
Grapefruit seedless........ ..2.00@3.50
Lemons ch..... ....2.00@2.50
Lemons fy....... ....3.00@4.00
Limes...... ....4.00@5.00

Fresh Fruits.

Apples green per box............25@50
Apples fy Gravenstines. ....75@1.00
Apples Astrachans........ ......50@75
Crabapples........ ....50@60
Blackberries per chest...... ..2.00@3.00
Figs per crate one layer.........65@75
Grapes per crate seedless.......40@60
Grapes sweetwater... ....25@35
Grapes Muscats...... ....40@65
Grapes sweetwater.... ....30@45
Grapes Rose of Peru............30@45
Grapes Tokays.. ....60@75
Huckleberries per lb........ ....9@12
Loganberries........ ... .4.00@6.00
Cantaloupes...... ....25@1.00
Nectarines red..... ... .75@1.00
Nectarines white... ....50@60
Pears Bartlett per box..........15@50
Pears other varieties...... ......40@50
Pears per ton...... ....15.00@20.00
Plums lug box....... ....40@50
Plums Damson...... ....35@50
Peaches lug box..... ....30@60
Peaches lug box.... ....40@60
Peaches baskets.... ... .35@45
Aligator pears per doz.......7.00@9.00
Raspberries per chest... ....6.00@11.00
Strawberries per chest... ...5.00@10.00
Longworths per chest.........6.00@8.00
Watermelons per doz... ....1.00@2.25

Dried Fruits.

1908 prunes being contracted for at 4@4½ cents for Santa Claras and 4 for outsides.

New crop contracts, 25-lb. lots—Apricots per lb.: Choice, 8½@8¾; fancy, 10½@11.

PEACHES—Choice 7½@7¾; extra fancy 9@10.

Nuts.

Walnuts S S No 1 new crop...12½@13
Walnuts No 2......... ....10@10½
Almonds nonp.... ....11@12
Almonds IXL.... ....10@10½
Ne Plus Ultra....... 10

Beans Dried.

Limas...... ....4.75@4.85
Pink..... ....3.15@3.25
Small white......... .. ..4.75
Large white 4.35
Lady Washington...... ......3.45@3.50
Black eyes........ ....3.40@3.60
Red kidneys.......... ....2.75@3.00
Garvanzas..... ... . 2.00@2.25
Bayo........ ....2.90@3.10
Horse beans...... ....2.25@2.40

Hops.

Hops new crop......... ....9@13
Hops old stock.... ....3@6

Honey.

Clear white comb.. ....15½@16
Amber.... ....12@14
Extracted w c........... ....7@8
Extract light amber...... ......6½@7
Beeswax No 1 per lb...... ......28@30
Beeswax No 2 per lb...... ......25@27

Hay.

Somers & Company say:

There has been some little diminution in hay shipments to this market during the week ending today, the total showing 3880 tons in comparison with 4350 last week. This lessening in shipments was very timely for had hay continued to come as it did last week there would undoubtedly have been a material decline in prices. As it is there is a somewhat firmer tone to the market and prices are back to the range quoted two weeks ago. The fluctuations in the market have been very regular during the past two months for our records show that one week of heavy receipts and a weakening in prices was immediately followed by a week of lighter receipts and a corresponding recovery in the situation. This has been going on quite steadily and from all indications may continue for the next few months, although in our principal hay districts the fields are well cleaned, yet many out-lying districts have still considerable quantities of hay to be moved for which there is no storage room.

To summarize we would say that for the next few months hay will be shipped to market in moderate quantities with an occasional spurt in prices to be followed by a reaction which will result in an average being maintained at but little above the present range.

Choice wheat hay.... ....16.00@17.50
Good wheat hay...... ......14.00@16.00
Other grades same...... ....11.00@13.50
Wheat and oat........ ......11.00@16.00
Tame oat........ ....11.00@16.00
Wild oat........ ....10.00@14.00
Stock hay..... ....8.50@10.00
Alfalfa........ ....9.50@13.50
Straw, per bale.. ....45@75

Grains.

Wheat No 1............ ....1.67½@1.70
Barley new........ ....1.30@1.35
Corn large yellow.............1.80@1.85
Oats white...... ....1.45@1.55
Oats gray.... ....1.40@1.55
—Rye new crop........ ....1.45@1.52½

Feed Stuff.

Bran per ton................29.50@31.00
Feed cornmeal per ton.......37.00@38.00
Cracked corn per ton........38.00@39.00
Rolled barley per ton........30.00@31.00
Oil cake meal per ton.......36.75@38.25
Cocoanut cake per ton......25.00@26.00
Middlings.... ....32.00@35.00

A TESTIMONIAL.

A company selling salve sent a quantity to a man, requiring him to write a puff. He wrote that he had a dog that got about two inches of his tail cut off. He applied the salve to the wound and the tail grew out to its natural length. He applied the salve to the piece of tail and a whole new dog grew on.

Citrus Market

LOS ANGELES Sept. 9. 1908.

Valencias are still going forward but at indifferent prices. It is probable that no pronounced advance will be made in prices on the remainder of the crop. The effort will be to distribute evenly, as to time and location, the fruit yet to be shipped and secure the best possible return.

Lemons are also very weak owing to unfavorable weather conditions. Lighter receipts of foreigns will probably stimulate a little better offering.

Shipments.

Shipments of citrus fruits since November 1, 1907, aggregate 28,514 cars of which 4446 were lemons.

NEW YORK, Sept. 3.—Six cars Valencias, one mixed car and one car lemons sold. Market firm on good quality fruit, with an easier tone on ordinary grades. Prices slightly lower. Weather cool and favorable.

VALENCIAS—	Avg.
Fox Cal Citrus Union	$2.70
Criterion, Penn Ft Co	3.20
Wolf Penn Ft Co	2.25
Red C Covina Ft Ex	4.00
Pointer ACG Ft Ex	3.05
Pet SA Ft Ex	3.55
Orchard National O Co	4.30
Standard National O Co	3.55
Producers Red OP Co	3.70
Globe Red OP Co	3.25
LEMONS—	
Selected N W Blanchard	2.45
GRAPEFRUIT—HALVES:	
Orchard National O Co	2.45

BOSTON, Sept. 3.—Two cars sold. Nine on track. Weather cool. The market is steady.

VALENCIAS—	
Airship VC Ft Ex Fillmore	3.50
Oriole VC Ft Ex Fillmore	3.30
Carnation Moulton & Greene	3.45

NEW YORK, Sept. 8.— Nine cars of Valencias, two mixed cars and two cars lemons sold. There is a good demand but prices are lower on account of the increased offering. There is a good demand for grapefruit. The market is dull and inactive on lemons showing decay.

VALENCIAS—	
Orchard Or run NO Co	4.25
Standard NO Co	3.55
Old Mission fy C C Chapman	5.40
Golden Eagle std C C Chapman	3.70
Petunia AF Co	3.65
Cerrito fy L V W Brown	4.35
Swastika stdL V W Brown	3.25
Golden Orchard IF Co	3.60
Lighthouse stdCCU	2.60
Blue Seal ACGF Ex	4.10
Red Shield ACGF Ex	3.40
Green Crown ACGF Ex	2.65
Blue Globe Riv Ft Ex	3.85
Red C CF Ex	3.65
Pet SAF Ex	3.55
Planet SS Fe Ex	3.45
LEMONS—	
Quail OK Ft Ex	2.25
Seclected fy N W Blanchard	2.60
GRAPEFRUIT—	
Orchard or run NO Co	4.00
GRAPEFRUIT—Halves—	
Orchard or run NO Co	2.70
Cerrito fy L V W Brown	3.40

BOSTON Sept. 8.—Four cars sold. Thirteen on track. The market is easier. Weather cool.

VALENCIAS—	
Butterfly C Ft Ex	3.70
Century C Ft Ex	3.65
Eagle H Ft Ex	3.15
YankeeDoodle H Ft Ex	2.50
Butterfly C Ft Ex	3.35
Century C Ft Ex	2.95
LEMONS—	
Southland beauties QC Ft Ex	2.90
Justrite QC Ft Ex	2.25

RATTLESNAKE BITE.

A California exchange has the following contribution which is a homely enough remedy to be at hand in every home:

"I want to tell you of a simple and sure remedy for rattlesnake bite—one that will accord with physical culture ideas. I saw a young man who was cured and know others who were.

"Take raw onions and salt enough to make them very salty, crush together thoroughly. Apply as a poultice directly to the bite. Remove it when it turns green. Renew frequently until it no longer colors. It is also good for insect bites and stings."

POWER ON THE FARM.

To one who studies the economy of the farm, the need of abundant power is manifest—power that is ready when needed and of a quality within the comprehension of the man who learned to farm rather than run machinery. The day of the large family is passing; in fact, the next census will show a big shrinkage in the husky Jims and Jacks and Joshuas and Toms and Dicks, the old-time lord of the manor was wont to rout out at daylight, each to perform his allotted task before breakfast, and after that meal to hie away to field or forest.

Some of the boys have learned a thing or two and find life "easier" (they think so, at any rate), at work in the city, and the farmer is left shorthanded as they grow to manhood. The gasoline engine or the electric motor is his relief. With either to furnish power for milking machine and separator, the early morning drugery is eliminated. It cuts the hay and saves the waste of loose feeding. It grinds the grain and aids in making the perfect ration. It pumps the water for family and stock, to be used cold when desired and, for the same reason, warmed when needed, for the farmhouse that goes with this machinery is piped for heating also The getting up of the winter's wood, cut for the stoves—back-breaking and soul-destroying job that it was—is more of a frolic when John D. or the juice furnishes the power. There are threshing machines nowadays of a "family size," to be run when convenient, and the throwing of a belt or a switch starts the fanning mill and the huller.

Profit lies in the economy of production and the machine is the economist. There will be big displays of all manner of labor-developing apparatus at the series of state, district and county fairs about to open. He who is wise will profit by them, for the use of this class of machinery leads to a greater benefit; it tends toward a more intensive operation of the land. It helps the owner produce as much on half the area by conserving his forces and its original cost is little more than wages for a year of the help he must hire when the boys leave home.

And better than all these results, there will be less desire for flight cityward by the young folks on the farm that has them.—Portland Oregonian.

FULL AUTHORITY.

A schoolmistress received the following interesting letter from the mother of one of her pupils:

"Dear Miss—You write me about whipping my sun. I hereby giev you permission to beet him enytime it is nessessary to lern him lessons. He is just like his father; you have to learn him with a club. Pound nowledge into him. I want him to get it, and don't pay no attenshun to what his father says. I'll handle him."

GIVING QUICKLY.

"See me next week about it."

"But he who gives quickly gives twice."

"That's just the point. I don't care to be held up later for a second subscription."—Pittsburg Post.

UNUSUAL.

"She is always talking about her mince pies. Did you ever see anything unusual in them?"

"Yes. I saw a shoe button in one once."

Continued from First page.

Stock Exhibits.

Among the showing of high-grade horses first place must be given to the Arabians, owned by Miss Eleanor Gates.

The exhibit of high grade Percheron, Belgian and German coach stallions made by J. Crouch and Son was of special interest. Mr. Campbell, the local manager, is an enthusiastic horseman and an advocate of the highest development of equine aristocracy.

The shorthorn cattle, exhibited by the Glide Ranch, are considered the best in America. They are composed of selections of prize-winning bulls and cows, together with their offspring. This ranch was successful in securing most of the awards in the shorthorn class.

The herd of Jerseys shown by Mr. Geo. A. Smith of Corcoran contains some of the purest blood to be found on the Pacific Coast. Among the more important members are Golden Fern of Oakhurst. He was sired by Golden Fern's Lad, the most phenomenal sire of prize winning and butter test cows the Island ever produced. Sergeant Fox, winner of three championship and three first prizes. His sire, Champion Flying Fox, sold for $7,500 at auction.

Guy H. Miller of Modesto was also in line with some magnificent animals which have records as producers second to none on the Coast.

Sheep.

This exhibit contained some of the best stock on the Coast. It was composed of Spanish Merino, shown by the estate of Thomas Waite; Shropshires shown by T. B. Gibson and G. K. Swingle; Persian sheep and Angora goats shown by C. P. Bailey.

Poultry.

The poultry feature was satisfactory in every particular. There were over 1100 entries by forty-four exhibitors. Contrary to the general rule, Buff Leghorns made an excellent showing both in numbers and quality.

Among some of the prominent exhibitors were Kaufman and Windheim, Nutley, N. J., Rhode Island Reds; J. Cecil, Hanford, 125 entries, including 40 games of several varieties; W. J. Blackman, Los Angeles, white and black Cochins; H H. Holland, Fresno, Brown Leghorns; C. G. Hines, White Wyandottes; John Russell, Brahmas; Mrs. M. C. Plow, Ducks.

Amongst the Prize Winners.

Amongst the thoroughbreds F. H. Burke with Wandering Nun took first prize in the four-year-old class of mares.

In standard trotters, F. G. Kilpatrick won first and F. E. Wright won second on four-year-old stallions. Dana Perkins won first on two-year old stallions and F. H. Burke first on one-year old stallions. On mares four years old and three years old, F H. Burke won both firsts. One-year old first went to E. J. Weldon and second to A. Flores.

Percherons made a magnificent showing and had the strongest competition of any class. In four-year-old stallions, J. Crouch & Son won first, C. F. Singmaster & Sons second, Wm. McKee third. Three-year-old stallions J. Crouch & Son won first, second and third. One-year-old stallions, F. M Welchel won first and E. F. Kleinmeyer won second.

Percheron mares four years old, E. F. Kleinmeyer first; Geo. J. Read, second. Mares two years old, California Polytechnic School won first and second. Mares three years old, California Polytechnic School won first and E. F. Kleinmeyer second. Mr. Kleinmeyer also won first on foals.

Draft horses: Four-year old stallions, Lewis, Terry & White won first and C. E. Lewis second.

Belgian: J. Crouch & Son won all premiums.

Desert Arabians: Eleanor Gates, the authoress, won all premiums.

Cattle.

Shorthorns: Three-year-old bulls, Lizzie H. Glide won first, T. B. Gibson second. Two-year-old bulls, T. H. Murphy first. Senior yearling bulls, Lizzie H. Glide won first, second and third.

Shorthorn cows: Three years old, Lizzie H. Glide first and T. B. Gibson second. Two-year-olds, Lizzie H. Glide first and second. Mrs. Glide also won champion bull and champion cow.

Herefords: Paul Clogstone won all premiums.

Holsteins: Three-year-old bulls, Stanford University; two-year-old- bulls, F. H. Burke first and second. Three-year-old cows, Stanford University first, F. H. Burke second. Two-year-olds, Stanford University first.

Jerseys: Three-year-old bulls, G. A. Smith first and second. Two-year-old bulls, N. H. Locke Company first. Yearling bulls, G. H. Smith first, G. H. Miller second. Three-year-old cows, Guy H. Miller first, G. H.. Smith second and third. Two-year-olds, G. H. Smith first, estate of Thomas Waite second; G. A. Smith third.

Brown Swiss: All premiums won by B. P. Inman.

Dutch Belted: Mr. and Mrs. U. G. Strader won all premiums.

Swine.

Berkshires: Two-year-old boars, G. A. Murphy, first and second; Carroll Cook, third. Two-year-old sows, G. A. Murphy, first and second; estate of Thomas Waite, third. Champion boar and champion sow were both won by G. A. Murphy.

Poland China: Two-year-old boar, M. Bassett, first; T. B. Gibson second. Two-year-old sow, M. Bassett, first: P. H. Murphy, second; W. R. McCaslin, third.

Sheep.

Spanish Merinos: All premiums were taken by the estate of Thomas Waite.

Shropshires: All premiums were taken by T. B. Gibson.

The great fair of 1908 has passed into history, but it has left a remarkable record. It has brought the farming communities into closer touch than ever before and has stimulated effort, inspired ambition, and fostered improvement.

Every farmer, stock raiser and poultryman should attend the State Fair and as many country fairs as possible. They are a benefit to everybody.

Warranted to Give Satisfaction.

Gombault's Caustic Balsam

Has Imitators But No Competitors.

A Safe, Speedy and Positive Cure for Curb, Splint, Sweeny, Capped Hock, Strained Tendons, Founder, Wind Puffs, and all lameness from Spavin, Ringbone and other bony tumors. Cures all skin diseases or Parasites, Thrush, Diphtheria. Removes all Bunches from Horses or Cattle.

As a Human Remedy for Rheumatism, Sprains, Sore Throat, etc., it is invaluable. Every bottle of Caustic Balsam sold is Warranted to give satisfaction. Price $1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars, testimonials, etc. Address

The Lawrence-Williams Co., Cleveland, O.

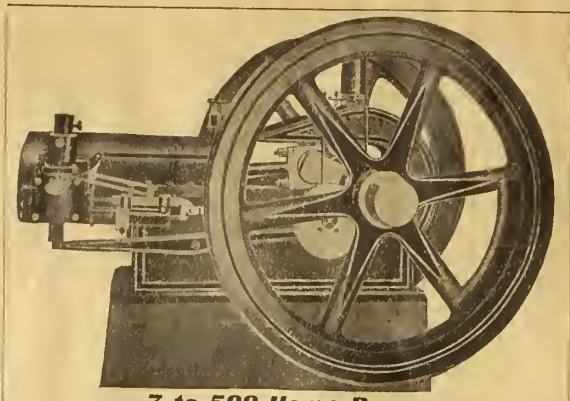
The Popular

Western

Built In the West Best For the West

FACTORY AT YOUR DOOR

LONGEST LIFE LEAST FUEL FEWEST PARTS ALWAYS GOES



7 to 500 Horse Power

Irrigation Plants Designed Constructed Installed

U. S. GOVERNMENT TEST

35 H.P. Western Engine Been Run 2 Years

RAN 87 DAYS DAY AND NIGHT

With One 20-Minute Stop to Lace a Belt

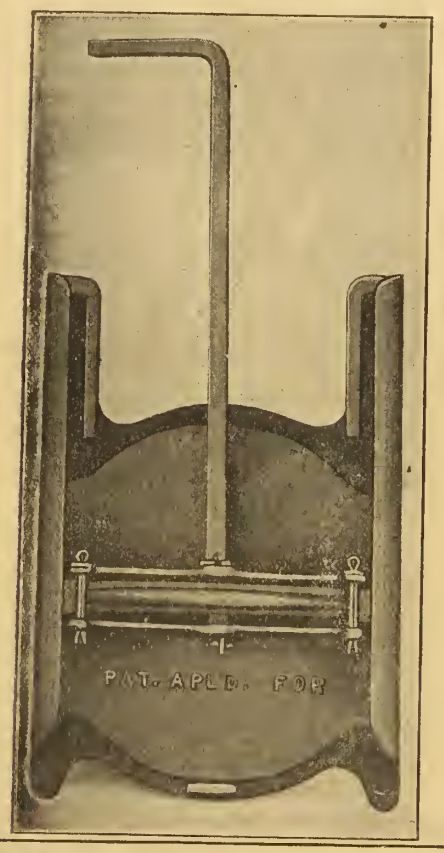
Send for the Copy of Test

Western Gas Engine Co.

Works and Office:

908 to 932 No. Main St. Los Angeles, Cal.

Send for Catalogue.



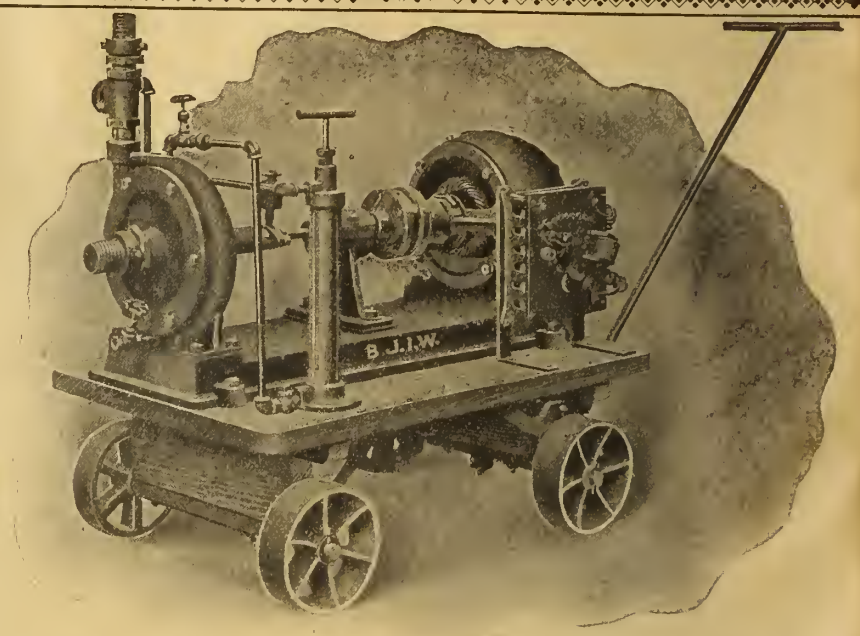
Pomona Pressure Gates

A Great Aid in Irrigation

These gates are made similar to the ordinary slide gates except that there is a locking device interposed to lock the cover in any desired position or to press the two faces together to make a WATER TIGHT joint, from either direction when closed. The parts are very simple, only a tapering screw with a split tapering nut socket. By turning the handle to the right tightens, and to the left loosens the cover or it may be removed entirely.

Pomona Mfg. Co.

Pomona, Cal.



Jackson Wine Pump Direct Coupled to Motor and Mounted on Truck. Write for Bulletin 25.

Works: Carlton Station West Berkeley **Byron Jackson Iron Works** Branches: San Francisco Los Angeles Portland

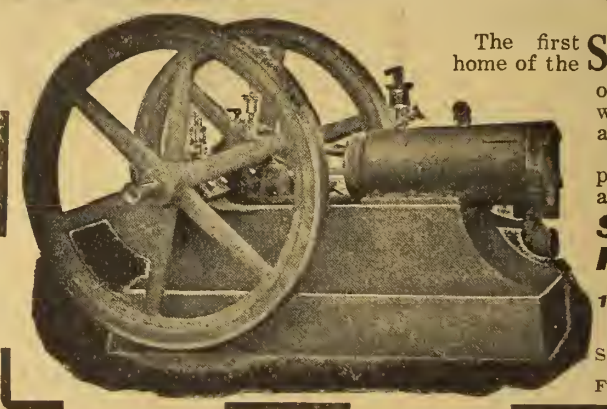
Alamo Gas and Oil Hoisting and Stationary **Engines**

Best in price, appearance and quality. Self-starting and small operating cost. A complete line of repair parts and accessories always on hand. Complete pumping plants installed and we are prepared to construct all kinds of mining machinery on contract. Write for catalog and prices.

Harrison Machine Works

719-721 N. Main Street Los Angeles, California

Samson Gasoline and Distillate **Engines**



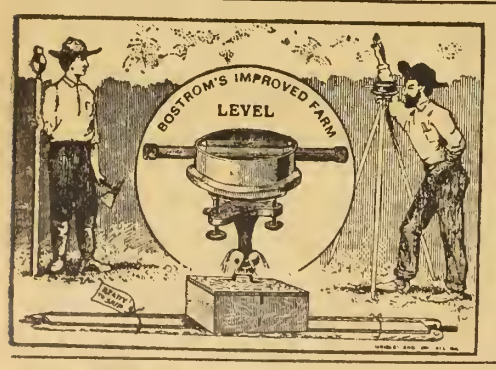
The first home of the SAMSON engine is a large one. It's second home, which is everlasting, is a happy one.

They may be compared with the sea—always ready to roll.

Samson Iron Works

Office and Factory: 1100 to 1198 Aurora St. Stockton, Cal.

BRANCHES: San Francisco, Cor. Market and First Sts. Fresno, 920 J St.

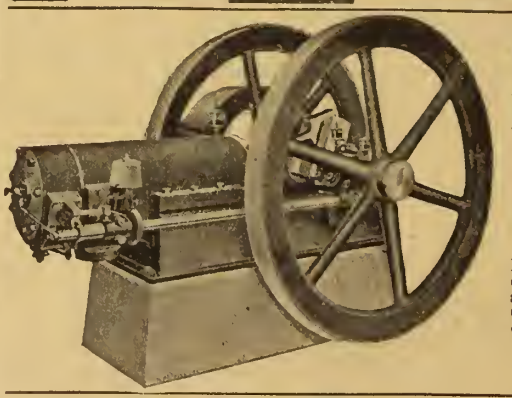


BOSTROM'S IMPROVED FARM LEVEL

Used for irrigation and drainage work. Cheapest and best level yet invented for farm use. Has the latest patented improvements in simplicity and usefulness. Can be operated by any one. Price including telescope tripod and target rod $15.00.

PALACE HARDWARE COMPANY
581 Market Street, San Francisco.

Coast Agents. Send for Circular.



HERCULES DISTILLATE ENGINE

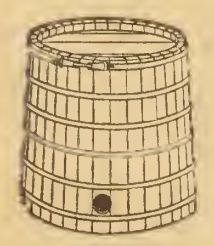
Heavy, Strong and Simple in Construction

The Right Engine at the Right Price

Horizontal and Vertical; All Sizes. Buy direct from the manufacturer and save agent's commission. Send for our new Catalogue C.

The Hercules Gas Engine Works

Alameda, Cal.



Wine Tank

Tanks Tanks

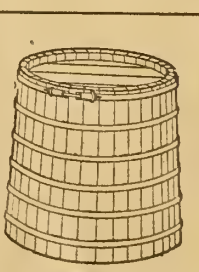
WINDELER'S PLANING MILL AND COOPERAGE

GEO. WINDELER, Prop

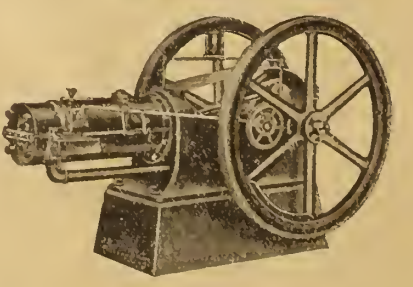
Water Tanks, Wine Tanks made from carefully selected stock by careful and experienced workmen. "Tanks that are well made last a long time." It will pay you to get my prices before buying.

Geo. Windeler

144-154 Berry St. San Francisco, Cal.



Water Tank



For the Land's Sake!

IRRIGATE WITH A

Commercial Gas Engine

SEND FOR BULLETIN NO. 11 AND YOU WILL

Commercial Engine Company

953-955 No. Main St. - Los Angeles, Cal.

ARNOTT HARNESS $10.00 to $80.00

Everything guaranteed. Money back if not satisfactory. Factory in Los Angeles. California leather for all uses. Send for No. 10, eighty page FREE Catalogue.

ARNOTT & COMPANY 112–118 So. Los Angeles St. Los Angeles, Calif.

When writing advertisers, mention Cultivator.

When writing advertisers, mention Cultivator.

California Cultivator

Published Weekly — One Dollar a Year

Los Angeles — September 17, 1908 — San Francisco

Kings County Irrigation Waters

OF SPECIAL interest to the uninitiated and of supreme importance to the tiller of the soil in California, is the subject of irrigation. In early days water was the one thing needful. Nature bestowed upon the soil every ingredient which would make for fertility and productiveness, but in a county where the average rainfall is about 9 inches per annum, it is evident that all the natural richness of the soil would be worthless without some guarantee of sufficient moisture to give it life and power. It was a stupenduous task that confronted the hardy pioneers, but that they were amply able to cope with it is proven by the rich verdure, the fragrant bloom to be seen on every hand for twelve months of the year. The lofty Sierras, whose snow-capped peaks stand out against the eastern sky line, have now for many years been the obedient servant of the lowly valley. They give a rich abundance of their store of water, which comes coursing down in lively streams to the thrifty fields, or by slower process, finding its way into the lower depths of the earth, is pumped up to spend itself in the service of man. There are three ways in which this water is available in Kings county, and give to the dwellers here an absolutely constant and reliable supply. First, the surface streams are tapped by large canals that in their turn divide and subdivide and irrigate vast acres of our land. The second means of irrigation is from artesian wells, which tap the streams down in the depths of the earth, bringing up an abundance of fine, soft water for irrigation, drinking and household uses. The third source of water supply is from the sub-surface brought into use by means of shallow wells.

Save from $1 to $2 per horse

that you now pay for clipping by doing it with this splendid

Stewart No. 1 Horse Clipping Machine

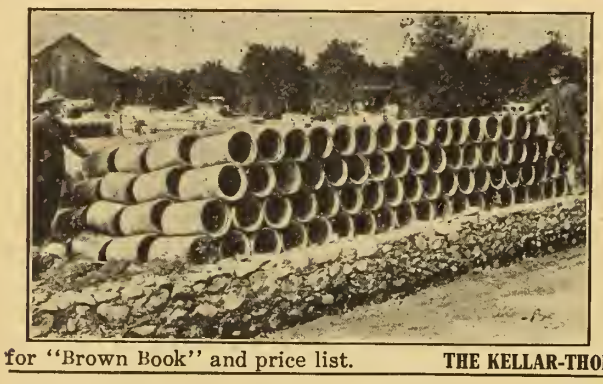
New and Improved *1908* Model Ball Bearing and all enclosed gears running in oil. The price at your dealers' all complete, is ONLY $8.50

Every Horse should be Clipped Clipped horses look better, feel better, work better, and are easily cuffed. No machine ever made runs so easily, clips so fast, and lasts so long as this ***Stewart No. 1.*** It is fully guaranteed and must please or the purchase price will be cheerfully refunded.

All leading dealers have it. Ask to see it!

It is the greatest clipping machine of all time.
If your dealer hasn't it, write to us about it.

Chicago Flexible Shaft Co. Dept. H, **Chicago**



From photograph showing amount of

Ten-Inch Pipe

made by four men from 10 bbls. of cement in 9 hours — 280 two-foot joints, or 560 feet. This pipe was made with the

"K T" Moulds

An equal amount can not be made with any other tools in the same period of time. Write for "Brown Book" and price list.

THE KELLAR-THOMASON MFG. CO., Covina, Cal.

GOPHER DOPE

Gophers destroy annually a large per cent of the crops, trees, lawns, etc., and they are a great nuisance to land owners all over the country.

The Gopher drives burrows or tunnels of very great extent and wherever it gains admission into a garden it works much damage to the roots of the plants. Every root that crosses the tunnel the Gopher will eat and not only herbs and flowers but even fruit trees of many years' growth have been killed by this destructive animal. In such cases the extremity of the tunnel is always to be found among the roots of some tree, which acts at the same time as a defense and a larder, for the Gopher hides itself under their protection and eats away their tender shoots.

A great many things have been devised to exterminate this pest with some success. Gopher Dope works on a different plan. It is in a powdered form and about one-quarter ounce placed well down in each hole and also in the run ways will soon rid the place of gophers. It gets in their eyes and pouches and on their feet. They track it through their tunnels. They will not stay where it is used. It will not harm domestic animals or fowls. It must be used thoroughly and systematically, the Gopher given time to work in it and any new holes thoroughly treated. If this is done you will soon find the place free from them.

Do not irrigate for one week after the dope is used.

Gopher Dope is sold in 50c, $1.00 and $4.00 tin cans, and is for sale at grocery, drug and hardware stores, also at feed yards, and is absolutely guaranteed or money refunded.

Free on board cars at Los Angeles. Live agents wanted in every county.

Yours very truly,

B. & G. Disinfecting Co., 415-417 Laughlin Bldg., Los Angeles, Cal.

Home Phone A 9089

All Soils Alike to Wood Pipe

The heaviest adobe, the most corrosive alkali, the lightest sand; all alike where Wood Pipe is used.

It Resists Them All

Wood Saturated. Air Excluded—Can't Rot. Metal in Bulk, Galvanized, Asphalted—Can't Rust. High factor of Safety in Binding—Can't Leak.

Prices, specifications, hydraulic data and general information gladly furnished upon request.

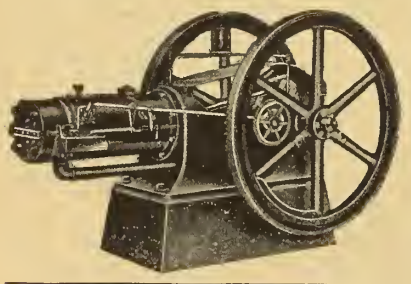
Continuous Stave Pipe. Machine Banded Stave Pipe

NATIONAL WOOD PIPE COMPANY 404 Equitable Savings Bank Building LOS ANGELES, CAL.

318 Market Street, SAN FRANCISCO — Northern Office, OLYMPIA, WASH. — Dooly Block, SALT LAKE

Commercial Gas Engines

Pump More Water



a given height with one gallon of No. 2 distillate than our competitors. Send for Bulletin No. 11 and see how we do it.

Commercial Engine Co.
953-955 No. Main St. Los Angeles, Cal.

A Railway on the Ranch

Saves Much of the Hard Labor

The equipping of the ranch with a ***Portable Railway*** is a very ***Profitable Investment*** and ***not*** very expensive.

Our booklet S. F. 60 gives several suggestions for applying it to the Dairy and Ranch.

Works at Koppel, Penn.

ARTHUR KOPPEL CO.

212 So. Los Angeles St., Los Angeles, Cal. — *Chronicle Building, San Francisco, Cal*

Eastern Offices: Pittsburg, New York, Chicago, Boston

Thou Shall Reap What Thy Sow

$22.50 CASH WITH ORDER

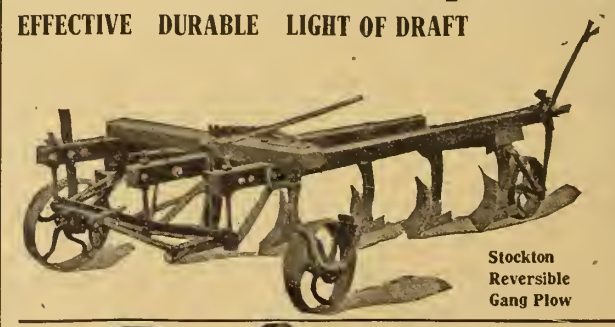
Buys a first-class Fanning Mill for beans and all kinds of small grain. Sow cleaned seed and increase your yield from 20 to 33 1-3 per cent.

Los Angeles Vehicle and Implement Co. 110 and 112 North Los Angeles Street, Los Angeles, California

---

The Cheapest Way

EFFECTIVE DURABLE LIGHT OF DRAFT



Stockton Reversible Gang Plow

This is our regular Plow with Land Shifter and Rear Lever. Land Shifter simple and durable. It is in easy reach of operator and there is no danger of wheel running over foot.

Houser & Haines Mfg. Co
Stockton, Cal.

Pioneer **Rubber Sanded** *Roofing*

The Roof that "proves," sun-proof and rain-proof; needs no paint or repairs. Following are a few "Wont's" about Rubber Sanded Roofing:

Won't chip. Won't warp.
Won't tear. Won't crack.
Won't rust. Won't decay.
Won't shrink.
Won't crumble.
Won't need repairing.
Won't absorb moisture.
Won't attract electricity.
Won't need any paint to preserve it.
Won't be affected by any climatic changes or conditions.
Won't cost as much, in the long run, as other roofing.

What Rubber Sanded WILL do is told of in our booklet "ROOF TALK," which will be sent free upon request, together with samples of the Roofing itself.

Pioneer Roll Paper Co

Makers of Rubber Sanded Roofing and Refiners of Asphaltum

Department 11, Los Angeles, Cal.

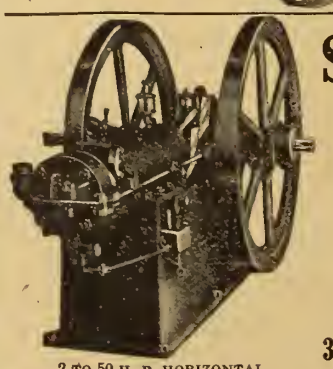
IRRIGATING HOSE

12 oz. canvas, coated or plain; good for several seasons. 1¾ inches, 2½ inches, 4 inches, 6 inches, 9 inches, 13 inches. Galvanized or brass couplings.

Tents, Tarpaulins, Picking Sheets, Picking Bags, Stack Covers

Our Tent Catalogue, mailed free, gives full information.

The Wm. H. Hoegee Co.
INC.
138-140-142 So. Main St., Los Angeles



2 TO 50 H. P. HORIZONTAL

STOVER GAS ENGINES

The simplest and the best. We have had long experience installing pumping plants. We know our business. See us before you buy. 2 to 50 H. P.

LIVINGSTON & LEE
352 So. Los Angeles St., Los Angeles, Cal.

500,000 Feet of

Water Pipe and Well Casing

All sizes, any amount. Special Prices while it lasts. Write or Phone for Prices.

Adams Pipe Works
2025 Bay Street, Los Angeles, California
Phones: F1917; Broadway 1264

California Cultivator

Vol. XXXI.—No. 12 Los Angeles, California, Thursday, September 17, 1908 Subscription $1 a Year

Irrigation in Southern California

By ED. J. MUNGER of Santa Paula. A Graduating Thesis at Pomona College

THE basis of the world's work is its agriculture. The strength, wealth and power of nations are not estimated in numbers of population, in armies and navies, nor in mines and mining, but in the productions of their soils. In the last analysis all human activity depends upon the food supply. The cultivated fields furnish the food supply of the world, and the rich and more productive the fields, the greater the abundance of the food supply, the more economically, extensively and successfully the manufacturer, the stock raiser, the merchant and the miner will be able to carry on his operations and thus develop the resources of the country and augment the wealth of the nation.

Knowing that the primary basis of all wealth is dependent upon the productivity of the soil, men have turned their attention to the consideration of methods and systems whereby the soil can be made to yield richer and greater returns. To this end irrigation has been employed.

Throughout Southern California industrial development during the past quarter century has been marvelous and has drawn constantly and ever unceasingly upon the food supply of the soil till at present the demand is greater than the supply. As the supply is directly dependent upon the area of land under cultivation, and the abundance of moisture; land heretofore remaining uncultivated has been tilled, and the uncertainty of the amount of the annual fall of rain has been remedied to a high degree by irrigation.

Throughout much of the area of California irrigation is practically indispensable to fruit growing and the production of crops. In many localities irrigation is the essential factor in the growing of fruits of the highest quality and the greatest market value. And furthermore in many and large areas in our Golden State, irrigation is a certainty against occasional complete losses of crops and injury to trees during the dry season. Today, in all but a few of the most humid regions in California, growers of both citrus and deciduous fruits have come to look upon the water supply and feasibility of irrigation as an element of the greatest value, and an ultimate assurance of safety in their agricultural enterprises. For this reason mighty rivers have been dammed up in their courses, gigantic reservoirs holding billions of gallons have been constructed, powerful pumping plants have been installed, a network of canals and aqueducts carry water to vast areas of land which a few years ago afforded scarcely food enough for the jack rabbit and rattlesnake, but today are made to blossom as the rose. Consequently the art of irrigation has made rapid strides in its development, and the time has now arrived when fruit growers everywhere, in order to succeed well, must understand a few of the elementary principles of irrigation.

Best at Home.

We Americans are proud of the fact that we do not need to seek in foreign countries for the best irrigation methods. The early history of western irrigation reveals the fact tnat men examined methods and systems employed throughout the entire Mediterranean region and in Africa but found there nothing that American ingenuity and genius could not improve and have improved. Thus we are able to place upon our irrigation systems the mark "made in America." Irrigation commissions from many governments have personally examined our American methods and commended them for their superiority, capacity and high efficiency.

Early History.

As early as 1769, one hundred and thirty-nine years ago, the efficiency of irrigation in relation to crop production was known to the west. The Spanish missionaries who came into California from Mexico were the first to plant fruit gardens and vineyards with facilities for irrigation. They laid out their plantations after the old Spanish style and proceeded upon the assumption that fruits could not be grown in this state without some irrigation. They ran permanent ditches through their orchards and vineyards and allowed the land to lie uncultivated after irrigation. This method though now considered very crude was the earliest demonstration of the fact that irrigation is one of the greatest essentials to fruit growing in a country with long, dry and rainless summers.

A Reaction.

With the discovery of gold, Americans hastened to California in great numbers, and it was not long before they discovered that the cultivation of the soil prevented the evaporation of its moisture to such an extent, that fruit trees and crops were able to make good growths and bear heavily with the moisture received only during the winter months. Now this was a great surprise to men and a reaction from the old Spanish conception immediately resulted. Some claimed that irrigation was unnecessary and that a thorough cultivation during the summer months would produce better fruits than if water was applied. Thus the contest between the supporters of irrigation and non-irrigation arose. But experiment and scientific procedure soon changed the attitude of the advocates of non-irrigation. Experiment proved again and again that in many soils and localities the non-irrigation policy failed to secure satisfactory crop returns and that the irrigation practice succeeded in doing it. It has required nearly a quarter of a century of experiment and tests to arrive at the conclusion that an ample moisture supply available throughout the entire growing season is required if the best results are to be secured.

A Contrast.

Universal observation has proven again and again that trees and vines planted during the wet season would make an excellent growth in the spring and continue to grow well during the early summer months, but in all cases would suffer greatly and sometimes actually die as the dry season advanced. As the soil became drier and drier during the summer months the hair and absorption roots would die, and the continued evaporation from the leaf surface would take every particle of moisture from the tree, and existence would soon be rendered impossible. In localities where the soil was heavy it consolidated like rock, and in other places where it was of a light and loose nature it would become like ashes and sand. In both cases the soil became anything but capable of maintaining plant growth. In contrast, places but a short distance away whose soil had been cultivated and mellowed after the late rains had consolidated the surface, plant life grew luxuriantly, and fruits grew to astonishing sizes, and the trees grew vigorously and were thrifty throughout the summer months of no rain and dry air. The suggestion of such a contrast was speedily employed and now irrigation and cultivation go hand in hand and make the cultivation of dry and semi-arid lands as productive as any other soils.

Three Conditions.

The connection between irrigation and cultivation is indeed intimate and has afforded much study and consideration. There are three conditions under which sufficient cultivation may reduce and possibly almost eliminate the necessity of irrigation. These are, first, providing there is an adequate rainfall at any season to supply a year's growth of crops and fruits, second, that the soil is of such a composition as to be able to hold the moisture and prevent rapid evaporation or leaching, and third, that there is sufficient depth of soil constituting a reservoir of ample capacity. The pursuit of agriculture with the absence of these conditions is fruitless unless accompanied by irrigation.

Requirements.

A study of the growth of trees, both citrus and deciduous, reveals the fact that there are many and wide differences in the moisture requirements not only in different kinds of trees but in early and late varieties of the same kinds. Citrus trees require by far the largest amount of moisture. But again it has been found that all evergreen and citrus trees do not require more water than all deciduous trees, for example the olive will bear as well with less water than the peach. The needs of all trees are largely conditioned by their age and work. A water supply adequate to cause young trees to grow well would perhaps be very insufficient for the same trees to produce fruit regularly and profitably. Trees whose roots run along the same surface, even though highly cultivated, may wilt down and gradually die, while those near by on the same soil, whose roots penetrate more deeply, flourish and do well.

Thus we see that the necessity and desirability of irrigation is variable and dependent upon the requirements of the growth of the tree or plant as well as the character of the land in which the growth is taking place. Irrigation to be pursued successfully must be pursued scientifically and only facts based upon extensive observations are of value in irrigation as in other sciences.

* * *

Possibly Detrimental.

Before passing it will be well to consider a few of the injuries that may be and have been caused by irrigation. It is equally well that we should know something of the other side of the question if there is another side to be known. Careful investigation reveals the fact that carelessness and lack of knowledge of the principles of irrigation cause great injury. Injuries due to irrigation fall under six general classes.

First—Injuries due to the grower.

Second—Injuries due to the water.

Third—Injuries due to the lack of proper drainage.

Fourth—Injuries due to the lack of cultivation.

Fifth—Injuries due to temperature during irrigation.

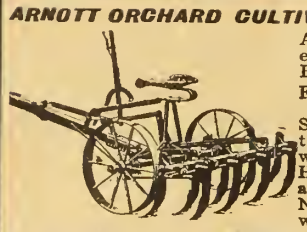
Sixth—Injuries due to fruit too near the time of ripening.

The grower by the careless use of water may do great damage to trees and vines. The things to know in every case are the proper time to irrigate and the amount of water to use. Experience has yet to prove that trees or vines will be injured where water is used with care and intelligence.

Continued on Page 272

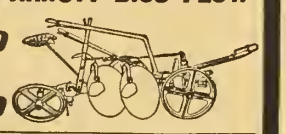
EVERYTHING FOR THE FARMER

ARNOTT ORCHARD CULTIVATOR



Acknowledged the BEST
Five feet wide.
Spring teeth if wanted.
Horizontal lift.
No neck weight.
Steel and Malleable Iron.
Dust proof wheels..... $45.00

SANDERS-ARNOTT DISC PLOW
SINGLE $60.00
DOUBLE $80.00



COLUMBUS WAGONS

Three inch Skein.
Four inch Tire. Brake and Pole.
$80.00

PACIFIC ORCHARD TRUCK

3¼x10 Skeins. 28x30 in. wheels..$32.50

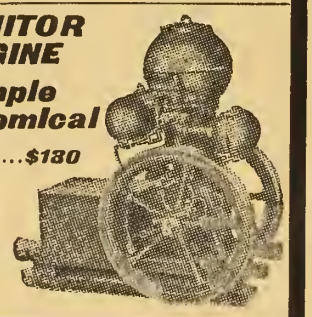
LEATHER TRIMMED

Guaranteed Twelve Months
$65.00

MONITOR WINDMILL

8 ft.....$30.00
10 ft..... $45.00
The New 8 and 10 Foot MONITOR

MONITOR ENGINE
Simple Economical
2 H. P....$130
4 H. P. $250
6 H. P. $350



Catalogue No. 9 Sent Free on Application
Address Department G.
ARNOTT & COMPANY Inc.
112-118 South Los Angeles Street
QUALITY ARNOTT GUARANTEED
Los Angeles California.

Notice to Orchardists

Now is the time to plant your cover crops. Plant Vetch, Blue peas and White peas in sandy soils or where there is slight alkali. Plant Burr Clover or Foenugreek on heavy soil. Write us for prices and for any particular information you may wish.

Johnson & Musser Seed Co.
113 N. Main St., Los Angeles, Cal.

All Work and No Play—
YOU KNOW THE REST
There's no better, cleaner, more beneficial "play" than Billiards and Pool. Expense? Not much. I have tables that suit your home, your purse. Catalogue?
C. Ridderhof, Laughlin Bldg., Los Angeles

Covina has produced a 27-pound muskmelon.

With the Citrus Growers

CONVENTION OF EXCHANGE OFFICIALS.

SELLING agents and officials of the California Fruit Growers' Exchange will meet at Kansas City September 29-30 and October 1 and discuss matters of interest to the citrus industry.

Eastern agents have usually made trips to the Coast and inspected orchards and packing house methods and thus become acquainted with the western end of the industry, but this year orange growers and officials will go East.

There will be at this meeting all the representatives of the Exchange, such as the eastern agents or salesmen, including a representative from all of the California exchanges, associations and special contract shippers. A great many eastern brokers and dealers will also be present. The object of the meeting will be for the purpose of bringing shipper and agent together to learn the needs of the trade.

A partial program of the convention is outlined as follows:

Chairman—F. Q. Story.

Secretary—J. L. Merrill.

Assistant Secretary—F. W. Wood.

Convention called to order by the chairman.

Invocation.

Address of welcome by the Mayor

Object of the meeting—Chairman.

The Growers, Their Fruit and the Market—F. J. Drehr.

Picking, Packing and Shipping—C. E. Rumsey.

Distribution and Sale at Auction R. P. Burton.

The European Market for Citrus Fruits.—F. Maude.

The Grade, the Pack and the Package—D. C. King.

Inspections—H. L. Purney.

Assignments and Shipment of Special Orders—W. H. Wilkinson.

Rejections—E. P. Brown.

Advantages of Splitting Car of Lemons—H. C. Foster.

Development of New Trade—T. E Johnson.

Auction Methods—D. D. Black.

Market Information—J. O. Cook.

Advertising—G. A. Charters.

Claims—A. D. Frazer.

Correspondence and Records—J. L. Merrill.

Economy in Telegraphing and Telephoning—T. H. Powell

Discounts and Allowances—J. P. Scanlon.

Does it Pay to Extend Courtesies to the Trade—J. S. Edwards.

It is felt that each representative present will receive much good from this meeting as it will bring them close together and that each and every one will learn in the three days time, what it would take years to learn through correspondence.

The holding of such a convention will be in line with what is being done by many large concerns throughout the country, though as now considered by the board of directors of the California Fruit Growers Exchange, only one convention is to be held, while many other commercial organizations hold such conventions every year.

The question of place of holding the convention has been considered a debatable one by some of the board members, there being a sentiment in favor of California. This, however, was deemed impracticable as business would likely suffer if all of the principals in the different markets were to be away for three weeks, as would be necessary to make the California trip.

CALIFORNIA LEMONS vs SICILY.

In its lemon stories from week to week the News has told how the trade could not understand the present low prices of Sicily lemons, when, according to all conditions of weather and supply, prices should be high. Various causes have been given, from the financial depression to the large crop in California, either of which has its effect. In this connection, there is no question but what the California fruit is fast supplanting the Sicily in the interior trade, and this also has its bearings on the slack demand for Sicily fruit and consequent low prices compared with former years. A couple of years ago the News sent letters to dealers in various sections asking them if they were handling as many foreign lemons as in past years, and if not, why not. Numerous replies were received and nearly all stated that the quantities of foreign lemons they were handling were small in comparison to what they had in former years. They gave the main reason that the California lemons were more honestly packed and could be depended on to be the same size from top to bottom of the boxes, which could not be said of the foreign fruit. For this reason their orders for foreign lemons were decreasing and their trade preferred the California fruit. Monday the Journal of Commerce printed the following on the subject, under the heading, "California vs. Sicily:"

"Is California slowly but surely driving foreign lemons out of the American market? This might appear at first glance an absurd question in view of the fact that Sicily lemons are steadily pouring into this market and being absorbed as fast as imported, but when the prices are considered and the fact is reviewed that lemon importers are known to be frequent losers in their transactions, it appears worth studying."—Chicago Produce News.

EAT CALIFORNIA SUNSHINE.

To encourage a more general use of California products throughout the world, and as a part of the broad campaign which the California Promotion Committee has instituted along these lines, the committee will address a letter to the handlers of California fruit, the packers, driers, canners, exchanges, etc., suggesting that there be included in every package of fruit that is shipped to market an attractive lithographed display card to be placed in the show windows of the dealers. The suggestion is that the lithographs be unique and catchy and say something not only about the fruit itself but about the places where the fruit is grown. In this way not only the product but the entire state will be advertised, and it will be but natural for the consumer to long for an opportunity to see with his own eyes the land that is the home of the Lucullan products of which he has become so fond for which he will accept no substitute.

It is reported that one dealer in the East increased his fruit sales five hundred per cent by some judicious displays, and away from Bristol, England, Consul J. Perry Worden has written that a catchy phrase placarded in connection with California seedless oranges, which were labeled "The Aristocrat of the Orange World," nearly doubled the sale of California oranges in that city. It has been suggested that the following advice would, properly presented, bring desired results: "You may not be able to live in California but you can get some of its sunshine into your blood by eating one of its luscious oranges."

Handsome, framed photographs of California scenes will be used in the campaign and will be instrumental to supplement and enhance the value of the placards. According to the Committee, the field for this work is a wide one, especially for the reason that so many products are distinctly and exclusively Californian, and, in all advertising the unique features will lend force to the displays.

SAMSON WIND MILLS
Have double gears, removable bearings and center lift, which double the life of the mill. They will last longer, pump more water and give better satisfaction than any other WIND MILL.

This is an up-to-date Sub-structure, Tank and Wind Mill outfit complete; substantial, economical and attractive. We build all kinds. Write us or our general agents for full information and prices, description &c., before purchasing.

The STOVER MFG. CO.
FREEPORT - ILLINOIS
30 California Avenue
CRANE CO., LOS ANGELES and SAN FRANCISCO
General Agents for California

Citrus Trees
TRUE TO NAME
And embracing all the standard sorts, are to be had of our establishment. Bear in mind that we are the largest growers of Citrus Trees in the world, and that our stock has been awarded the gold medal at every world's fair in the world where we have shown. Our fine booklet, containing 50,000 words and over 100 illustrations, gives you all the points on Citrus Culture. Price 25 cents. Can we send you a copy?
San Dimas Citrus Nurseries
San Dimas Cal
R. M. Teague, Prop.

EDISON PHONOGRAPHS, VICTORS, ZONOPHONES
Records and Supplies, delivered at your nearest railroad station upon receipt of full retail price. Write for particulars and ask for catalogue. Peter Bacigalupi & Sons, 1113-15 Fillmore St. San Francisco

The Torrens Land Title System

The following communication is handed the Cultivator by Mr. Edgar Leavitt of Glendale, and it has much information regarding a system which was orlginally intended to be of great benefit to land holders, but the real benefits of which were killed by the lobby which succeeded in getting riders fastened on the original bill until it has been made so cumbersome and expensive that it is of no practical value. We are glad to give place for it and hope it will cause a discussion which may lead to a more practical form of this law.

Present Charges Too High.

It has long been felt by those who had to make land transfers that the charges one has to bear, to give or acquire assurance of a sound title in this state, were needlessly expensive and too grievous to be borne. Therefore the California legislature was induced some years ago (Stats. 1897, 138, Ch. CX) to give us the "Torrens Land System," from Australia, where, as well as in Canada, it has been for many years in successful operation. Yet very few people in California have availed themselves of its provisions, and comparatively few, probably, even know of its existence.

The reason is twofold: 1st, because of those who may have known there is such a law, few cared to be the first to try an experiment with a new law which had not been tested by a supreme court decision, and which bankers and other persons of standing more or less directly or indirectly interested in the abstract companies naturally would not approve.

Second, because in the above interests it would seem as if the law has been purposely made so complicated and so expensive in its procedure as to be almost prohibitive.

Since the San Francisco fire, however, I understand that certain landowners in that city have brought their lands under the new system; not, however, until they had been compelled to mandamus a superior judge to make him do what the law requires him to do; but obtaining thereby a decision from our supreme court upholding the constitutionality of the law, establishing the Torrens System in every particular (1765 Cal. 40.)

So the first obstacle has been removed. The second, however, still remains.

How It is Done.

To bring land under "the Torrens System" it is necessary (1st) to begin a regular suit in the superior court, same as any other suit; and, second, to present with your petition, not merely a certificate of title from some abstract company, however good, but a full abtsract of title from a responsible company, which will cost a good many times as much as a certificate. Of course in this suit it is necessary (3d) to employ an attorney who must have his fee commensurate with the value of the property concerned and with the work to be done. Fourth, the court may itself decide, or in its discretion, appoint a referee to examine your abstract, no matter how responsible the company may be that made it. This examiner must be an attorney and you must pay him a fee for his opinion; and unless he reports favorably, or the court decides favorably, regarding your abstract, on its own motion your suit will be dismissed without even coming to a hearing. But if you get through all right so far, the court will then order a hearing, after which, if no evidence has successfully impeached your claim, you will get a decree containing a statement of the condition of your title and a diagram of the property, and if this decree is not appealed from within the regular time, it becomes final and conclusive against the world.

You then get a certified copy of the decree and file it with the registrar (county recorder) who issues a certificate in duplicate showing the condition of your title. If you lose your certificate you have to get an order from the court for the registrar (recorder) to give you another one—so don't lose it. When you sell your land you get the registrar (recorder) to issue to the buyer a certificate showing the state of the title in him. The registrar notes upon the record which he keeps in a special book every transaction affecting in any way the title to the land; so it is always down to date.

Insures Title.

Land once registered under the "Torrens System" can never be lost (as now in five years) through adverse possession. Present forms of deeds, mortgages, etc., may still be used, but this simpler way of transfer, mortgage, etc., is just as valid. You merely write on the back of your certificate "I, John Smith, grant (mortgage, lease, etc.) to William Jones, the real property described in this certificate. Witness my hand this—day of—19—. John Smith." Then acknowledged the same as a deed.

The fees of the registrar are very reasonable. Issuing certificate of title and one duplicate, $1.50; each additional duplicate, 50 cents; registering transfer, including issuing and registering new certificate, $1.50; memorial of filing lien, etc., $1.00; canceling a memorial or a change, 25 cents; certificate showing condition of the register, $1.50.

Simple Transfers.

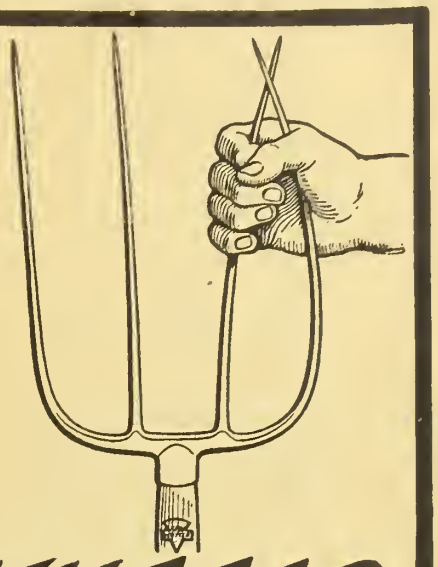
It will be seen at once how immensely simplified the keeping track of the title becomes under the "Torrens System," and how inexpensive the giving assurance of a good title, as compared with the present system. It would seem that land once brought under the" Torrens System" should have a greater selling value because of great saving effected on its transfers, not only in the near future, but for all time to come. Yet, perhaps, each holder may think it is of no account to him whether a transfer is expensive or not when the land has once passed out of his hands.

Make It Practical

It would seem that the law ought to be improved so as to make the bringing of land under its provisions less complicated and less expensive, at least by letting a certificate from a responsible abstract company suffice instead of requiring a full abstract, and then holding the abstract company responsible without requiring a re-examination, except in disputed cases. But even as the law is, those whose claim of title from the United States patent is not too long so as to make the required abstract of title too expensive, may well consider whether it is not worth while to be at the necessary trouble and expense to bring their lands under the provisions of the "Torrens System."

And it must be that the time will come when land owners and lot owners will begin to ask our candidates to the legislature why, if we must have abstract offices, they should not be owned and operated by and for the benefit of the county the same as other county offices that meet a public necessity?—Edgar Leavitt, Glendale, Cal.

The Temper of a Fork



Try the temper of a Keen Kutter Fork—spring it, twist it, pry with it. After you've *tried* it you'll be willing to *work* with it.

KEEN KUTTER

E. C. SIMMONS KEEN KUTTER TRADE ST. LOUIS MARK U.S.A.

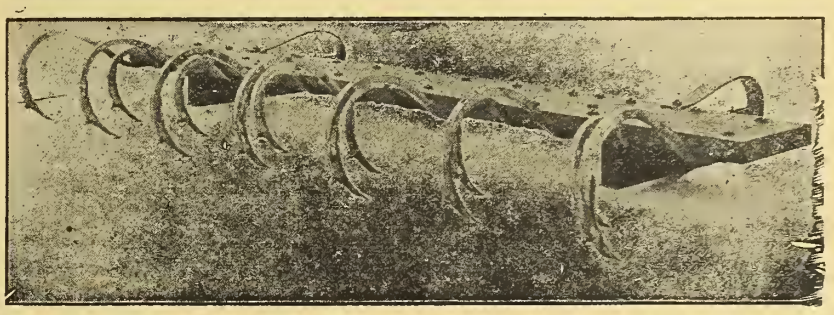
farm tools *don't break*—each has a fine oil temper which makes it withstand strain and keep a good edge or point. The Keen Kutter trade-mark covers Forks, Hoes, Rakes, Scythes, etc. as well as all bench tools—Axes, Hammers, Saws, Planes, Adzes, Chisels, Augers, Bits, Braces, Gimlets, Bevels, Squares, Drawknives, Gouges, etc.

If not with your dealer, write us.

"The Recollection of Quality Remains Long After the Price is Forgotten."—E. C. Simmons.
Trade Mark Registered.

SIMMONS HARDWARE COMPANY (Inc.), St. Louis and New York, U. S. A.

WILLIAMS' GOOSE-NECK CULTIVATOR



Especially adapted for citrus orchards. Sizes 8 to 14 feet. Lightest draft. Free trial to responsible parties. No agents. You pay only one profit. Write today

WILLIAMS & SON, Manufacturers
Orange, California

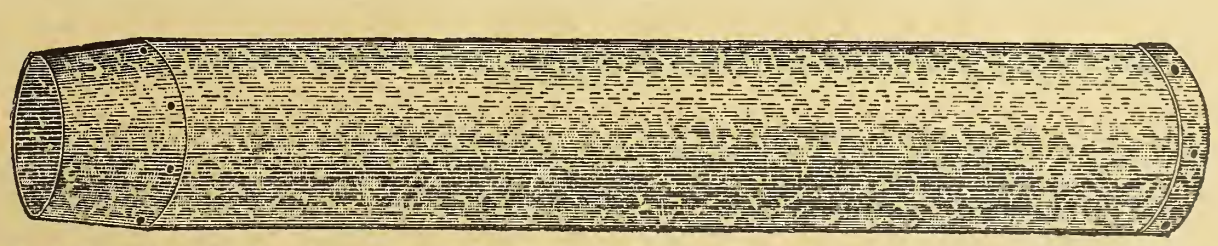
TENTS

Fumigating and Lemon Curing Tents our Specialties

Irrigating Hose. all sizes. Prices and Samples quoted upon application. Write your wants Wagon Covers, Hay Covers, and Canvas Covers of Every Description.

Mellus Bros. & Co

Phones—Home, F 4871; S. S, Main 3500
250 East Fifth St., Los Angeles, Cal.



AMERICAN SURFACE IRRIGATION PIPE

SAVES WATER, GRADING AND TIME

The **only** way to **irrigate Alfalfa. Cheaper** than **Flumes.** This is only **one** of our **specialties.** We make **Riveted Water Pipe** in lengths of **ten feet** from **single sheets.** Let us **prove** to you that we make **Pipe** and **Tanks right.** WRITE FOR CATALOGUE.

AMERICAN STEEL PIPE & TANK COMPANY
FORMERLY TALLERDAY MANUFACTURING COMPANY

636-7 Pacific Electric Building **Los Angeles, Cal**

Nitrate of Soda

Nitrate Sold in Original Bags

NITRATE AGENCIES CO.

64 Stone Street, New York
140 Dearborn Street, Chicago, Ill.
Keyser Building, Baltimore, Md.
36 Bay Street, East, Savannah, Ga.
305 Baronne Street, New Orleans, La.
Holcombe & Co., 50 Clay Street, San Francisco, Cal.

Address Office Nearest You

Orders for All Quantities Promptly Filled—Write for Quotations

Peckham Says—

Try Farming in Kings County

Where "failure" is an unknown word; where every intelligent effort is rewarded by nature's greatest gift—a bountiful harvest. We are selling land in the richest section of Kings county, adjoining the new town of Corcoran, in

20, 40 and 80 Acre Tracts

with abundance of water, with every acre guaranteed.

One crop of sugar beets will nearly pay for the land. Wheat, barley, oats, alfalfa or grapes will do nearly as well. New $1,000,000 beet sugar factory now building at Corcoran. Thousands of acres coming under cultivation. Capital investing heavily. Values increasing rapidly. GREATER RETURNS WITH LESS LABOR THAN IN ANY OTHER PART OF THE COUNTRY. A fortune in DAIRYING. LAND NOW IS cheap. We sell on easy terms. Only one-quarter cash. Call or write for "Profitable Realty," which tells the whole story.

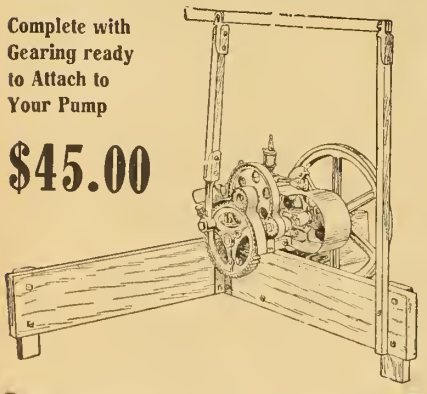
George C. Peckham & Company

203-4-5-6 Union Trust Bldg., Corner Fourth and Spring Sts.
Phones: Main 3221, F5392.

Aermotor Gasoline Engine

Complete with Gearing ready to Attach to Your Pump

$45.00



Will pump all the time, wind or no wind, and deliver as much water as an 8 ft. Aermotor in a good wind.

From 225 to 1600 gallons per hour, depending on height water is to be raised.

Air cooled, uses Gasoline or Distillate.

A reliable, durable engine at a very low price. Can You Afford to be without one.

Send for Special Circular.

Tanks Towers Pumps Distillate Engines

Smith-Booth-Usher Co

Machinery and Supplies

Successors to
S. J. Smith Machinery Co. and L. Booth & Sons
212-214 S. Los Angeles St., Los Angeles
Home, Ex. 1090—Sunset, Main 1090

Deciduous Fruit Culture

SUGGESTS METHOD OF FIGHTING THRIPS.

Prof. E. H. Twight of Berkeley has written the following regarding a possible method of handling the ever troublesome thrips:

The enormous damage caused by the thrips to the orchards of the Bay counties and probably to many other districts of the state during the last few years has attracted the attention of all those interested in the fruit industry, and as a result the United States Department of Agriculture, the State Agricultural Experiment Station and the various county entomologists have been in the field trying to cope with the pest. It seems, however, so far that little success has been met in checking the increasing damage of the thrips.

Dudley Moulton, the expert in charge of the United States Department of Agriculture work in Santa Clara Valley, in Bulletin 68 of the Bureau of Entomology, explains that several of the contact sprays can kill the thrips but that these insecticides have not been successfully applied, as they cannot be used without injury to the tender buds and blossoms. A few days after an apparent successful spraying on a given area the thrips appear to be as plentiful as before the spraying was done. The same objections are made also against the spraying against the larvae.

The writer has suggested, however, that the best time to reach the thrips would be while they are in the ground during the second larval stage. The larvae or the pupae seem to be in the ground from early summer until following spring, and there ought to be little trouble in destroying them in the ground during that stage.

When phylloxera first started its destructive work in France the government and railroads took up the fight and it was soon found that under favorable conditions the phylloxera could be killed in the ground by the proper use of carbon bisulphide or of potassium sulfocarbonate. Some very careful investigations were made at the time (1872) and absolutely reliable reports on the proper methods of application, quantities to be used according to soil conditions, are at hand, which ought to be very valuable in fighting the thrips.

In the case of the phylloxera, the bisulfide treatment was not altogether a success because the insect can often be found several feet below ground under the old bark or crevices of the roots, where it is extremely hard to reach; the bisulfide has also to be injected fairly deep to do the work. In the case of the thrips, however, we are told in the bulletin above referred to that the larvae "goes down three to ten inches, the usual depth being about four inches." It seems that there ought to be no trouble to reach them under these circumstances.

The object of these remarks is to give some information regarding the methods of application and amounts used in the treatment of soils against phylloxera; these amounts have been found safe when applied during the dormant season. As the treatment against the thrips would be superficial these amounts could probably be reduced.

The best time for the application of bisulfide would be a few days after the first rain in the fall. If the soil is too dry, the fumes escape too readily; if the soil is too wet, the fumes do not diffuse properly and are apt to accumulate in pockets and kill some roots.

A loam is the best soil to work with, as the diffusion of the gas can take place easier and more regularly. A compact soil is very hard to treat, as the gases will not travel through it. A gravelly soil must be handled with care, so as to insure an even distribution of the insecticide.

The soil must not be cultivated before treatment, as packed surface is needed to prevent the escape of the gas.

The application could be practically and quickly made by using an "injecting plow." This consists in a subsoiler that can be regulated to the proper depth. Back of the coulter is a pipe through which the bisulfide is injected by means of a measuring force pump. A small reservoir on the frame contains the bisulfide to be used. In the work against the thrips there would be no need of a subsoiler. A cultivator with teeth three feet apart, to cover the space between two rows of trees would be sufficient, since the bisulfide would be applied about six inches below the surface. The teeth of this cultivator would have to be made more like those of a subsoiler, so as to disturb the ground as little as possible, and the instrument would have to be followed by a roller.

In the phylloxera treatments between 150 and 300 pounds to the acre have been used by the writer, according to the instructions of the French government. However, it is probable that 100 to 150 pounds per acre would be sufficient against the thrips.

The sulfocarbonate of potassium used for some years extensively was found too expensive, and meant the transportation of large amounts of water to put this salt into solution. It would probably be too expensive to be used in California.

As carbon of bisulfide is manufactured in large quantities in California and can be bought at reasonable figures, it is hoped that its use may be found practical in checking the ravages of the thrips. There is no mechanical difficulty in manufacturing the proper apparatus for the application of this treatment, if it is found effective.

DESIRABLE VARIETIES OF EASTERN GRAPES.

There is a good demand for a limited quantity of Eastern grapes of the Concord type, and with proper care they may be raised in nearly all parts of California. They have not proved a success in the Imperial Valley on account of the hot sun. One of the finest grape arbors we ever saw is growing at the Otis ranch at Pomona. The entire area of the arbor, about 12x29 feet, was excavated to a depth of three or four feet; a load of beef heads secured at the slaughter house was dumped in, a little soil on top of this then a wagonload of manure and then filled to the top with good soil. This seemed to be a great deal of labor for a half-dozen grape vines, but three Niagara and three Concord cuttings planted around the border produced between 600 and 700 pounds of fruit the second season. The grapes were of extra fine size and flavor, giving off an aroma that permeated the atmosphere for some distance.

Agawam and Lindley are excellent varieties of the Eastern type of grapes. The former has a pink color like the Catawba, but is a finer grape, an abundant bearer, and has good flavor. Grown on a trellis, there seems to be no limit to its bearing capacity. It is a medium early variety and in favorable localities should prove a profitable variety.

Crimson Winter Rhubarb and **Berry Plants**

Our Specialty

1000 choice Navel Oranges, together with a few other Citrus Trees. April and May are best months to plant Rhubarb for heavy Crops next winter. It has never been equalled as a money maker. $1.50 per dozen, $6 per 100, $40 per 1000. Pedigreed plants.

J. B Wagner

The Berry and Rhubarb Specialist Pasadena, California

CALL A HALT.

The Watsonville Pajaronian again desires to ask the apple growers, packers and shippers of what avail even lower freight rates on apples to eastern points will be unless the shipping from here of green and undersized fruit at this early period for Bellefleurs and Newton Pippins is stopped. Quality, size and pack should be the slogan of every person connected with the apple business in this valley, and it is up to the growers and packers to make it so. Now is the time to act in the matter. There should not be one minute lost. Green, undersized fruit is being shipped out from here daily and will continue for several weeks unless checked. The marketing of such fruit is bound to have a bad effect and as a result every grower and packer will suffer therefrom in the long run.

The Pajaro Valley Packers' Association, recently organized, includes in its membership almost all the brokers and packers, and we believe that that association should at once take up this matter and see that a stop is put to this decidedly wrongful method of the too early marketing of green and undersized apples.

The apple industy is the leader of leaders in the Parjaro valley. It is at present the big mainstay of the success and prosperity, either directly or indirectly, of almost every other business enterprise in our midst. The present year the apple crop is a large one and the quality of the fruit promises to be better than for several years past. We are all interested in seeing good returns derived for this year's crop and nothing done that will have a tendency to take away from the Pajaro valley its reputation of being the best and most productive apple district in the world, and a correct solution of the matter right at present lies within the power of the packers and shippers.—Pajaronian.

HANDLING THE APPLE CROP.

J. H. Hale, South Glasstonbury, Ct., gave a very able address upon the subject of "Handling the Apple Orchard." Mr. Hale said the apple was the standard of all fruit. The early planting of apples was for drink and not for food, but today the apple is grown principally for its food value. The American people are fast coming to appreciate its value for food, and today fifty times more fruit is being consumed than in former years. The market today is demanding the highest quality of fruit, and is willing to pay a premiuum for choice goods. Size, uniformity and color are three essential requisites in high quality of fruit. Mr. Hale does not think that the old orchards found upon the farms today can from any method of pruning or tillage be made to produce a high quality of fruit. The tree must be trained for its special purpose in order to get best results. "I think," said Mr. Hale, "a far larger portion of old orchards could be made to produce far better fruit were they given proper care and cultivation. Low trees are very desirable; with them expense is reduced and cultivation can be better conducted. In seclecting a site for a fruit orchard, select rolling land and not low, cold soil. Tillage should ever be the watchword of the orchardist.

Escondido made great preparations for its grape day on September 9, having special excursion rates from all sections, and taking all visitors to the vineyards where they were permitted to have their fill of grapes.

"LEST WE FORGET."

In a recent number of the Rural Californian appears an article headed "Lest We Forget," the apparent purpose being to attack the character of a dead man, B. M. Lelong, secretary of the old State Board of Horticulture.

"His administration," the article states, "in the years of 1890 and '91, up to the time of its abolishment, was open to severe criticism, not only by a large number of growers, but also from outside sources." The article further states, "It is a matter of horticultural note that the old Horticultural Commission, under the Lelong regime, was tinctured with politics. Indeed the secretary and chief officer was a charlatan in scientific investigation and a buccaneer in the realm of horticultural literature. It is no exaggeration to state that the Board's publications at that time were the laughing stock of intelligent fruit growers and of studious minds the world over."

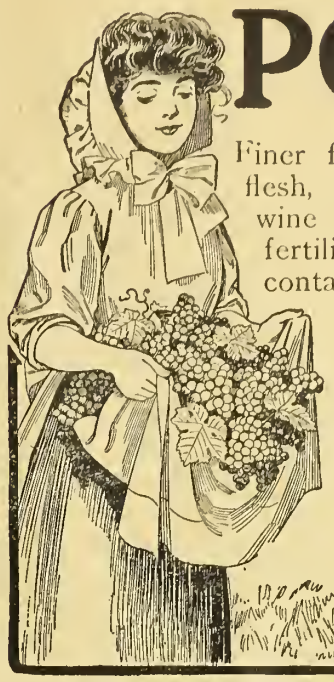
Such an unjust attack, especially upon the character of a dead man, seldom comes under the observation of the public; for what purpose such an attack was written is inconceivable. If it was the design of the author to wound the feelings of friends of Lelong there can be no question of his success; if to gain some good, his failure is complete. The shafts of malice cannot affect Lelong but who can tell how deeply they may not penetrate the hearts of his friends, or how painfully they may not lacerate the heart of his widow and that of his son.

Probably it is true at the time that the old State Board of Horticulture was in existence politics figured to a greater or less extent. It is also probably true that a political machine, as it is commonly called, figures more or less today. If it was the purpose of the writer to attack by indirect methods the political influence so prominent in state and county affairs it was unnecessary to use a corpse as a shield. There are plenty of live lions to attack and the errors of the present are much more necessary to correct that to delve in the graveyard of the past.—S. A. Connor, Los Angeles.

CHERRY HISTORY

It is still asserted in school books that cherries were introduced to this country by the "fruiterer" or green grocer of Henry VIII; also that they were not common for a hundred years after that time. This is an error. Mr. Thomas Wright found the name in every one of the Anglo-Saxon vocabularies which he edited. So common were they, and so highly esteemed, that the time for gathering them became a recognized festival —"Cherry fair" or "feast." And this grew into a proverbial expression for fleeting joys. Gower says the friars taught that "life is but a cherry-fayre," and Hope "endureth but a throwe, right as it were a cherry-feste." There is more than one record of the purchase of trees for the king's garden at Westminster, centuries before Henry VIII. was born. But Pliny contradicted the fable, as if in prophetic mood. After telling that Lucullus first brought cherries to Rome, (from Pontus in 680 A. U. C.) he adds that in the course of a hundred and twenty years they have spread widely, "even passing over sea to Britian." —"Cornhill Magazine."

Visalia prunes will be about one third of a crop.



POTASH

Finer flavor, better color, and firmer flesh, whether for shipping or for the wine press, is secured for the grapes fertilized with a commercial fertilizer containing not less than 10% of Potash.

Grapes

will quickly exhaust even the richest soil—a vineyard situation exactly met by Potash.

Send for our FREE BOOKS on cultivation and fertilization—prepared by experts and invaluable to every farmer and vineyardist.

GERMAN KALI WORKS
93 Nassau St., New York

Meyer, Wilson & Co., San Francisco, Cal., are Sole Agents for the Pacific Coast

A Unique Specimen of Ginseng

GINSENG

You can grow this root, and we can tell you just how to do it. A small Ginseng Garden established and maintained with a limited outlay of money and labor will yield from its

CULTURE

A good income, and from its own natural increase will, in a few years, represent the handsome sum of $20,000. This is what an acre is worth. We have been

SUCCESSFUL

Growing Ginseng on California soil, and can show you that it is the most profitable intensive crop to which you can give your attention

IN CALIFORNIA

A postal will bring you our booklet containing complete and reliable information concerning the nature, culture, value and profitableness of Ginseng. Address

LILYDALE GINSENG GARDENS
SANTA CRUZ, CAL.

Placer Nurseries

We have now growing for next season's delivery a large stock of all leading varieties of trees and vines. We propagate only the best commercial sorts. Our trees and vines are the best that good care can produce and in their selection, propagation and growing we spare no labor or expense; and they are true to name. That is what you want.

Contract now the trees and vines you will want for next season's planting.

Write us.

Silva & Bergtholdt Company

Newcastle, California

TREE TANGLEFOOT

A Sticky Preparation Applied Directly to the Bark of the Trees

Will not injure trees. A band 5 inches wide and 1-16-inch thick cannot be crossed by any climbing insect pest. Remains sticky five to ten times as long as any other known substance. You can test it at slight expense, as no apparatus is required. Used by the carload in New England against the Gypsy and Brown-Tail Moths. In California it preserves prune orchards from the Canker Worm Wherever the Gypsy or Brown-tail Moths, Tussock Moths fall or Spring Canker Worm or Web Worm appear TREE TANGLEFOOT is of great value, and should be used when the caterpillars begin to crawl while they are very young.

Price 25c per lb. Liberal discount on quantities. The only safe and effective banding preparation. Send for testimonials.

THE O. & W. THUM COMPANY

Manufacturers of Tanglefoot Fly Paper — Grand Rapids, Michigan

For several days clouds have hung along the mountains of Southern California and enough rain to do some slight damage has fallen.

Walnut blight being so generally absent from the walnut groves this year it is hoped a fairly good walnut crop will be harvested.

EUCALYPTUS SEED

Eucalyptus rostrata, the Red Gum
E. corynocalyx, the Sugar Gum
E. tereticornis, the Forest Red Gum
E. globulus, the Blue Gum
E. citriodora, Lemon-Scented Gum
E. cornuta, the Yate Tree
E. polyanthema, the Red Box
E. leucoxylon, Victorian Iron Bark

and Many Other Valuable Sorts

I shall be pleased to correspond with prospective buyers and give particulars as to prices on the seeds I am offering. Trial packets of any variety 15c each, 2 for 25c, or twelve for $1.25. Also young trees of many varieties for sale. Send for circular and cultural directions.

THEODORE PAYNE
NURSERYMAN AND SEEDSMAN
Home Phone A2480
345 S. MAIN ST., LOS ANGELES

Eucalyptus

We have made a specialty of eucalyptus for the past ten years. We are no mushroom concern. We are prepared to accept contracts for raising eucalyptus for next season's planting. Take advantage of our **Low Prices on Contracts. Do It Now.** Twenty of the leading varieties to be seen at our nursery.

Saint & Warner
Sycamore Grove Nurseries
4584 PASADENA AVE., LOS ANGELES

Eucalyptus Expert Returned

Mr. R. S. Webb has just returned from Australia with an abundant supply of seeds of the various Eucalypts, together with practical information from the forests, the mills, and the manufacturies of Australia. He is now in charge of the Eucalyptus nurseries of

Johnson & Musser Seed Co.
113 N. Main St. Los Angeles, Cal.

GERMAIN SEED CO.

326-330 So. Main St.
Los Angeles, Cal.

Headquarters for Eucalyptus, all varieties, both in seed and plants. Write for catalogue and cultural directions. They are FREE.

For the Season of 1908-09

We Shall Have to Offer

Pedigreed Fruit Trees

SEVERAL NEW FRUITS AND NUTS OF IMMENSE VALUE TO CALIFORNIA

Eucalyptus Trees

BY THE 1000 OR 100,000
NO BETTER STOCK GROWN

Please send us your name and address, and you will get all particulars.

Leonard Coates Nursery Co. Inc.
Morganhill, Santa Clara Co., Cal.

SEED GRAIN

Black and Red Oats, Wheat, Barley, Bean Screenings, Etc.
constantly on hand and for sale at lowest market rates

Bray Brothers Buyers of Grain and Beans Members Merchants Exc.
220 Clay St., San Francisco, Cal.
Established in 1855. Correspondence Invited.

Colusa county farmers will put in 4000 acres of flax the coming season.

Irrigation and Forestry

IRRIGATION IN CALIFORNIA.

Continued From Page 267

Among the greater dangers due to the water comes that from the use of too much water. Over irrigation causes root and gum diseases in lemon and orange trees, drowning of trees, injury to quality of the fruit, a raising of the water level too near the surface of the ground, and in many instances trees have been known to be killed outright by over irrigation.

Injuries due to lack of drainage are of the greatest importance. Water allowed to stand too long in orchards not properly drained causes the leaves to turn yellow, sometimes the death of the trees themselves, and the souring of the soil, which quickly promotes gum and root disease.

It is often the case that many of the injuries now attributed to irrigation are not caused by irrigation but the lack of cultivation after irrigation. Every irrigation should be followed by a deep and thorough cultivation or else the soil will become baked, hard and lifeless.

Great care should be exercised in summer irrigation or else much damage will result. In no case should orchards be flooded during the hot summer months, as water allowed to stand around the trees when the temperature is high will cause scalding of the roots, cracking and blistering of the bark, and sun-burning of the fruit due to reflection of the sun's rays from the water.

The greatest care should attend the use of water during the ripening of the fruits. It has been found that the flavor and quality may be damaged, and fruits made watery and subject to early decay if too much water be applied during the ripening season. Again some fruits will not ripen at all if too much water is present. This is especially true of grapes.

When?

When should water be applied? This is a question somewhat hard to answer. But in every case irrigation should be in advance of any want of water by the tree or crop. One must study the tree or crop and know about it from start to finish. A number of considerations must be made before one can safely advise as to the time of irrigation. When water should be applied depends entirely upon the nature of the soil, rainfall and climatic condition, the nature of the crop, and the ripening season.

Throughout warm and arid regions where the soil is of sufficient depth for great retentiveness and where the winter rainfall is not as copious as wished, heavy winter irrigation followed by deep and thorough summer cultivation produces excellent results. While the deciduous trees are dormant any amount of water may be safely applied on all soils except the clays.

Summer irrigation is resorted to in arid regions to keep up the early spring growth and insure the proper development and ripening of the fruit. Again, summer irrigation may be practiced effectively after the picking of the fruit to insure growth and enough to produce and fill the fruit buds for the year following.

Fall irrigation is a success in regions where the rainfall is short. In such a case there would be excessive drying of the tissues and bark of the tree. Again, it often occurs that trees becoming dormant early may produce an undesirable fall bloom. Both these dangers can be averted by irrigation.

Method.

A question that has been warmly debated by irrigators in all seriousness is the question of whether irrigation by flowing water is as good as that of falling water—rainfall. Rainfall districts arrayed themselves against irrigated districts and the war was on. Experience gained during the past decade has settled the question beyond the shade of a doubt that it makes no difference whether irrigating water fall or flow.

The development and utilization of water for irrigation has taken a very prominent place in our industrial activity and has called into the field captains of industry with their millions, and also the latest and most approved engineering skill. The development of water is one of the most important factors of the day, and the individual or corporation that successfully develops large and unlimited quantities of water have in their hands the prosperity and progress of the state.

Sources.

There are four general methods for developing water. First, the diversion from streams; second, pumping from streams and lakes; third, development from overflow; fourth, pumping from wells.

The earliest attempts at irrigation consisted in diverting a small stream from the main stream. This was done by placing a cheap and temporary obstruction in the main stream and the water thus diverted led off by a side ditch to the land at no great distance away.

In situations where large streams or lakes lie adjacent to fertile lands, but at an elevation lower than the land to be irrigated, pumping is resorted to. Current wheels, horse-power, steam and gasoline pumps are all available in the placing of such water upon the land.

The third method, the development of the overflow, is practiced in regions of semi-arid character and where the land of the country consists of rock, gravel and sand, through which large quantities of water sink very rapidly. Streams flowing through such a country can be made to yield much more water by throwing a water-tight dam across their course and thus causing the water to rise. This has been done in a large number of cases and increased irrigation facilities to a high degree. The success of the method depends entirely upon the character of the soil lying underneath the bed of the stream. It must be a good water carrying medium.

The last method and one widely used is that of sinking deep wells into water bearing strata and pumping from the same. Throughout California during the last eight years more pumping plants of this nature have been installed than during the whole history of irrigation in the state. In this way many regions that could not be irrigated in any other way were made

NEW GROWTH ON MOUNTAIN SIDES.

fertile and highly productive by waters pumped from wells. The cost of construction of plants depends upon the depth of water, distance to be pumped and the amount available. Steam, electricity and the gasoline engine all rival to furnish the motive power. At present the gasoline engine leads in cheapness of construction and cost of operation.

Canals and Pipe Lines.

We shall now consider modes of conveyance of the water from the streams and the pumping plants. From the standpoint of cheapness the open ditch stands first. But this method is wasteful of water through evaporation and seepage. Land also is wasted and rendered useless. Weeds are a constant menace along the banks of the ditch and give their seeds to the water to be spread upon the land. Loss of water can be remedied somewhat, by paving the banks with stones, but this renders the land unfit for cultivation after the irrigation season. By far the best methods of bringing the water to the land are by conveyance through round tile, cement pipe, or riveted steel pipe, sunk below the surface of the ground at a depth allowing for deep plowing. By these methods water can be carried over both even and uneven ground with the least possible trouble, and in the long run, expense.

Getting the Land Ready.

We have now acquainted ourselves with the development and bringing of the water to the land. Now the preparation of the land for its reception must occupy our attention.

After the vegetation and stones have been removed the land must be made as level as possible. A carefully leveled and smoothed field saves time in applying water, improves the crops, insures a great equality of moisture throughout, and greatly reduces the cost of harvesting. Heavy scrapers. rollers and land levelers operated by big teams are used in the leveling process. The cost runs from one dollar to fifteen dollars, varying with the topography of the region.

Systems.

There are three systems of irrigation, surface, sub and inter-irrigation. Surface irrigation applies the water either by flooding large areas, in basins around the trees, in small furrows running close together and parallel, or in larger furrows, much wider apart.

Sub-irrigation, as the term implies, applies the water below the surface through a system of underground pipes having outlets at equal distances apart. The difficulty thus far has been in preventing the pipes from breaking and becoming clogged up by the ingrowth of roots. Cement pipe has failed to furnish good results as a means of conveyance.

The third system, inter-irrigation, consists in distributing the water above ground, but allowing it to go below by means of holes some six or eight inches in diameter and from ten to thirty inches deep at distances of from eight to thirty feet apart. The holes are dug in line between the tree rows and kept filled with water during the period of irrigation by a stream running from one hole to another. The objections to this system are mainly two. First, it requires a large amount of water and the process is slow. Second, it leaves the orchard filled with deep holes and ditches, and renders cultivation difficult and somewhat dangerous.

Surface Method Best.

Methods of application of water vary with the amount of available water, the nature of the soil, topography of the field, kind of crops, etc., so that in deciding on what is the best method the attendant circumstances and conditions must be carefully studied. A few points most necessary to consider are the distribution of the water so that the land will be moistened equally throughout at the greatest possible depth, the economy of time and labor, the economy of water, prevention of waste, and the leaving of the land in the best possible condition after irrigation. The method that meets these considerations will be the one that is most desirable. Half a century of irrigation experience has proven that surface irrigation in its varied forms has produced the best results.

The first method under this system is flooding. It is the most rapid of all methods. A large body of water is allowed to spread freely and rapidly over the soil. The results are not good, for at best the ground is only partly soaked, mud holes and dry places make up much of the field after irrigation. Its only redeeming features are cheapness and speed. It is very disagreeable in that it requires the operator to work in the water, and he is obliged to use all his strength in trying to get the water over the entire surface, and this he fails to do.

The check method is a great improvement over flooding. Before the water is turned in, the field is lined up in checks, and the movement of the water confined to these checked areas; thus a more equal distribution of water is assured. By this method the irrigator knows that a given amount of water has been applied to each area, the water can be quickly spread throughout the field and easily held in control, and leaves the land surface in a better condition for cultivation. The above methods are feasible only where the fields or orchards are comparatively level.

The basin method necessitates the digging of large basins around the bodies of trees and has been used effectively in the irrigation of trees planted on hillsides too steep for other methods of irrigation. It requires only a small stream for operation. Its chief advantage is in the irrigation of small trees. It requires constant attention, and is expensive from the standpoint of labor. The objections offered are that this system is expensive, as it requires a large amount of labor to construct the basins. Second, in allowing the water to stand around the trees, root and gum diseases are caused, and in time a hardpan is developed. The land surface after irrigation is not left in a very good condition for cultivation.

A better method than any of the above is the deep furrow system. This consists of having one or more large furrows running lengthwise between the rows in the orchard. The water is turned into each furrow and allowed to work its way slowly down through the orchard. This system works well only on very level ground, where seepage is quite rapid in all directions from the large furrows. It requires a large volume of water. The land is not left in the most desirable condition for cultivation, although the cost of operation is smaller than any method yet discussed.

By far the most popular, practical and best method of irrigation in California is the small furrow system. It works equally well if managed right in most every locality. The orchard is furrowed off into small furrows about six to eight inches deep. The furrows run parallel through the orchard and are placed close together, bank to bank. Each furrow contains a little rill of water which percolates down through the furrow very slowly and proceeds with extreme slowness along the course. The water at the head is equally divided and distributed to each furrow by means of small half-inch holes bored in the containing flume. These openings are made larger and smaller by means of a small metal gate. The water thus equally divided into tiny streams, is allowed to work its way down the orchard with such slowness that a week or ten days is required for the water to reach the ends of the rows. At the end of this time the orchard is thoroughly soaked and the moisture equally distributed in a most satisfactory way. Some of the advantages of this system are that it soaks the ground completely preparation of the ground for this method is not expensive, as it can be done by teams, water is not allowed around the body of the trees and causing root and gum diseases, the distribution is automatic and requires the least attention, and leaves the land in the best possible condition for cultivation after irrigation.

Cultivation.

At the close of every irrigation the ground should be cultivated deeply both ways and the surface left in a smooth condition. The ground should be cultivated at least every two weeks during the summer irrigation period. Experience drawn from the Limoniera Ranch in Ventura county has proven that irrigated ground cannot be cultivated too much; especially is this true in lemon culture. All irrigated grounds seem to show an especial tendency to baking and the frequent and deep cultivation is the best preventive of this danger. Again the looser the ground is kept and the more frequent the cultivation the longer the moisture is retained and thus reduces the number of irrigations.

Composition.

The success in irrigation depends not only upon the amount and constancy of water, but also in the chemical composition of the water and the silts it carries in suspension. In every case the salts and silts carried that are distributed to the soil in irrigation can either greatly improve the soil or render it unfit for crops or any vegetation. In New Mexico throughout the Pecos Valley region farming has become almost unprofitable. An examination of the waters used for irrigation showed that it contained from 113 to 152 parts of common salt, sodium, potasium and magnesium sulphates per every one hundred thousand parts of water. A second and more convincing example of the relation of the chemical composition of irrigating water to the productiveness of soil comes from Riverside county. An orange grove which had been irrigated with water containing from 137 to 171 parts per 100,000 of salts consisting of three-fifths common salt one-fifth Glaubers salts and sodium carbonate, began to appear sickly and in three years died.

The second factor, the amount of silts carried by irrigation waters is of an equal importance, especially in regions of a semi-arid nature. The heavy deposits of silt are in every case a great agricultural benefit as they add to the fertility of the soil and supply two deficiencies, nitrogen and organic matter.

The effect of soluble salts upon soils is open to considerable discussion and demands much study. In every case the danger point is difficult to state and depends entirely upon the kind of crop grown, the soil, the drainage system and methods of cultivation and

Continued on Page 287.

PIANOS Slightly used Steinways; 1909 Model Lyon & Healys, and other remarkable Bargains. Lyon & Healy, 80 Adams St., Chicago. World's Largest Music House
Our Great Re-Building Sale is Now in Progress!

THE "BOSS"
Tree Protecter

Made of Yucca Palm

Is cheap, durable and quickly put on the tree. It prevents Rabbits from destroying your trees. A sure protection against frost, sun-burn, grasshoppers or dry winds. Can be easily removed; will last for years.
Send for samples.

Prices

12 inch long,	$ 9.00	per	1000
14 inch long,	10.00	per	1000
16 inch long,	11.50	per	1000
18 inch long,	12.50	per	1000
24 inch long,	15.00	per	1000
30 inch long,	17.00	per	1000

Agents Wanted Everywhere

YUCCA MANUFACTURING COMPANY
1380 Willow Street Los Angeles, Cal.

SECOND HAND PIPE

Just bought cheap ten carloads of water pipe, sizes ½-in. to 6-in., which we offer cheap for cash: ½-in. 1½c. a ft., ¾-in. 2½c a ft., etc. Get the benefit of our close buying. All pipe guaranteed good as new and dipped in asphaltum. Write for complete price list.

WEISSBAUM PIPE WORKS
133 Eleventh St., San Francisco

FARMERS' BOOKS
Order Through the Cultivator

FEEDS AND FEEDING.—By Prof. W. A. Henry. Is a thorough, accurate and reliable handbook for students and stockman, giving most practical and useful knowledge on plant growth and animal nutrition, feeding stuffs, feeding animals and every detail pertaining to this important subject, indispensable to every owner of live stock. 658 pages. 6x9 inches.
Cloth $2.00

AMERICAN GRAPE GROWING AND WINE MAKING.—By George Hussmann of California. With contributions from well known grape growers, giving wide range of experience. The author of this book is a recognized authority on the subject. Illustrated. 269 pages. 5x7 inches.
Cloth $1.50

STANDARD OF PERFECTION.—By the American Poultry Association and used as the standard for judging all shows. The thing for dealers in fancy stock.
Cloth $1.50

PERFECTED POULTRY OF AMERICA.—This is the most recent publication, and is one of the finest poultry books ever issued. It contains full page illustrations of all breeds and varieties of poultry, turkeys and water-fowl. On many of its pages are represented the feathers from each section of the fowl. Gives the information necessary for the selecting of the best specimen in your flock.
Cloth $2.50

A. B. C. AND X. Y. Z. OF BEE CULTURE.—By A. J. and E. R. Root, the leading authority on Bee Culture Its reputation is known to all Beekeepers. 536 pages.
Cloth $1.50

CAMPBELL'S SOIL CULTURE MANUAL.—By H. W. Campbell. The originator of the "Campbell System of Dry Farming." A complete guide to scientific agriculture as adapted to the semi-arid regions. Of great value to all Western ranches. 320 pages.
..... $2.50

THE NEW AGRICULTURE.—By F. Byard Collins. A new and authoritative work dealing with the changing agricultural conditions. Why "Back to the Soil" is calling millions from the cities to the farm. The debt which agriculture owes to science. Irrigation, fertilization, machinery, etc.
Illustrated, 374 pages, cloth.....$2.00

Cultivator Publishing Company

Creamery Supplies

Cream Separators — Milk Cans
Combined Churns — Milk Bottles
Babcock Testers — Brushes
Butter Moulds — Wrappers
Engines and Boilers — Milk Coolers
PASTEURIZERS
MILKING MACHINES
Creamery and Dairy Supplies and Machinery of all Styles and Sizes
Send List of Goods Wanted and we will Quote Prices
O. J. WEBER CO.
555-57 S. Los Angeles St.
LOS ANGELES, . CALIFORNIA

CUTTER'S
Anthrax and Blackleg
VACCINES
Are given the preference by 80% of California stockmen because they give better results than others do.
Write for prices, testimonials and our NEW booklet on Anthrax and Blackleg
The Cutter Laboratory
Berkeley, California

Free Veterinary Book
Infallible guide. Makes every man his own horse doctor. Postage 2c.
Tuttle's Elixir
insures sound horses. Cures splint, curb, spavin, etc. $100 reward for failure where cure is possible.
TUTTLE'S ELIXIR CO.,
117 Beverly St., Boston, Mass.
Los Angeles, W. A. Shaw, Mgr., 1921 New England Av.
Beware of all blisters; only temporary relief, if any.

PASPALUM DILATATUM
King of dairying and fattening grasses. The great Australian drouth resister. Primest heavy seed direct from the grower, 4 lbs. (ample for trial) post free, $2.00. Full information.
C. F. JULIUS
Central Bucca, Coffs Harbor, New South Wales

Live Oaks Farm
Frank A. Meacham, Proprietor.
Importer and breeder of RED POLLED CATTLE, SHROPSHIRE SHEEP, RAMBOUILLET SHEEP, HORNLESS AMERICAN MERINO SHEEP. Both sexes for sale. Take electric car at Petaluma or Santa Rosa for LIVE OAKS STATION. Address all mail to
Petaluma, Sonoma Co., Cal.

HOLSTEINS
We Have For Sale a Number of Registered Young Bulls and Heifers **$100**
All our stock comes from the celebrated herd formerly owned by the Pierce Land and Stock Co., the premium herd of Holstein Friesians in California. Oakwoods Stock Farm Co., Lathrop, Cal

VENADERA HERD
OF REGISTERED JERSEYS
I have for sale a number of richly bred young bulls, some of them from cows that have high official yearly records.
GUY H. MILLER,
Route 3, Modesto, Cal.

Berkshires--Shorthorns
My Berkshires took every blue ribbon and Gold and Silver Medal in the female classes. Choice pigs at low prices. G. A. Murphy, Perkins, Cal.

John Lynch Breeder of Registered **Shorthorns**
MILK STRAIN
Box 321 Petaluma, Cal.

PURE BRED BERKSHIRES
Young Stock For Sale
Wm. H. Bird Box 6, Compton Cal.

The Whiting Jersey Stock Farm Company
Is making the very best strains of blood fresh from the island of Jersey a specialty.
Whiting Jersey Stock Farm Co. Heber, Imperial Co., Ca

Geo. C. Roeding, Fresno, Cal., breeder of
Thoroughbred Holstein Bulls and Heifers
Thoroughbred Berkshire Boars and Sows

Thoroughbred Poland China Swine
Black Minorca and Barred Rock Poultry
High Grade Stock of Best Strains.
Young Stock For Sale
W. Bassett Hanford, Cal

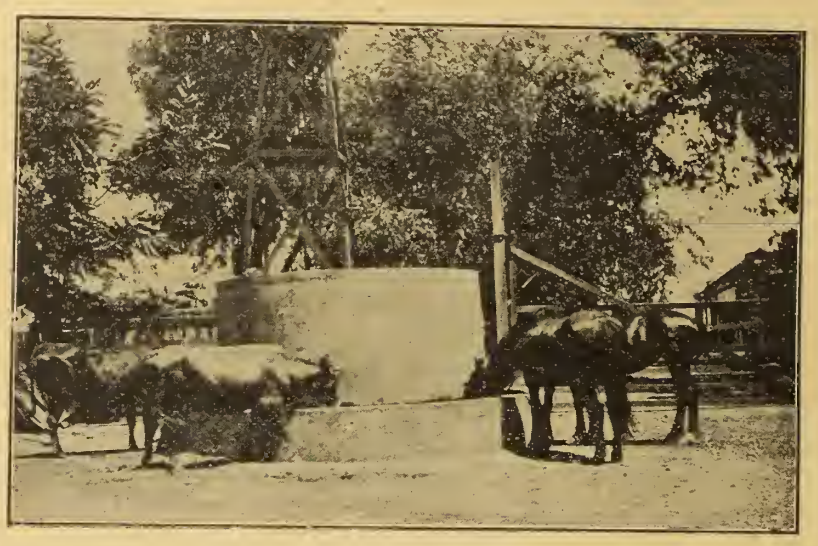
Live Stock and Dairy

MODEL WATERING TROUGH.

WHILE traveling through Sacramento county recently, a Cultivator representative happened in on the ranch of G. W. Foulks, near Elk Grove, and in conversation with Mr. Foulks, learned of a watering trough which has so many admirable qualities that we later wrote for a photograph of the trough and tank which was a part of it. The description as furnished by our representative is as follows:

"The trough and its reservoir resemble a coffee cup in its saucer. The cup would be the reservoir and the space between cup and rim of the saucer the trough. The reservoir is 6 feet high; the trough is about 30 inches high and it is 18 inches between reservoir and the inside edge of rim and trough.

"About 30 inches in the trough is separated from the rest by two partitions, so that a floating ball can be placed in it, allowing more water to flow into the trough as the cattle



drink the water out, and keeping the trough from overflowing. Hence there is always an even amount of water kept in the trough.

"The reservoir holds just about 4000 gallons; its walls are of 8-inch thickness and 6 feet high; the inside diameter is 10 feet. The trough will permit 25 head of stock to drink from it at one time. The height of the trough and its shape and width keeps stock from getting their feet into it and thus fouling the water.

"The trough is entirely made of concrete. It took about two tons of cement. The concrete was made two parts sand to one part cement and all the crushed rock which could be worked into the mortar. First the foundation was laid for the trough and reservoir, which was 12 feet, 8 inches in diameter and 8 inches thick.

When the foundation had set the middle point of it was found and around it a temporary barrel-shaped frame was made of three-inch staves. These were bound together with galvanized wire and around this frame a second frame was made in like manner at a distance of 8 inches all around. Then the concrete was packed in after two pipes had been inserted, one to let the water from the reservoir into the flush box and the other from the reservoir to the outside of the trough, so that the reservoir could be completely emptied if a person ever wished to do so. After the wall of the reservoir had set the staves were taken down and the concrete walls wound with galvanized wire to give the wall strength and to protect it from earthquakes. Galvanized wire was used because it would not rust so easily. Each strand of wire was twisted together each time the wire was brought around so that if one strand broke the rest would hold.

"After the reservoir was made, the rim to the trough was built in like manner. The staves were 16 inches high; the inner staves were 18 inches from the wall of the reservoir and 6 inches between the staves of the two frames. The rim of the trough was bound in the same manner as the reservoir with wire, and a pipe inserted so the trough could be emptied whenever desired. I should have said that the foundation was laid with wires crossing it all over.

"After the rim to the trough was made, partitions were put in for the flush box and a small pipe inserted through one partition to let water flow into the trough. After the trough was completely finished a ball and valve were put in to govern the flow of water into the trough. The whole structure of reservoir and trough was plastered over with cement for a finish. A cover was put over the flush box which was of wood. Two-inch pipe was used throughout the trough. Valves or plugs of wood could be used upon these outlet pipes.

"The whole reservoir, completed, cost between $50 and $60.

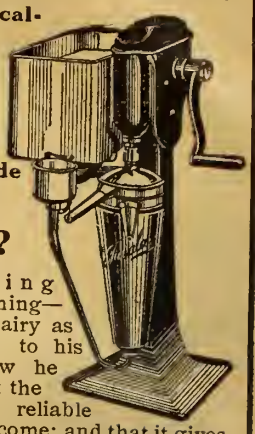
"In wrapping galvanized wire around the reservoir it would be better to drive small old bolts into the concrete, so the wire could be wound around them and the strands thus kept from slipping.

"The reservoir is kept full by a windmill near. To keep it from overflowing a pipe can be put in two or three inches from the top and brought down alongside the reservoir through trough, to let the water run away."

WRONG MILK FEVER TREATMENT.

It is reported that a man gave his cow the air treatment for milk fever, and after filling the udder with air he probably thought he would improve upon the directions given him by tying the teats tightly to keep the air from escaping. The cow died promptly and the man denounced the air treatment for milk fever as a fake or fraud. This is an example of the proneness of man to want to do things differently from anybody else; examples of which are very common among farmers, and shown in methods of tilling the soil as well as treating disease. The methods of the most successful farmer in a neighborhood are rarely imitated by all of his neighbors. In the case of the cow, the air vitiated by the diseased condition it encountered should have been allowed to escape.—From Stock and Home.

THERE is a MAN
in your locality who is making $2.00 against every one that he made last year.



HOW?
By doing mixed farming—running a dairy as an adjunct to his farm. Now he realizes that the dairy is a reliable source of income; and that it gives regular employment to all the members of the farm.
But, let us not forget to say, that upon the advice of the Dairy Station, he investigated **all** the standard makes of separators—and proved to his own **satisfaction** that the
Tubular Separator
is 50 per cent better in every way than all other makes, and that it is a profit maker—a result giver.
For proofs of these claims write for **free** catalog 260.
THE SHARPLES SEPARATOR CO.,
West Chester, Penna.
Toronto, Can. San Francisco, Calif. Chicago, Ill.

The Right Kind
Can always be found in the celebrated
Canton Clipper Line
AND
P&O CANTON PLOWS
Steel Walking Plows
Chilled Walking Plows
Sulky and Gang Plows
Subsoil Plows
Hillside Plows
Road & Grading Plows
Garden Plows
Orchard and Vineyard Plows
Shovel Plows
All sizes and patterns for all kinds of work
Pacific Implement Co
131-153 Kansas St., San Francisco
B. Hayman, Los Angeles
General Agents

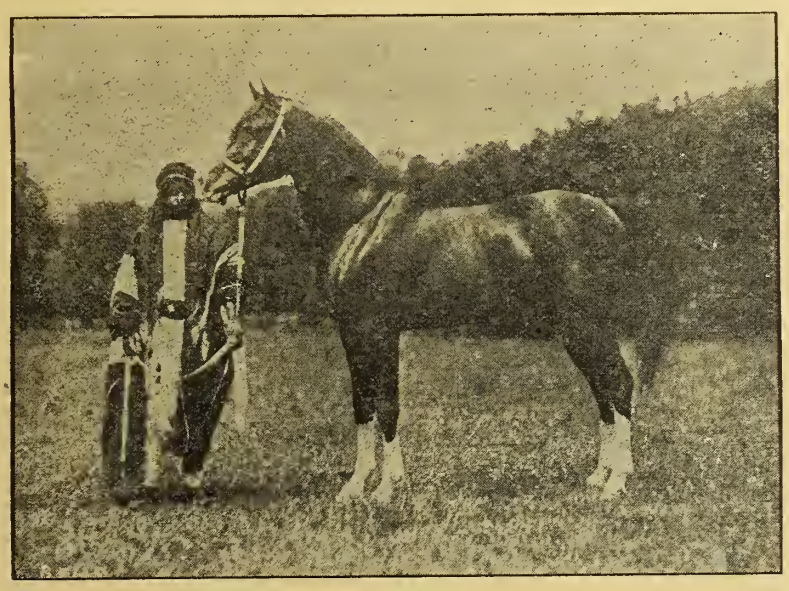
JUST RECEIVED NEW CROP SEED
Alfalfa, Vetch, Field Peas, Eucalyptus seed from Australia. Bermuda Onion, Garden Peas, New York Lettuce. Now is the time to plant them.
Johnson & Musser Seed Co.
113 No. Main St., Los Angeles, Cal.

When writing advertisers, mention Cultivator.

The Arabian Horse in California

MUCH interest has been aroused in this State by the recent purchase, by a Californian, of a string of ten Arabian horses. The purchaser is Miss Eleanor Gates, the author, known in private life as the wife of Richard Walton Tully, the playwright.

The horses in question are the first pure Arabs that have ever come into the State. From time to time there have been stories concerning horses of alleged Arab blood, and doubtless there are many horses in the State that have a strong Arab strain. This is particularly true of the mustang horses of California which are descended from horses of eastern blood turned loose on North American soil by Cortez. But El Rancho de las Rosas string is the first shipment of absolutely known blood.



It consists of four stallions, one twenty-nine years of age, one twelve, one seven and one three years old. Their owner has brought four colts of the old stallion, the youngest colt being five weeks old. Of the mares, Miss Gates has one which is of the rarest blood of the Desert. It was bred by Lady Anne Blunt of England and has a pedigree which goes back to the days of Abraham's great grandson. This mare is of the family Seglawich Jedranich, of the strain of Ibn ed Derri. One of the stallions, Mahruss, is of the same rare family and strain. He has just reached his full growth, being now seven years of age, and is the only grown stallion of that rare family outside of Asia.

The Arabs have been on exhibition at Sacramento during the recent State Fair and have enlisted much attention. To those unfamiliar with the history of the Arab, they were a great surprise, and to some extent, an education along horse lines.

Miss Gates says that a great many people seem to think that the Arab horse is either spotted or coal black; this is owing to the fact that circuses often own and show black and spotted horses as Arabians, but every traveler and Arab student who has been into the desert agrees on two points concerning the Arab horse; one, that the Arab is never spotted and is rarely black, there being, perhaps, one or two black horses in a herd of a thousand; secondly, that the Arab horse is never higher than fifteen hands one inch, and that the average Arabian horse is fourteen hands one inch in height. This is considered by the Bedouins the ideal height for his horse.

The Arab horse, it would seem, is an entirely different animal from the horses of cold blood, for he is entirely different structurally, having three less bones in his body, a wind-pipe double in size, a dished face and a vertical arrangement of his organs as compared with the horizontal arrangement of the ordinary horse. He is also built high in the quarters which gives him great motive power and the high carriage of his head and tail distinguishes him.

It is Miss Gates's purpose to raise full-bloods which will be sold to governments, and part-bloods for carriage, saddle, polo and cavalry use. The horses are to be taken to the Tully country home at Alma, Santa Clara County, California.

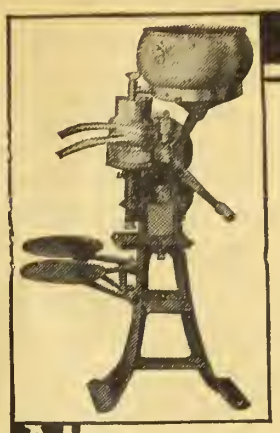
Cream Separators, all sizes, all prices. O. J. Weber Co., 555-557 S. Los Angeles street, Los Angeles.

DEHORNING CATTLE.

"Gentle" bulls are the most dangerous of all because you trust them so they catch you unawares. One of the best safeguards against the crazy bull is to take his horns off close to his head if he comes to you with them on. I have rarely spent a night at a breeder's farm that there was not an exciting story to tell of some one's narrow escape or death from a vicious bull.

A few years ago men were fined for dehorning cattle, but as time passes the class of fanatics who oppose this simple safeguard grows less until now you rarely see a bunch of steers that the large majority of them are not dehorned. So far as I can see the process of sawing horns off is painless, if done with reasonable intelligence, for the horn was made to fight with and not at all sensitive. But on breeding farms where calves are raised why not take the matter in hand at the proper time when the calf is two weeks old and the horn button is just making its appearance. Get you a stick of lunar caustic or caustic potash, as it is sometimes called, for 5 cents. Be careful in using it, not to get any of it on your fingers or about the face. Proceed carefully by first tying the calf firmly to a fence post. Then with a pair of scissors clip the hair from around the button until you can plainly see and feel the tip of the button. Now with a cup of water dip the end of the finger in and wet the button and no more of the head or you will make a botched job of it, resulting in a large sore. With dry fingers prepare the caustic by wrapping a rag around one end of it to hold the pencil by, then dip the pencil in the water and carefuly rub the button until the flesh looks red; then stop and leave the calf tied until she is dry, to keep other calves from licking it. The only danger to the calf is in your overdoing it by getting too much water on the calf's head and letting the dissolved caustic run down the calf's head. If you put too little on you can put on more another time, so it is best to err on the safe side. In most cases you had better get your wife to read the instructions and perform the operation.—Home and Farm.

Wood Soled Boots and Shoes. Boots, $3.25; Shoes, $2.00. O. J. Weber Co., 555 South Los Angeles St., Los Angeles, Cal.



TIME TO BUY CREAM SEPARATORS NOW

There never was a better time to buy the best of Cream Separators than right now.

The advantages derived from the use of the good Cream Separator are greater in the fall and winter than at any other time,—when the cows are old in lactation, the loss of butter-fat is otherwise greatest, and butter prices are highest.

Likewise are the advantages of the superior DE LAVAL separators greatest over imitating separators when the milk is hard to separate and the weather cold and variable.

In every case a DE LAVAL separator, of suitable size, will surely at least save its cost between now and July 1st next, and go on returning 100 per cent per year on the investment for twenty years to come.

The agricultural and particularly the dairying outlook was never brighter and more promising.

WHY NOT BUY NOW?

Send for Catalogue of 1908 Latest Improved Machines.

DE LAVAL DAIRY SUPPLY CO.

108 So. Los Angeles St. LOS ANGELES
42 E. Madison Street CHICAGO
74 Cortlandt Street NEW YORK

General Offices: 101 Drumm Street, SAN FRANCISCO.

107 First Street PORTLAND, OREG.
1018 Western Ave. SEATTLE
Box 1052 VANCOUVER, B. C.

Sugar-Beet-Pulp (Kow Breakfast Food) For Sale

At fifty cents per ton F. O. B. cars or wagon, fresh from factory. Conceded to be the cheapest and best Dairy Food in California. Write for freight rate if too far to haul.

Also MOLASSES at $1.50 per barrel.

Los Alamitos Sugar Company Los Alamitos, Cal.

Cultivator Order Blank

_____ 1908

CULTIVATOR PUBLISHING CO.,
115½ No. Broadway, Los Angeles, Cal.

Gentlemen—Enclosed find $_____ for which please send the **Cultivator** for one year to the following, or credit on my account from _____ 190— to _____ 190—

NAME	P. O. ADDRESS	STATE

Are you an old or new subscriber? _____

SIGNED _____

ADDRESS _____

To protect animals from the annoyance of flies the following preparation is recommended: Two-thirds linseed oil, one-third crude carbolic acid. Apply with a swab to the tips of the hair, especially about the horns, and the animal will not be bothered with flies of any kind for a week. This preparation, it is asserted, is excellent for horses, answering the same purpose. The linseed oil prevents the hair from coming out, and also retains the carbolic acid. Another remedy is to take two or three small handfuls of walnut leaves or pennyroyal on which pour two or three quarts of cold water. Let it infuse over night, pour the whole next morning into a kettle and boil for fifteen minutes. When cold, it is fit for use. Moisten a sponge with it, and before the horse goes out of the stable let those parts which are most irritable be smeared with the liquid.

California Cultivator

ESTABLISHED 1889

Subscription Price One Dollar per year, payable in advance. Dates of expiration of subscription accounts appear each week on the address label. John Jones 7-08 means July 1, 1908. Notify us by mail if you desire to discontinue.

Thursday, September 17, 1908

Address All Communications to

CULTIVATOR PUBLISHING CO.
115½ No. Broadway, Los Angeles.
733 Merchants Ex. Bldg., San Francisco.

Copy for Change of advertisement must be in office on Saturday preceeding date of issue. New advertising copy should reach the office not later than Tuesday to insure insertion.

CULTIVATOR PUBLISHING COMPANY
H. A. PERKINS, EDITOR AND GEN. MGR.

C. B. MESSENGER - - - - Associate Editor
FRANK H. THOMAS - - Advertising Manager
H G. HUTCHINS - - Subscription Manager

EDITORIAL CONTRIBUTORS:

J. W. MILLS - - Deciduous and Citrus
JOHN ISAAC - - - Horticulture
J. B. NEFF - Walnut Culture and Irrigation.
Mrs. M. E. SHERMAN - Live Stock and Dairy
Q. A. LOBINGIER - - Vegetable Garden
S. S. TWOMBLY - - - - - - Poultry
W. E. FOSTER - - - - Pigeons
L. M. FALL - - - Law Queries
RALPH E. SMITH - - Plant Pathology
S. A. PEASE - Plant Diseases and Injurious Insects

Entered at the Post Office at Los Angeles, California, as Second-class matter.

Contents

KINGS COUNTY IRRIGATION WATERS, Cover.

IRRIGATION IN SOUTHERN CALIFORNIA, 267.

CITRUS.—Convention of Exchange Officials; California Lemons vs Sicily; Eat California Sunshine; 268.

THE TORRENS LAND TITLE SYSTEM, 269.

DECIDUOUS FRUIT CULTURE.—Thrips Fighting; Eastern Grapes; Call a Halt; Handling the Apple Crop; Lest we Forget; Cherry History; 270,271.

IRRIGATION AND FORESTRY.—Irrigation in California, 272, 273.

LIVE STOCK AND DAIRY.—Model Watering Trough; Wrong Milk Fever Treatment; Arabian Horse in California; Dehorning Cattle, 274, 275.

EDITORIAL.—Farm Management; Spare the Trees; State Capitol Removal; New Walnut Bleach; Farmers Land Title, 276.

AGRICULTURAL NOTES OF THE PACIFIC COAST.—Northern, Central, Southern, the Coast, 277.

POULTRY.—Bone as a substitue for Grit; Turkey Troubles; Molting; Roup; Trap nests; 278, 279, 280.

SMALL FRUITS AND VEGETABLES.—Seed Rot of Potatoes; Endive; Preserving Small Fruits, 280.

ORNAMENTAL GARDEN.—Showy Plants; Flower Beter than Fly Paper; 281.

QUERIES AND REPLIES.—Pruning Grapes; Overheated; Grafting Walnuts; Squash Bugs; Strawberry Fertilizer; Pruning Apricots; Eradicating Mites; Buter Won't Gather; Root Knot; Skin Disease; Breeding Goat; Sorghum; Tape Worm, 282, 283.

FARM NAMES, 283.

HOUSEHOLD.—Contentment; Bonnet Botany; Personal Neatness; Recipes; Homely Hints, 284, 285.

PRODUCE MARKETS.—Los Angeles Market; San Francisco Market, Citrus Markets, 286, 287.

FARM MANAGEMENT.

We recently made a note regarding aid which the Department of Agriculture is willing to give to farmers who may be excellent farmers in the sense of producing crops but have not that business capacity to dispose of the products of the farm advantageously, or possibly there is something wrong as to power of the land to produce satisfactory crops. Regarding this work and its scope, we wrote to W. J. Spillman, in charge of Farm Management Investigations, which is under the Bureau of Plant Industry, and have received from him the following statement:

"I will say that the Office of Farm Management has now been in operation for four years. The fundamental idea underlying its work is that of carrying the results of scientific investigation to the farm and helping the farmer to put them into practice. We have not yet grown sufficiently to cover the whole country with our work. Our plan of development has been to divide the country into districts of two or three states each, and put the best man we could find in each of these districts. It is the duty of this man to make a careful study of the types of farming prevailing and the adaptability of these types to local conditions; to make a careful study of the practice and methods of successful farmers wherever they can be found; to ascertain what the pressing problems of the farmer are. If these problems are such as can be solved by the application of knowledge already in hand, we then undertake to put this knowledge into the hands of the farmers. Frequently, however, we find that the problems are such as require extended scientific research. In this case we call the attention of scientific investigators to the problems.

"As I said to Mr. Neff, we hope that the first of next July we can put a good man into California to take up this kind of work. I understand that one of the pressing problems of your state at the present time is the development of satisfactory systems of farming on the wheat fields that have been cropped so long without any attention to their fertility that farming on them is becoming precarious. This, of course, is one of the large problems which one perceives merely by passing through the State of California. I have no doubt that when our man is on the ground he will find many others that are not so apparent.

"We appreciate your offer to co-operate with us in this work, and I assure you that we shall be pleased to make the fullest use of such co-operation. When we are able to put a man in the state we shall instruct him to get in touch with you with a view to getting and giving information whenever it is possible."

SPARE THE TREE.

One of the greatest heritages of California is the magnificent big basin park in Santa Cruz county. This park is the property of the State of California and under the direct supervision of State Forester Lull. Last year much criticism was received by Mr. Lull for his contracting with the lumbermen to remove some of the trees. These trees were claimed by him and by others to be practically "dead timber." This the State Forester is permitted to have removed and he claims that he did so last year with the feeling that he was preserving the best interests of the State.

It is now reported that other contracts are about to be entered into by which more of the "dead timber" is to be removed from the park. This the watch dog of the park, the Sempervirens Club of San Jose, will endeavor to prevent. Regarding this work around the park the San Jose Times says:

"The park in question is one of California's grandest sights and always evokes the admiration of all who have occasion to visit it and view the towering sentinels that have stood, practically undisturbed, for hundreds of years. The movement to preserve these trees in accordance with the interest of an act of the State Legislature, which appropriated money to buy the park for all the people, deserves every encouragement on the part of every citizen.

"Year after year great inroads have been made on California's once magnificent forests, and they have almost been relegated to the things that were. Thoughtful minds have come to rescue of the State and are striving hard to save a few of the great redwood trees that have for years been the marvel of tourists from every land. Preserve the trees that they may prove a source of pleasure and interest for the present generation and carry a worthy object lesson to generations yet unborn."

STATE CAPITOL REMOVAL.

A constitutional amendment will be submitted to the voters of this State at the next election, providing for the removal of the State Capitol from Sacramento to Berkeley. The claims of either Sacramento or Berkeley cut no figure with the great mass of the taxpayers of the State. The sole question is wherein will the greatest interests of the taxpayers be conserved? From that standpoint we cannot see good reasons for making the transfer from its present location and believe every voter in the State should vote against the amendment. In the first place there is no particular objection to Sacramento as the site of the State Capitol. It is near the center of the State and it is not necessary that the State Capitol should be located at an ideal summer resort so that the unfavorable weather conditions of midsummer which have been used against its remaining in its present location will not stand. From a taxpayer's standpoint the $10,000,000 cost of removal, which it has been charged is a fair estimate, should be sufficient to defeat the proposition.

NEW WALNUT BLEACH.

Considerable satisfaction is expressed on the part of walnut growers of California over the new method of bleaching walnuts. The process consists of a solution of salt so treated by electricity that the chlorine is liberated and the nuts are bleached even better than by the old patented process and with none of the injurious effects. Ten of the seventeen walnut growers' associations of California have arranged to use the new method. Probably most of the remainder will do so, though the process will not be unanimously used this season. This will be principally because of the difficulty of getting the patented cells in sufficient quantity to supply all the associations. It is predicted that another year will see its use universal.

THE TORRENS LAND TITLE SYSTEM.

On another page of the Cultivator may be seen an article by Mr. Leavitt, in which he treats of an excellent system which was killed, so far as California is concerned, by being lumbered up with so much red tape and such high cost. This system as carried on in Australia has led to a feeling of security as to the title of the land and a simplicity of transferring realty which is very satisfactory and economical. The lobby in the California legislature succeeded in loading such a heavy cost upon the system here that we believe it has never been used or at least but very slightly.

We trust the matter will be agitated and some of the red tape and the excessive cost spoken of by Mr. Leavitt may be dispensed with.

"The extraordinary interest that is now taken in alfalfa is justified by the extraordinary value of this great wealth-producing plant. This year the value of the alfalfa crop for hay alone is supposed to be $100,000,000. If the extensive experiments now in progress are as successful as they promise to be, the area on which this crop may be grown will be greatly extended. Its cultivation is moving eastward, and the plant is making its way even in Indiana and Illinois. It has wonderful values. With a yield per acre twice that of hay, and more nutritious than hay, it has no superior as a forage crop, a milk producer and an egg producer. But, from the point of view of national prosperity, this is not its only nor perhaps even its chief merit. It is one of that wonderful group of leguminous plants that gather nitrogen from the air and impart it to the soil. The introduction of such plants throughout the country will be a factor of great importance in our future prosperity, saving our good soils from deterioration and helping powerfully to renovate those that are run down. From the extension of the cultivation of this one group of plants will come added values of hundreds of millions of dollars annually to our agricultural wealth."—Secretary Wilson.

It is said that the prices of California canned fruits have become so high during the past few years that the exports, especially to England, have vastly decreased. It is thought that this year will find the output somewhat larger.

Shop Talk

DRY FARMING BOOK.—As was suggested last week, editorially, now is the time to think of next year's crop and how it is to be handled. There is much more dependent upon the preparation of the soil for seed than many farmers know about. Especially in the West where the rainy season is a little uncertain, knowledge along this line is of great value.

As has been suggested before H. W. Campbell's "Dry Farming Manual" seems to fill this need and the **Cultivator** is receiving orders for it. For a short time we are going to make the **Special offer** of a years subscription with the book at the regular price of $2.50. The manual is the 1907 issue and is the latest out. There will never be opportunity to get it at a better figure than this and we suggest that all interested take advantage by remitting and renewing at once.

Agricultural Notes of the Pacific Coast

Northern California

Humboldt county's big fair is in session at Eureka this week.

Ferndale held its thirteenth annual fair with good attendance last week.

Woodland is quite puffed up over the large number of premiums won by Yolo county shorthorns.

The daily shipments of beets to the Hamilton factory are increasing.

A farmer at Milton, Oregon, cleared $40.00 per acre on his 300-acre wheat field.

The crop of rice near Willows is said to be giving promise of a large production.

Blight has made its appearance among the tomato fields of Haywards, Alameda county.

The state tax rate of 40 cents is said to be one of the lowest ever established in this state.

Oroville is taking steps to have a citrus fair this fall which will rival anything held in the state.

A large company of cattle raisers of Trinity county expect to establish a creamery at Trinity Center as soon as possible.

The fire in the vicinity of the Big Tree forest has been subdued and only a very small number of the monarchs have been injured.

A vineyard of 1100 acres of Tokay grapes between Florin and Elk Grove, Sacramento county, is the largest of its kind in the world.

Grape Growers' Association of Lake County is now permanently organized under the auspices of the California Grape Growers' Association.

Dairymen in the vicinity of Galt, Sacramento county, have organized for the purpose of improving the quality of the cream and securing the best possible returns.

A large dam is to be constructed on the Bear River, Lone Star district, Placer county. It will require six months for construction and will largely increase the irrigated area of that section.

The Yuba City cannery recently beat its previous record when in 13 hours its working force put up 64,953 cans of peaches. This required a total of 60 tons of peaches and 400 employees to do the work.

Sacramento Valley Development Association will be represented at the National Irrigation Congress at Albuquerque by a lecturer who will with the aid of stereoptican views make known the merits of that valley.

Bids were recently opened by the Sacramento Valley Development Association for the construction of the East Park Dam on the Orland irrigation project. The bids range from about $65,000 to nearly $150,000.

Plans are already being laid for a bigger and better state fair next year, one factor which calls for immediate action being the construction of a new pavilion to take the place of the old one which has heretofore been on the State Capitol grounds in the city.

The proposition of the wine men to the wine grape growers to crush the grapes and store the wine until next May on the plan of "on shares" has fallen flat, the growers practically all refusing to co-operate. It now appears many grapes will not be picked.

Central California

Shipment of apples from the Pajaro Valley is now in full blast.

Bakersfield Fair funds are now up to nearly $2500 and it is definitely decided to hold a fair this fall.

The J. K. Armsby Company is endeavoring to buy the entire holdover raisin crop of the Fresno growers.

It is estimated that the almond output of Acampo, Woodbridge and Lodi, San Joaquin county, will be about 350 tons.

It is claimed that more than 125 carloads of apples will be shipped from Watsonville to the city of Los Angeles.

Raisin growers of San Joaquin Valley are having trouble with Jap laborers who are unreasonable in their demands.

San Jose Grange, Number 10, proposes to get after Congressional candidates and pledge them to support parcels post.

One eucalyptus nursery at Tulare claims it will have over 2,000,000 eucalyptus trees ready for the next season's planting.

A Bakersfield rancher planted corn on heavy Bermuda grass land June 26, which is now 15 feet high and making the finest of ensilage.

Since the seeded raisin trust has purchased the patents on the new seeder the royalty on seeding has been raised from $5.00 per ton to $20.00 per ton.

The Salinas Sugar Factory started on its full time run September 15th Beets had been delivered at the factory for some time prior to that date.

The winery at Sanger began its season's run about the first of the month, but the low price offered for grapes prevents any very rapid delivery.

Some of the largest vineyards near Fresno will lose a large amount through the Japanese contractors failing to live up to the contracts made earlier in the season.

The firmness of eastern markets regarding prunes and apricots is having a good effect on the local market and a number of sales of both at a fair price have been made.

At a recent meeting of the Orchard City Grange at Campbell, Santa Clara county, a collection of Argentine ants was presented and information given regarding their habits and manner of control.

The California Fruit Exchange is meeting with considerable opposition at Lodi because of having placed inspectors in the various grape packing houses so as to secure a more uniform and satisfactory pack.

The California Wine Association finding its offer to crush grapes and store the wine for the growers received with so little favor has finally withdrawn it and is now offering to buy on the installment plan, $3 per ton down and the balance on time.

Wine grape growers are as a rule incensed at the attitude of the California Wine Association in refusing to buy grapes this season. It is charged that the association is hammering down these prices for the purpose of doing politics and forcing the growers into line against the temperance agitation.

Southern California

Beaumont is planning for an apple fair in October.

Riverside has found two separate infestations of the Argentine ant.

Walnut growers generally will this year adopt the new salt bleaching process.

The first car of lima beans out of Orange county this year was shipped on September 5th.

The Jurupa Nurseries at Riverside have been sold to the Orange County Nursery and Land Company.

"About equal or possibly larger than last year," is the usual verdict regarding the coming orange crop.

Two prominent young men of Redlands were recently arrested for being careless with camp fires in the forest reserve.

Ranchers controlling the large stock ranges in the mountains of Ventura county have suffered heavy losses from stealing of horses in the last few months.

Orange county has one field of beans of 23½ square miles, or over 15,000 acres. This is on the property of the San Joaquin ranch company, which owns 108,000 acres.

The Soboba Indian reservation near San Jacinto has recently received a $5000 appropriation to aid in the development of water for irrigation of the land of the Indians.

The University of California has an expert in the Ventura county bean fields conducting experiments in the selection of beans so as to secure an earlier bean of high quality.

Now comes a prominent grower of Redlands who says that the proclaimed endorsement of Senator Perkins by the Citrus Protective League is absolutely without foundation.

It is estimated that Southern California will produce this coming year between four and five thousand cars of Valencias. An effort will be made to discourage continued heavy planting of that variety.

The Pomona Fruit Growers' Exchange recently elected the following directors for the coming year: H. J. Nichols, Mel Campbell, J. H. Graber, Fred Smith, J. M. Mitchell, F. P. Firey, J. G. Robertson.

The officers and directors of the San Dimas Citrus Union for the coming year are: D. C. Teague, president; E. W. Hart, vice-president; L. H. Bixby, secretary; Bank of San Dimas, treasurer; W. A. Johnstone, W. C. Sheperd Jr.

A large number of officers and members of the Citrus Fruit exchanges of Southern California will attend a meeting at Kansas City September 29-30 and October 1 which will also be attended by a large number of the eastern representatives of the exchanges and discuss methods of handling the citrus output for the next year.

Delegates from the various walnut associations of Southern California met in Los Angeles Tuesday morning and after deliberation recommended the following prices to the various associations:

No. 1 softshells, 12½c; No. 1 hardshells, 12c; No. 2, both hard and softshells, 8½c. All prices to be subject to 1½ per cent. discount to trade.

The Coast

A large tract of land near Milton, Oregon, has been subdivided into small fruit ranches.

Portland, Oregon, recently shipped by one steamer $153,600 worth of wheat to Queenstown.

Fruit packing houses at Freewater Oregon, are busy with over 300 people sending out fresh fruit.

The little city of Vollmer, Idaho, contains over a million bushels of wheat in its store houses.

Freewater, Oregon, forwarded during the height of its peach picking over five cars of packed peaches daily.

The outlook for fruit about Emmett, Idaho, is very promising. Crawford peaches especially were magnificnt crop.

One of the five large flouring mills at La Grande, Oregon, has begun grinding on the present year's local wheat.

The annual Agricultural Fair of Okangogan county, Washington, will be held at Riverside September 28, 29 and 30.

Fruit inspectors at LaFayette, Oregon, are cutting down and destroying diseased fruit trees of non-resident growers.

A rain storm visiting the country near Colville, Washington, at the end of August is estimated to be "worth $1,000,000 an hour."

The treasury of the state of Washington is embarrassed owing to large payments for coyote scalp bounties paid out during the last year.

Freewater, Oregon, and the people of all Walla Walla and Umatilla counties will hold a peach carnival at Freewater the end of this month.

One canner at North Yakima, Washington, proposes to put up a $65,000 pea canning factory providing he is guaranteed 700 acres of peas the first year the factory is built.

The first new wheat delivered at Waterville, Washington, was on September 4 and was bought by the Wenatchee Milling Company. The wheat ran full sixty pounds per bushel.

It is estimated that the apple country of the Inland Empire immediately surrounding Spokane will ship 8000 cars of apples this season, and the estimate is made of 10,000 cars next year.

Bee keepers at North Yakima, Washington, are appealing for a law to protect the honey interests of the state of Washington. Primarily they are asking for the appointment of a state bee inspector.

One firm at Spokane offers $10 each for 50 boxes of fruit to be chosen from the winning car of apples at the National Apple Show. They also promise $5000 for the remainder of that one car of fruit.

The recent meeting of the National Wool Growers' Association at Salt Lake City took steps looking toward the establishment of national storage of western wool and a committee was appointed to select a city for storage.

Farmers near Nome, Alaska, are succeeding in growing watermelons. A tourist from there reported exceedingly fine fruit which he ate at that point on August 18. Corn stalks in the same section at that time were seven feet high.

PER 2 BUSHEL SACK **$1.90** PER 2 BUSHEL SACK

Buy the World's Famous Egg Food No. 4

MIDLAND

IF YOU WANT EGGS
YOU WILL FEED NO OTHER.

Used by the largest and best breeders in the country. Thousands of poultrymen are using it, and it is the acknowledged standard of the world. Haphazard feeding is no longer profitable. Try Midland Food and be convinced.

Petaluma Incubators and Brooders

The acknowledged standards of perfection. All poultrymen who have used these machines have supreme confidence in their ability to hatch and breed. Hence their ever increasing popularity. Winners of the Gold Medal at the St. Louis World's Fair for the greatest hatch, with 40 different makes of incubators in competition. How's that?

St. Louis, Mo., Dec. 8th, 1904.—Petaluma Incubator Co., Petaluma, Cal: My dear Sir—The awards have been held up owing to a controversy between the Exposition officials and the national commission, but today I am able to state the award of a gold medal on your Petaluma Incubators has been confirmed. You are at liberty to make use of this in any way you see fit and in due time the diploma will be issued and the medal obtainable. Congratulating you upon this evidence of the merits of your incubators, in which there was very great competition, I beg to remain, yours very truly, J. A. Filcher, Commissioner.

And Now Comes New Reward for Merit

Read the following telegram received from the Lewis & Clark Exposition at Portland:
"Petaluma Incubators and Brooders just awarded Gold Medal at Lewis & Clark Exposition."

WRITE FOR CATALOGUE 47—A BEAUTY

Petaluma Incubator Co.

Main Office and Factory, Petaluma, Cal., Box F.
Los Angeles, 636 South Main Street.
San Francisco Office and Salesroom, 83 Market St.

Coulson's No. 3 Condition Powder

Is just the thing for molting hens. It acts as a tonic and digestive. Keeps the hens laying longer into the molt and quicker after it. Our FREE Booklet, "THE RIGHT WAY" gives full particulars and special offer. Manufactured only by

Coulson Poultry and Stock Food Company
Petaluma, California

Poultry Supplies

Best of All Kinds at Lowest Prices

West Coast Seed Co.

707 So. Spring St., Los Angeles, Cal.

Ranch Mirasol

S. C. WHITE LEGHORNS—MITCHELL STRAIN
LARGE, HEALTHY, HEAVY BIRDS BRED TO LAY

Carl C. Curtis, Owner Cor. Lincoln Ave. and Ventura St., Pasadena, Cal.
North Fair Oaks Altadena Cars

Trap-Nested White Wyandottes

That won 22 ribbons out of 25 and 6 Silver Cups and a carving set and a cut glass vase. All the National White Wyandotte Club Ribbons. Second on 10 pullet pen, contest open to all breeds. Mammoth Bronze Turkeys, winners of 5 blue ribbons, all at Los Angeles County Poultry Association Show, December 7, 1907. White Wyandottes were judged by H. Berrar of San Jose, Cal., and W. W. Browning of Ogden, Utah. Hens and Pullets, $15, $20 and up.
MISSION VIEW POULTRY RANCH, MRS. C. D. HUBBARD, SAN FERNANDO, CAL.

Now is the time to hatch **BANTAMS**
Golden Sebright, Buff Cochin, and Light Brahma Eggs, $2 per 15. Prize winners.
M. E. Dillingham Box 67, San Gabriel, Cal.

White Wyandottes Exclusively

Good, White, Typical Birds. Stock and Eggs For Sale.
W. A. SEYMOUR, R. F. D. No. 1, Anaheim, Cal.
Take Santa Ana Electric Line to Harper Station

Profit in the Poultry Yard

We solicit short articles of a practical nature from the fancier and utility breeder, giving their experience with poultry. All inquiries pertaining to feed, management, disease and its prevention will be answered through these columns.

BONE AS A SUBSTITUTE FOR GRIT.

MY EXPERIENCE regarding the value of grit in poultry economy is that when hens are fed plenty of cracked bone the need of other forms of grit has never been manifest. A hundred pounds of crystal grit and similar forms of quartz rock found on the market, have absolutely no food or fertilizing value and cost from $1.50 to $2.00 per hundred. One hundred pounds of cracked bone, costing $1.75 to $2.00 per hundred, contains from 20 to 25 pounds of phosphoric acid, worth $1.40 to $1.50 as fertilizer after the hen has made use of it as grit. This same 100 pounds of bone contains some three to four pounds of nitrogen, which is found in the droppings of the hens and has a value of 25 to 30 cents as fertilizer. On the other hand a good sample of cracked bone will return to the soil of the orchard or garden nearly its original cost in fertilizer and at the same time provide the hens a substitute for grit that many good authorities claim answers all purposes. Oyster shells or quartz rock have absolutely no food or fertilizing value. It is true that oyster shells provide lime, needed by the hens, but cracked bone is equally efficient in this respect.

Along the same line Mr. Hunter of Farm Poultry, writes:

"The 'evidence' that grit is essential to digestion in birds consists of a general and time-honored impression that fowls instinctively swallow grit because nature, having so constructed their heads that a set of suitable teeth could not be conveniently placed in the mouth, ingeniously made up the physical deficiency by providing the creature with an instinct to swallow 'teeth,' and rattle them around in the organ arranged for the reduction of the food which in some other creatures takes place in the mouth as the food is introduced.

"My skepticism as to the necessity for grit goes back to long periods when my fowls, being apparently in the best of condition without grit, were allowed to continue without it. I was not at that time interested enough in the point to investigate it. Some years later, about ten years ago, I began to experiment a little along that line, but found it impracticable to follow the matter on the scale and along the lines necessary to make a postive demonstration. The results, as far as I went, however, indicated that the prevalent notions of the necessity of grit were probably wrong. Later still I made an observation which could hardly be dignified by the term experiment on the use of grit and shell, which disclosed the fact that the particular lot of fowls observed would consume practically no grit when kept supplied with shell. In conversation with others who have given some thought and study to this question, I have found considerable of a tendency to skepticism as to the actual necessity of grit for a fowl in every way normal.

"It has not yet been demonstrated that fowls do not require grit to assist them in 'grinding' their food. Neither has it been conclusively shown that they do. The indications that grit is not essential are sufficiently numerous and of such nature as to make it advisable for the advocates of the theory that the hen must have grit to be very cautious about emphatic statements of their views.

"Personally, I anticipate that a time will come when the habit of swallowing 'grit' or any 'foreign' indigestible, non-nutritious substance will be recognized not as a natural instinct, but as an unnatural impulse, and that the investigations which lead to such conclusions will throw some needed light on the subject of feeding and digestion."

* * *

POULTRY BREIVITIES.

If you would have the birds grow well keep the goslings and ducklets growing all summer.

* * *

Chicken cholera is frequently caused by stale and filthy water in ponds or drinking places.

* * *

At this time of the year the pullets that are expected to lay winter eggs should have special attention.

* * *

It is a mistake to have turkeys, chickens and ducks in the same houses and yards. Their habits differ, and they should be kept separate to make success of each and avoid disease.

* * *

Pure air is needed in houses and coops to develop fine plumage in young poultry. To prevent odors in roosting quarters, fine, dry earth and coal ashes are good, sprinkled under the perches.

* * *

Contamination Theory.

Will a leghorn cock, running with Buff Orpingtons contaminate the future progeny of such birds even when the Leghorn is removed and a Buff Orpington cock is substituted? I am told that such is the case, and that these hens will never again produce pure Orpingtons even when associated with a hen and Orpington cock Any information you can give on the subject will be appreciated.—E. M. K.

This theory that the male may have an influence on future progeny of the mother is an old one and keeps cropping out from time to time in spite of the fact that no well authenticated evidence has ever been produced to substantiate the assertion. —S.S.

* * *

Turkey Troubles.

Can you tell me what is the matter with our young turkeys? Their crop hangs down as big as a quart cup. We opened one from the outside and found it filled mostly with water, thick and brown, with a terrible odor. There was also some barley and alfalfa that had been eaten that day. They seem to eat as well as ever and take as much exercise as usual. In a flock of a hundred there are ten so afflicted and more starting. We sewed up the one we opened and in three days it was as full as ever again. We did not feed it for a day, then soft feed. —G. T. I.

It is probable that these young turkeys are suffering from inflammation of the crop. I am unable to say what the cause may have been but would shut the affected ones in a yard and supply them with water that contains a disinfectant, ten drops of carbolic acid to a pint of water will do, or Douglass' mixture in the drinking water. The drinking fountains should

be kept clean and if Douglass' mixture is to be used it is better to use earthen drinking fountains. I would feed them dry food in rather limited quantities. If you decide to open the crop and empty the decaying material before sewing up again, rinse well with a disinfectant. Peroxide of hydrogen is excellent for this purpose. Douglass' mixture is prepared by dissolving four ounces of sulphate of iron (green vitriol)in four quarts of water, and to this add one-half ounce of sulphuric acid. In using add a teaspoonful to each pint of drinking water.

* * *

Molting.

Can you tell us what is the cause of year-old hens, S. C. W. Leghorns, molting early in July, getting a new coat of feathers, laying a few eggs, then remolting and continuing in a state of partial molt for the next four months? We had a flock of fifty that acted in the manner described last year and we failed to discover the cause.—E. C. H.

Starving the hens for a period of from ten days to two weeks will start the molt at any time during the spring or summer. Then feeding heavily on food rich in protein will cause them to feather quickly, but my experience is that they will continue to molt more or less feathers during the season, and they may make a complete molt later in the season. A continuous feeding of highly concentrated rations will sometimes cause an almost continuous state of molt.—S. S. T.

* * *

Roup.

Is there any cure for rattling in the throat among hens?—Subscriber.

Rattling in the throat is usually caused by the catarrhal condition that accompanies roup, and while these hens may appear to be in a fair state of health—eating well and laying more or less eggs, still such a bird carries about in her body the active cause of roup and is capable of transmitting the disease to other hens and chickens. I doubt if a bird that has once had roup ever fully recovers. As an egg producer she is always inferior to the bird that has never suffered from the disease. Her development is much slower and in every way such a fowl is handicapped through her entire life. If I had birds that were suffering from throat trouble of the character mentioned, I would dispose of them and start new by disinfecting everything thoroughly. And in securing new stock I would convince myself that the stock comes from flocks that are absolutely free from roup, and to be doubly sure when I was convinced that my own premises were free from the cause of the disease. I would secure eggs from healthy flocks and hatch them in my own incubators and never allow a strange fowl on the place that had not undergone a period of quarantine sufficiently long to insure against an active outbreak at last. The active treatment of the disease as manifested in these birds should consist of the general treatment of roup as outlined in recent numbers of the Cultivator. Among these remedies kerosene oil holds high rank and can be used in various ways, among which the following may be mentioned: A film of oil may be poured on a dish of water and the head of the bird dipped in the same and held there for an instant, withdrawn and wiped dry. Coal oil may be injected into the nostrils with a medicine dropper. Wheat may be soaked in coal oil and fed to the ailing birds. The drinking water should contain a disinfectant, but it should be borne in mind that when the bird is cured it will never be the equal of a bird that has never suffered from roup.

TRAP NESTS IN SUMMER.

When the trap-nest idea first began to attract notice, the chief claim made for them was that by their use the poultryman could know which hens laid, and how many eggs each hen laid during any given period. Then it was learned that any device that would "show which hen laid the egg" also made it possible to keep track of both the sires and dams of the chicks—or in other words to accurately "pedigree" the stock. Clearly it is of great importance to know the individual ancestry of the chicks, both on the male and the female side.

As trap-nests came to be better known, and all types of poultry keepers found them to be useful, a number of other advantages incidental to their use were developed.

It has been learned by means of the trap-nest that many hens rarely, and sometimes never, lay a fertilized egg. By marking each egg that is intended to be used in incubation with the layer's leg band number, those hens which lay non-fertile or weak-germed eggs can be detected, and their eggs avoided.

It is no new discovery that the hens which lay well during the fall and winter months are the ones that pay best from the market egg standpoint; but when we analyze the detailed egg-records of several hundred individual hens, recorded by many different trap-nesters, we find that the best fall and winter layers are also, as a rule, the best summer layers. By "best winter layers" we mean the individual hens that lay from twenty to twenty-six eggs per month; we learn that the genuine "persistent layer" as an individual is pretty certain to lay prolifically the year round.

The work of these superior individuals is obscured, passes unnoticed, when the flock-record is taken as the unit; when the individual record is taken we find that the most persistent layers are apparently checked by nothing except broodiness and the moulting period, and decidedly less by those functions than are their less prolific mates. Such are the facts disclosed by a study and careful comparison of a great many trap-nest records, made in various sections of the country during the past seven years. As compared with individual records the flock-records are practically certain to be misleading, and our conclusion from them incorrect.

Poultrymen who have never handled the individual hen as a unit, but judge the matter wholly by the records of flocks as a whole, have frequently claimed—and have found apparent reason to support the claim—that the type of hen which lays well in winter is not the type that lays well in summer; but trap-nest records of flocks that have been competently handled for eggs all through the year do not support that theory. The hen that does not lay freely and profitably in summer when properly handled, does not, as a rule, show up on the trap-nest records as having laid remarkably well either the previous or following winter. There are exceptions, of course, but they are relatively few. It is a most excellent idea to keep the stock carefully culled of drones and moderate layers all the time, summer and winter. It is the "persistent layer" that pays the year 'round profit in market eggs, and she is the true "laying type" that trap-nesters count upon to perpetuate the prolific laying habit of their stock.

Summer has its own peculiar conditions that antagonize egg production, and the profits are shrunken unless the adverse conditions are overcome. The "strictly fresh egg" is always in demand.

What's the difference?

Genasco is as different from other roofings as wool is from shoddy, or gold from pyrites.

You can't always tell from the looks, but the difference soon shows in the wear.

Genasco Ready Roofing

is made of Trinidad Lake Asphalt—Nature's everlasting waterproofer. Other roofings are made of—who can tell? Ask your dealer for Genasco. Insist on getting it. Look for the trade-mark. Mineral or smooth surface. Write for samples and Book 35

THE BARBER ASPHALT PAVING COMPANY

Largest producers of asphalt, and largest manufacturers of ready roofing in the world.

PHILADELPHIA

New York San Francisco Chicago

Egg-More

Not a strong tonic and stimulant, but a highly nitrogenous Poultry Food very rich in protein. A little fed daily with good grains will keep hens healthy, make them molt early, feather out quickly and lay lots of eggs when they are scarce and high. If not sold by your dealer, we will prepay freight on 25 lbs., $1.90; 50 lbs., $3.60; 100 lbs., $7.00. Send for free Booklet with testimonials.

$50 Cash Premiums

$20 first; $10 second; $5 third; fifteen $1 each. Easily earned in an hour or more by any boy or girl, man or woman, but only one in each family, without any cost to you and no peddling or canvassing. And to each one competing, we will also give a useful article. Send postal for particulars mentioning this paper, to

West Coast Mill

707-709 So. Griffin Ave., Los Angeles, Cal.

F. E. Baldwin's WHITE LEGHORNS

THEY LAY
THEY PAY
At Every Pop
THEY SHOW
THEY GO
To the Very Top

First Prizes Everywhere Shown. Bargains *now* to make room. Send for Prices and Free Booklet.

46 Washington Ave. - San Jose, Cal.

GUTTING'S SUPERIOR WHITE ROCKS

Won 9 firsts out of a possible 10 and all specials and many other prizes at the great L. A. C. P. A. and Pomona Shows last winter. Place your order now for exhibition birds for the winter shows. Eggs now $3 per setting. Send for circular.

E. GUTTING 124 W. SLAUSON Los Angeles, Cal.

Thoroughbred White Leghorn Cockerels

For sale; price reasonable. MRS. J. F. SULLIVAN, Sunset P. O., Sunset City, Sutter County, Cal.

Work is progressing satisfactorily on the levee at Oroville.

Orpingtons--Black and Buff

We now offer some exceptionally well bred stock of our fine exhibition strains. Satisfied customers count for much with us. Let us send you prices today, correspondence a pleasure. Catalogue free.

ORPINGTON RESERVATION
ROSS & TATE,
ALTADENA, CAL.
BUFF. WHITE. BLACK
ORPINGTONS.

One Block North and Two Blocks East Altadena Post Office

Is Your Dog or Cat Sick?

You may lose your valuable dog or cat at this season of the year, when a simple remedy would effect a cure. We have that cure in the Celebrated CLAYTON'S DOG & CAT REMEDIES. In short, we have a cure for all ailments that "Fido" and "Tabby" are heir to.

Write for treatise on diseases of both. It's FREE.

Germain Seed Company
326-330 So. Main St., Los Angeles, Cal.

High Priced EGGS

Are what all poultrymen like to get during the fall and winter; but without the very best of health in the flock and a good variety of sound, wholesome feed it is hard to get such eggs.

Nature requires that hens have a rest just prior to and during the molting period; the result is a scarcity of eggs, with higher prices, and a larger profit for those who can overcome the difficulty. The one that can get eggs during the fall will be just that much ahead of his neighbors and others who fail to do so, which in the end is the difference between success and failure.

COULSON'S EGG FOOD is the feed that will turn failure into success by enabling you to secure eggs in the fall and winter while prices rule high.

Improvements have been effected in the composition of the **EGG FOOD** during the past year, so that it is now richer in the various nutrients required by the laying hen, and is a better feed than ever before. Coulson's balanced ration poultry foods are guaranteed to contain nothing but wholesome ingredients.

"THE RIGHT WAY," our booklet fully describes **COULSON'S IMPROVED MASH EGG FOOD** and other balanced rations for poultry and gives full particulars of guarantee and directions for feeding and care of poultry from the time they are hatched. If you have no copy of it, you should drop us a line today; a postal card will bring it to you.

We have agents selling our poultry foods in nearly every town in California. If you cannot obtain what you want from your dealer, write to us and we will tell you where to get it.

Coulson Poultry & Stock Food Co.
Petaluma, Cal.

Germain Seed Co., Los Angeles
Distributing Agents for So. Cal.

mand, but eggs which are allowed to remain in a hot nest covered by sundry hens that visit the nest throughout the day, lose considerable of their first freshness by night; whether the eggs are to be incubated, marketed soon, or held in storage for future marketing, their quality has been lowered. Trap-nesters remove the eggs from the nests from three to five times during the day; as a rule the trap-nest is an individual nest, and the layers are not able to crowd two, three or more at once upon a nest of eggs, overheating eggs and hens, both, as is frequently the case where the ordinary box nest is used.

Then again, trap-nesters have found by experience that summer troubles with broody hens are greatly lessened by judiciously handling the traps. The frequent handling of the layers and prompt removal from the nest seems to diminish their brooding inclinations and they are more easily "broken up" when they do become broody. Many persistent layers in the incubating breeds do not become broody at all when using the trap-nests, but continue to lay right through the summer. "Egg eating is a vice practically unknown where these nests are used," is the report of many who have had long experience with good trap nests.

It is an interesting fact that quite a number of the most successful trap-nesters installed and began to use trap nests during the summer months. By fall they had become quite familiar with their use, and were in a position to exercise good judgment in trap-nesting and culling the pullets, and the yearling hens through the moulting period. It will be found that the great layers are remarkable for a tendency to molt without apparent loss of vigor, and they will continue to lay during a considerable portion, or the whole, of that period.

It certainly is an excellent plan to get the trap nests installed during the summer months, become familiar with handling them without loss of time, and then one is prepared to start the new generation of layers upon the right road.—American Poultry Advocate.

TRAP NESTS.

This trap nest anyone can easily make. The gate consists of a rectangular frame of heavy wire which meets at the center of the hinge side and one of the pieces is bent outward at right angles to the door. The end of this projecting arm is best bent back upon itself to prevent injury. The frame of wire is covered with wire net and fastened with two staples for hinges to the side of the opening with the gate projecting straight out and the arm across the opening. When the hen enters, the light door closes behind her on the turnstile principle and catches on the wire catch on the left side. The box should be large enough so that a low partition may be put across, the back part being used for the nest. The experiment station at Orono, Maine, sends out a bulletin on trap nests.

Never have the nest so constructed that the hen must jump down into it, as broken eggs will be the consequence. Rather place the entrance so as to permit her to walk in upon the eggs.

Washington farmers are discussing the advisability of a law looking toward the compensation of stock growers whose stock has been destroyed because of its being diseased.

Small Fruits and Vegetables

SEED ROT OF POTATOES.

REPORTS have already begun to come in of seed potatoes rotting in the ground. This trouble is caused by a fungus or mould that attacks the piece of tuber in the ground on the cut surface. The disease was so bad last year in some fields that ninety per cent of the seed rotted in the ground. In some cases this rot started so soon as to prevent the pieces of tubers from sprouting at all. In other cases it started later, rotted the seed, then the fungus attacked the stem. Plants may be found in any field during the season more or less affected with this disease. The plants lose their green color and the edges of the leaves turn yellow or die. If the stem be pulled up, the bark will be found all right, but the splitting of the stem longitudinally wil show the sap wood of the stem colored brown or yellow or in the last stages of black. Microscopical examinations of a cross section of the stem will show the fungus growing in the cells and across the sap tubes of the stem. The injury, to a large extent, at least, comes from the clogging of the sap circulation by the hyphae of this fungus.

This plant, or fungus, that causes the disease, is one of the species of Fusarium, the same or similar to the one that causes the blight or so-called "sleeping-disease" of the tomato. No direct remedy is known for it. One fact that is of some assistance in combating it is that the disease is much more prevalent on land previously planted to potatoes than on alfalfa or clover land. Another thing that is quite noticeable in studying the nature of the disease, is that potatoes planted whole are not attacked to such an extent as the cut ones because of the inability of the fungus to get into the stem.

Treatment of seed with formalin, corrosive sublimate, sulphur, lime, etc., have not given any perceptible relief from it.

It is probable in many cases at least much of the disease is carried to the field in the seed potatoes. The same fungus causes the "dry rot" of potatoes in the storage cellars. It has been very noticeable during the past winter that cellars with poor ventilation, no matter how cool and dry they were, had a high per cent of potatoes affected with this dry rot. Good ventilation and a low temperature without danger of frost in the cellar is probably the best safeguard against loss from this cause—E. R. Benett, Potato Specialist, Colorado Experiment Station.

ENDIVE INSTEAD OF LETTUCE.

One of the most delicious salad plants in the world is the endive. It is the French chicory and some day when it is thoroughly known in America it will largely supplant our more common lettuces.

There are two varieties—the curled and the broad-leaved. The former is the more tender. It matures slowly, requiring about seven weeks and can be sown so that it will come in during the heated months, when lettuce is at its poorest.

Plant the seed fairly close, and as soon as a few leaves are up begin to thin, using the thinnings for the table. Continue this thinning daily till the plants that are to remain and grow to maturity are at least one foot apart.

As soon as the leaves are four inches tall, you may begin to pick. Or the leaves can be cut off and the plant will grow others. Picked this way, endive is at its tenderest.

If it is allowed to grow into heads, the stalks should be blanched. This is done by excluding the light from tnem either by heaping straw or hay around the base of the plants, by covering with boards or most easily and best by tying the heads. Be careful, however, never to perform any of these operations at a time when there is a dew or rain on the plants. They must be perfectly dry when handled.

If the heads are tied up, the blanching process should be complete in about 15 days, sometimes earlier. As soon as they are blanched the endive should be used.

PRESERVING SMALL FRUITS.

An account is given of the coöperative growers of New Zealand preserving their small fruits by employing an improved method. The fruit is placed in casks holding about three tons, the whole mass being stirred with beaters and at the same time sulphur dioxide is forced in at the bottom and the gas is disseminated through the whole mass. The fruit thus treated is chiefly black currants and raspberries. It gives the fruit a bleached appearance, and when it is boiled the sulphur fumes pass off and the fruit takes on a bright natural appearance. In making the jam, it is boiled about twenty minutes before the sugar is added, so as to drive off the sulphur.

Sulphur dioxide is made by adding strong sulphuric acid to copper. The result is bluestone (copper sulphate,) suiphur dioxide and water. Sulphur dioxide is rapidly absorbed by water. The substance is harmless, as it is composed of two parts oxygen and one part sulphur. It is a heavy gas, and collects in the bottom of the vessel and is driven up through the mass by heat, leaving the product pure and with a bright fresh color. The effect of the process prevents the oxidation of the mass. which is the process that darkens preserved fruits.—J. W. Mills.

Berry Plants

Hopkins' Improved Strawberry plants in all standard varieties. One-year-old plants of Brandywines, A-1 and Lady Thompson still on hand; also one-year-old Himalaya Blackberry and Cal. Surprise Raspberry. Catalogue soon ready.

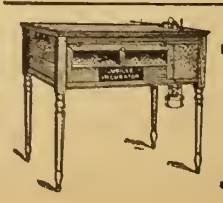
G. H. HOPKINS & SON
Burbank, Cal.

Burbank Crimson Winter Rhubarb

Plants and Seed for sale in any quantity. Warranted the genuine article. Orders filled promptly

A. L. Fratt, Ventura, Cal.

Pacific Seed Co.
C. Bagnall, Prop.
GROWERS AND IMPORTERS OF
Grass, Vegetable and Flower Seeds
All Kinds of Bulbs and Onion Sets
609 J St., Sacramento, Cal.
Send for Catalogue. Please mention Cultivator.



WHY?

Do All Prosperous Poultrymen Use
Jubilee Incubators and Brooders
Our Catalogue A Will Tell You. It Is Free.
Jubilee Incubator Company ***Sunnyvale, Cal.***

The Ornamental Garden

SHOWY PLANTS.

ABOUT the middle of December, the most gorgeous plant to be seen in California gardens is Poinsettia Pulcherima. It might be called a most gorgeous tree, for in size here it is a tree. It is not uncommon to see it ten feet in height with a spread of fifteen feet. The branches of these large plants are numerous and each one is terminated with bracts of the most intense and brilliant scarlet, the largest of which measure from 15 to 18 inches across. They bloom for three months and are invaluable in our gardens—having a brilliant effect, and bloom most profusely when other flowers are scarce.

They are popular for decoration and ship reasonably well. When withered, if they are put into hot water they will revive and keep fresh a day or so. The plant is the sumac of the western states. After losing its foliage it should be cut back to within a few eyes of the old wood. It grows readily from cuttings, which here can be started in the open ground. On large grounds it is very effective planted in groups.

There is a double variety which bears brilliant rosettes of floral bracts the same as the single, but much more beautiful. It is very rare. There are two or three single varieties, the difference between them being in the size of the bracts and variation in the shade of the coloring. There is also a white variety which I have not seen, so that I cannot say how it compares with the scarlet. The stem of the Poinsettia on the large plants often measures from 12 to 15 inches in circumference.

Another plant remarkable for its handsome red flowers, a summer bloomer, is Erythina Christi Galli, or Coral Tree. It is deciduous and rests three months during the winter. The flowers are very large, pea-shaped, brilliant red shaded with maroon. They grow in spikes not infrequently measuring two feet in length in large specimens. When in full bloom this splendid tree is a most striking object. It is propagated from seed or well grown cuttings. A seven year old plant from seed, if full grown, will form a tree, measuring 18 inches in circumference, 12 feet in height, with a spread of 20 feet. It should be trimmed back every year, thoroughly cultivated and the soil enriched, as should all plants of strong growth.

Nandania Domesticus is a very beautiful shrub with ternately compound leaves growing around a central shoot, at first of a beautiful dark, red color, and afterward changing to a dark green. Sometimes the young growth is green, shaded with brownish yellow, and the plant has at all times foliage in different stages of growth and even so that the effect is very striking. The foliage is very pretty for boquets, is very handsome pressed and is fine for decoration. The flowers are in terminal compound panicles, white, with yellow antlers, and the plant is said to have red berries about the size of peas, though I have never seen them. Its habit is quite peculiar, every shoot coming direct from the root to the height of several feet, like canes. It never has any branches so that it is very circular in growth and always symmetrical. It is a native of China and Japan, where it is grown very extensively. It was first introduced to cultivation in 1804. It is propagated from cuttings of the well ripened wood, or by shoots which it throws up every year. In this way it spreads but not very rapidly. It is rarely seen in gardens. It is quite hardy here, and never affected by cold weather. It is liable to be troubled by scale if not watched with care and properly cultivated and thoroughly watered at intervals.

No insects infest poinsettia or Coral Tree, which is greatly in their favor. I have never known the Poinsettia to seed in this country, though I notice seed is advertised in foreign catalogues.—T. B. S.

FLOWER BETTER THAN FLY PAPER.

Migonnette a substitute for fly paper! Surely, of any remedy for any bad condition, that announcement has a delightful sound, says the New York Press. A woman living in the country asserts that in a room where pots of migonnette are set flies will not linger. "Instead of placing those annoying sticky sheets of paper about the room," says an experienced woman, "or undergoing exhausting exercise of driving the pests out of the place through windows, the blessed plant just seems to blow them out on a wave of what you and I would call its fragrance."

North Yakima has a large Jap colony which has taken up quantities of land for garden and fruit purposes.

Malthoid Roofing

Mr. W. T. Somes, Proprietor of Bimini Hot Springs Hotel, Los Angeles, Cal., U. S. A., writes as follows: "Our hotel building, a flat roofed structure covered with Malthoid Roofing, is situated quite near the large Bimini Bath Houses that burned so fiercely the night of November 15th. The wind carried the blazing shingles and red hot cinders in showers to my building, where they simmered on the Malthoid Roofing and went out, doing no damage beyond a number of small blisters raised on the surface of the roofing. We have had one rain since the fire and the roof is tight."

The Paraffine Paint Co. San Francisco California

E. G. Judah, General Representative, Security Bldg, Los Angeles

Flowering Bulbs

We have a large line of Flowering Bulbs ready for immediate shipment. We have carefully selected this line.

Our New Bulb Catalogue

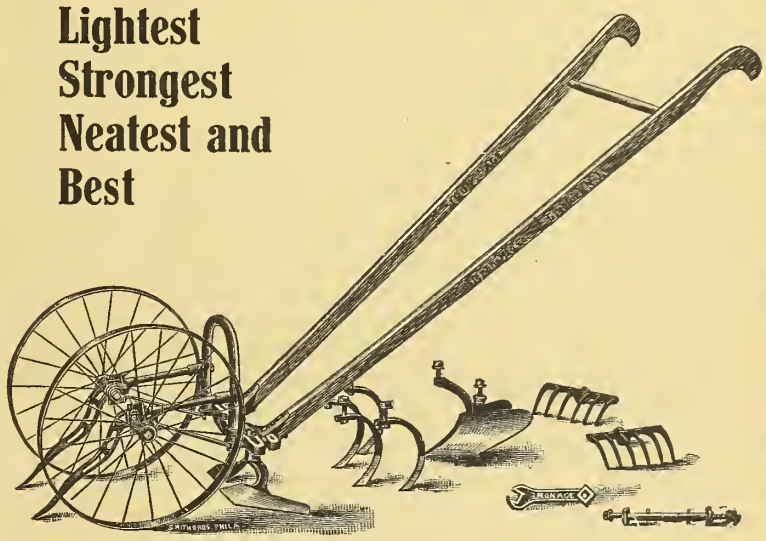
will give all desired information. Just what you ought to have. Mailed free upon request.

Morris & Snow Seed Co.

425 S. Main St. Los Angeles, Cal.

Garden Tools

Lightest Strongest Neatest and Best



The Most Accurate Seeders and the Simplest and Most Easily Adjusted Seeders are possessed by

Iron Age Garden Tools

Send for Profusely Illustrated Booklet

Newell Mathews Co.

200 North Los Angeles Street
Los Angeles, California

Dutch and Japanese BULBS

Now ready. Send for our new Illustrated Fall ***Catalogue,*** now ready to mail. Remember, we are headquarters for

PLANTS SEEDS TREES

We are headquarters on the Pacific Coast for

EUCALYPTUS SEED and YOUNG TREES

Write Us for Special Quotations

Retail Store: 125 Market Street, San Francisco

In Writing, Address

C. C. Morse & Co., 41 Jackson St. San Francisco

Queries and Replies

Questions to be answered in this department should be received at this office one week before reply is expected. Write plainly on one side of the paper and sign full name and address. Unsigned communications receive no attention.—Ed.

Pruning Grapes.

How many canes and buds and eyes do you leave in pruning the following vines: Emperor, Malaga, Muscat, Tokay and Thompson seedless. The writer has a vineyard at Imperial 4 years old. What is the size of raisin trays?—G. V. R.

Emperor vines are trained to five-foot stakes and two or three buds are left until long spurs are formed. When the top grows too heavy, the whole spur is removed to give room and not the pruning merely shortened in. Malagas are pruned half high to three four-foot stakes, after a few years become strong enough to do without stakes. Two or three buds to a spur. Muscats are low pruned and short pruned two buds to a spur. Thompson seedless may be pruned like Emperors to a six-foot stake, or they may be headed lower and trellised on three wires cutting back each year to the old wood on the wires, leaving one bud only. It is impossible in a brief way to tell anyone how to do these things properly. One must understand the system to which they wish to work and then apply it to the different vines as nearly as they can, for no vine is exactly perfect. Raisin trays are two by three feet, usually cleated on both sides with the boards two feet long. M. E. S.

Overheated.

My horse has been suffering from heat. Pants all day. Will not sweat and cannot endure sun.—Imperial.

The horse suffering must be put in a shady place and have his nose, mouth and face well sponged off, put wet cloths along the spine and over the back and above the kidneys. Put water on his head and keep it wet to cool by evaporation. Do not give him any large amount of water at one time. Cut out alfalfa and feed him as small a quantity as possible for a couple of days of cold bran slop. He should be watched carefully, for there are two distinct classes of this trouble, one in which great weakness follows and the horse must be stimulated on eggs with milk and whiskey given as a drench. Three eggs, a pint of hot milk, a tablespoonful of whiskey every three hours. The other form the animal is not weak, but shows the kidneys to be out of order, these the bran mash quickly bring out. The cause is often found in young horses to be too much alfalfa. We do not like to feed alfalfa hay during very hot weather; we reserve it for winter feeding. Good grain hay with a small amount of rolled barley will ward off this trouble when the weather is hot. During the winter the same horses will do well fed on full ration of rolled barley and alfalfa hay. M. E. S.

Warranted to give satisfaction.

GOMBAULT'S
CAUSTIC BALSAM

A safe, speedy and positive cure for

Curb, Splint, Sweeny, Capped Hock, Strained Tendons, Founder, Wind Puffs, and all lameness from Spavin, Ringbone and other bony tumors. Cures all skin diseases or Parasites, Thrush, Diphtheria. Removes all Bunches from Horses or Cattle.

As a HUMAN REMEDY for Rheumatism, Sprains, Sore Throat, etc., it is invaluable.

Every bottle of Caustic Balsam sold is Warranted to give satisfaction. Price $1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars, testimonials, etc. Address

THE LAWRENCE-WILLIAMS COMPANY, Cleveland, Ohio.

Grafting Walnuts.

Please tell me at what age it is best to bud or graft on to black walnut and which of walnuts is best variety and most satisfactory.—J. F. R., Santa Rosa.

Careful reading of Mr. Neff's article in last week's paper, which you had probably not seen at the time of writing your letter, will answer most of your queries. As to the age of the stock or the black walnut root, will say that they are sometimes grafted on the old native trees on the hillside and again in nursery row they may be grafted at one year of age. As to variety that depends upon the section, and we believe your own section has proved out the Franquette to be the best adapted. From Santa Barbara south to San Diego either the Santa Barbara soft shell or the Placentia Perfection are the only ones used.

Squash Bugs—Fall Potatoes.

Is there any remedy for squash bugs?

Fall potatoes planted in this neighborhood nearly all rotted in the ground. What is the cause and remedy—Subscriber, Princeton.

There is no satisfactory remedy for squash bugs. Paris green is often dangerous and never entirely satisfactory. Covering plants with mosquito bar netting or hand picking have been suggested and in small gardens may be effectively used.

We imagine the trouble with the potatoes may have been immature seed or possibly the seed may have been planted in ground with insufficient moisture which, with midsummer heat on the soil, would practically cook and cause to rot without ever sprouting. It is very difficult to get the seed sufficiently ripe for midsummer planting and requires a great deal of care in selection.

Strawberry Fertilizer.

Please tell me the best kind of fertilizer to give my strawberries. They had a good crop this year having been set a year ago last May and want to give them good fertilizing this fall or at once if you think best.—J.B., Highland.

One of the best berry growers of Southern California says that the time to fertilize strawberries is before they are planted, that is, by putting on several tons of stable manure to each acre of ground and plowing deeply, then giving perfect culture to the ground for a few weeks to get the surface into perfect tilth, the best results are had. The application of fertilizer to the surface of strawberry beds is not a complete success. However, if the ground was not orginally fertilized as suggested here it is possible that the application of a complete commercial fertilizer this fall would be advantageous. A light dressing of stable manure may be added, but stable manure is poor stuff for surface dressing on strawberries.

Anthrax Cure, Milk Fever Outfits. See O. J. Weber Co., 555-557 S. Los Angeles street, Los Angeles.

Pruning Apricots.

Please give the best time for pruning apricot trees. Is there any loss of sap or are the suckers any more liable to be plentiful or any other bad results in pruning shortly after the fruit is picked and leaves still on trees?—H. E. T., Santa Paula.

A great many follow the custom of summer pruning of the apricots and it shows more good results than almost any other tree handled in this same way. It seems to stimulate the formation of fruit buds and if the tree is given plenty of water the increase of buds next spring at blossoming time will be practically assured. The suckers of course will be much more troublesome if the pruning has been very severe, but that is a matter which can be handled if sufficient additional fruit is given to more than compensate for the extra labor. The "bleeding" or loss of sap is usually not sufficient to be injurious. For stronger wood growth give winter pruning.

Eradicating Mites.

I have bought a place where the barn, hen houses and other outbuildings are fairly alive with mites and lice, also fleas. Can you give a quick and cheap method of destroying these pests, also the disease germs in places almost inaccessible to paint and whitwash.—H. E. T., Santa Paula.

This is a most difficult problem to handle and can be done satisfactorily only by taking out everything movable and a thorough clearing away of all unnecessary rubbish and reducing the number of crevices and cracks in which the vermin hide as much as possible. After this is done the application of a very strong distillate emulsion or whitewash in which is a liberal supply of crude carbolic acid, if put on with a spraying machine will be successful. The spray enters crevices much more perfectly than when applied with brush. If the building may be closed sufficiently tight good may be accomplished by the thorough fumigation with burning sulphur. This has little result however in the ordinary barn with its wide cracks which would permit the escape of the fumes almost as rapidly as formed. Scattering of bubach or other insect powders may be of some little value.

Butter Won't Gather.

We have a fine Jersey cow which had a calf about three weeks ago. She has always seemed healthy but there seems to be something wrong with her milk. She has always been an excellent butter cow but this time there only raises a small amount of cream and it is more like melted butter poured over its milk than cream. The cow is fed altogether on alfalfa hay. Now can you give me any advice? She seemed to "clean" all right when the calf was born but a couple of times last week I noticed a bloody mucuous discharge.—L. H. W., Lodi

I think that if you have a place where the milk will chill down to 55 deg. or lower, the trouble may be corrected by putting warm water not hot into the milk pans and then pouring in the milk and standing the pans in the cool place. The reason the cream failed to churn at first and churned afterwards was probably that it needed more air to make it grow acid. The churning beat the air into it and the oxygen started the souring rapidly. Now after this wait until it is sour and then if it does not make butter within twenty minutes dilute with cold water and let it stand for a little time and try again. The easy way out for you would be to get some buttermilk from any of your neighbors and stir it into the cream the night before, then it would churn without fail. Better have some one that understands cows examine her for the trouble mentioned. I should use a wash to disenfect her internally. Better have the veterinarian take her in hand for this trouble, as one cannot prescribe for her at a distance.—M. E. S

Root Knot.

Is there any remedy for root knot on Loganberries? My young plants that were set out the past spring have knots on the stems and roots near the top of the ground, from size of small pea to as large as small apples. I have been pulling them off where I could get at them and spraying the roots and vines with Bordeaux mixture. Some of the knots are decayed and are full of small magots and small gnats or flies.—W. C. B.

If I had this case to deal with I should dig out the plants and burn them and plant new healthy vines on other soil. There is little hope of restoring these plants to health when they have reached the stage described in your subscriber's query. Q. A. L.

Skin Disease.

We have a cow that has several rough spots on her. The largest are on the flanks, in the same place on each. Each spot is nearly as large as a person's hand. They are wrinkled and have scales like bran. The hair on the spots is scarce. Is it something that needs attention, and if so, what will cure? Is the cow's milk wholesome for young children?—Mrs J. M. W.

The diseased spots are due to vegetable parasites or fungi in the skin. Would advise tincture of iodine painted on thoroughly twice a week and later once a week until it regains its normal appearance. Milk is perfectly healthy.

Breeding Goat.

Can you advise me how to treat a young milk goat that is too fat? She is eighteen months old and never bred I have had her nearly six months. We thought in August she was three months gone, but she is only fat. I do not suppose you have a goat specialist on your staff yet, but general knowledge may suggest something practical.

Some of my goats I can feed all they will eat of hay and every green thing upon the earth and a little bait of grain; and it only runs to milk and kids. This one would gladly eat much more than I give her, but she seems like a Plymouth Rock hen too fat to lay.

She gets hay and garden truck but no grain or roots. I have good alfalfa hay. Would a straight diet of that on short allowance reduce her? I am only feeding her twice a day now instead of three times. Would weeds such as wild radish and knot-grass be less fat-forming than hay or vegetables? I should like to starve her without her finding it out.

They have big yards to run in and take exercise. How long ought it to take to bring her down into good working condition?

I can take a scrawny, neglected looking animal and in a month have her so sleek and sassy her old friends wouldn't know her. But to reverse the process baffles me entirely.—B. A. R. Stocker.

For Mehring Foot-Power Milking Machines see O. J. Weber Co., 555-557 S. Los Angeles St., Los Angeles, Cal.

I should put her in a small pen and give her dry poor hay, wheat, foxtail or any sort of wild stuff. Give her plenty of fresh water and have salt convenient for her. The first two days give her all she will eat up clean, then begin to shorten the feed by taking away a handful each day, this is better than to make a violent change as the appetite will lessen gradually. When the amount of feed is reduced to two thirds pause there for a few days; if she is losing flesh still do not cut her down further but if she does not then take away a little more. It is safe to cut the food supply down to half if you take a month to do it in but it is not safe to hold the animal down long to that low diet. A fat heifer will not breed as a rule and a goat is probably the same condition. There are sometimes barren animals; about one per cent of ordinary domestic animals are said to be barren. In the improved live stock it will in certain strains run much higher.—M. E. S.

Sorghum—Grapes.

Would you kindly tell me when is the right time to cut sorghum sown broadcast for hay, to stack? What is the value for cattle feed dry and cured? Some claim here it will kill cattle. Also when is the best time to trim young muscat grapes? And how should grape vines be trimmed back, when growing; two or three years old?—Subscriber.

The sorghum questions I think are fully covered in the last two articles. in dairy page and are too long for the query column. The grape pruning questions are rather vague ones. In the winter when dormant prune the first year to one stem leaving a top bud and maybe one outstanding spur. Next year cut back to two or three spurs each year trimming off all below eight inches from the top, removing all ground suckers carefully right up to the vines. There is no particular reason for summer pruning of grape vines in general, sometimes where vines show lack of foliage or where winds are very strong they are shortened in to save breaking off.—M. E. S.

Veterinary

Dr. R. T. Whittlesey, veterinarian, of 714 East Seventh street, Los Angeles, will answer questions in this department. In writing of sickness or injury to any animal be explicit in giving symptoms and particulars. Always enclose full name and address, but if assumed name or initials are preferred they will be used.

If an immediate mail reply is wished enclose $1.00 for such service, but for replies in paper only, no charge is made if the answer will be of general interest.

Please address all questions that are to receive gratuitous replies through these columns to California Cultivator, 115½ N. Broadway.

All communications to Dr. Whittlesey direct should contain a great big dollar.

Tape Worm.

I have a valuable terrier which a few weeks since was most active and healthy. Later he seemed indisposed, ate only occasionally and at times would lie around in the dumps. Gave distemper remedy, later gave worm remedy. Seemed better for a time, but continues to run down and is very poor. Occasionally he will vomit. Other than that there is no indication of disease except his lying around and looking at us with big sad eyes. At first he had spells of shivering, but these do not come any more.—M.., Highland Park.

The symptoms are such as a dog would have if full of tape worms. Make a strong salt water solution and give an enema with fountain syringe. All he will possibly stand. Tie him where you will be able to watch results. Repeat in about a week.

Visalia is having a race war amongst the employees at the cannery.

California Farm Names

AFTER skipping a couple of weeks we come back with another bunch of farm names which are quite interesting and show that the interest in this department of the Cultivator is increasing each week. We trust the movement will continue until every farm home in the state is dignified with a name of its own.

"Deveron Grove," owner, E. S. Ingram, Pomona, Los Angeles county. Deveron Grove is on West Holt Avenue in that thriving city.

"Tracy Stock and Ostrich Farm," owner, Mr. & Mrs. William Tracy, Buttonwillow, Kern county. Mrs. Tracy writes: "Our ranch is a stock ranch consisting of three thousand acres, situated in the Artesian Belt, thirty miles from Bakersfield in Kern County.

"Some months ago we became interested in the ostrich industry, and, being unable to procure any birds in this state, we had a pair expressed from Phoenix Arizona. The birds have done well and we think this locality an ideal one for ostrich farming.

"As Mr. Tracy is very busy I have taken the responsibility of the ostriches. This is my first experience along that line but I am making a careful study of the birds and hope to make the industry a success in this locality.

"I have plucked the birds twice and manufactured the feathers into goods ready for the market. So taking up your valuable suggestion we call our place—The Tracy Stock and Ostrich Farm.

"We find valuable information in every issue of the Cultivator."

"Hazlecroft," owner, Mr. & Mrs. H. J. Painter, Glendora, Los Angeles county. Mrs. Painter writes: "We have been very much interested in your lists of farm names and hasten to send our own, which is so new that even our nearest neighbors would not know where to find us by name alone.

"Our home is so small, 10 acres, that Croft seemed to suit nicely, and by adding a slight deviation of Mr. Painter's name, Hazael we have "Hazelcroft," which so far as we know is a new title. A name post and the proper stationary will be identification enough for our little home—which is set to seven acres bearing oranges, two acres young lemon trees, and nineteen varieties of other fruit.

"Medawin Ranch," owner, E. W. Blakeman, Holtville, Imperial county. Mr. Blakeman writes:

" I take pleasure in adding to the list of ranch names you are preparing. We have named ours Medawin Ranch. Medawin is an Indian word meaning magic and we think it a name especially suited for a ranch in the Imperial Valley. We wish you continued success with your most valuable and interesting paper.

"Willow Dairy," owner, S. S. Farnsworth, Tulare, Tulare county. This ranch is located two and one-half miles south west from Paige on the Santa Fe Railroad in Tulare county. There is a creek running through the ranch with large willows along the banks and the principal feature of the ranch is the dairy which suggests the name.

"Mistletoe Ranch," owner, B. Howard Whitcomb, Holtville, Imperial county. Mr. Whitcomb writes: "I am much interested in your 'Farm Names.' I named my ranch on account of the large quantities of mistletoe growing on the mesquite trees. I think every farm should have a name. I own a farm back in Indiana known as the, Burr Oak Stock Farm, so named on account of burr oak trees. I once owned a farm which I named 'Red Ear Stock Farm' on account of a husking bee. Its a pity so much mistletoe is going to waste here in this valley for want of pretty girls! Long may the Cultivator wave."

"Dogwood Ranch," owner, Arthur S. Fell, El Centro, Imperial county. The ranch is two miles north and two miles east of El Centro and consists of 320 acres, the principal features of which are alfalfa, dairying and grape growing. Mr. Fell says that he expects to plant oranges as soon as conditions of Imperial Valley are proved to be favorable to them. The name is taken from the fact that the ranch is located on Dogwood canal.

"The Oaks," owner, C. E. Moore, Yuba City, Sutter county. Mr. Moore writes that "The Oaks is situated five miles west of Yuba City and consists of 315 acres. The land is devoted to raising grain, alfalfa and stock. The name of the ranch is taken from the ten giant oaks, all of which are in the corral around the place."

"Far View Berry Ranch," owner, J S. Bates, Highland, San Bernardino county. Mr. Bates writes that he is pleased with the ranch naming idea and that he has taken the name Far View from the fact that from his door he can see all over the San Bernardino valley, Redlands, the city of San Bernardino, Colton, Highland, and Patton. His principal products are berries and small fruits.

"Palmetto Orange Ranch," owners, Mr. & Mrs. C. R. Rice, Lindsay, Tulare county. Mr. Rice writes that he has the border of the place along the street and private driveway lined with palms from which he takes his name "Palmetto." The place consists of 40 acres and is two and one-half miles east of Lindsay. Thirty acres of the place are in oranges and the rest is to be planted to oranges next spring, excepting such part as he has taken up with deciduous trees, grapes, and berries for his home use, also a small sized wood lot. Mr. Rice stands square up for his own community and he adds the following to his letter: "We have the best orange country in the State of California. We like the Cultivator and can't get along without it. We have taken it ever since we came to the state."

"Villa Alois," owner, A. Podrasnik, Uplands, San Bernardino county. Mr. Podrasnik writes his approval of the naming of the farms on beautiful heavy tinted linen paper with the words "Villa Alois, Upland California" embossed at its head. In the letter he says: "I see with pleasure that many of your subscribers have followed your advice in naming their ranches and in that way established an individuality for each place, I have named my home ranch, 'Villa Alois,' as above painted, nearly two years ago."

Orange county celery growers, members of the Celery Growers' Association during '06 and '07, will receive $29,000 for distribution, which was collected from railroads as claims for damages in shipments of celery to east during January, February and March of '07.

Classified Liners

Rates 1½ cents per word per issue. No ad accepted for less than 25 cents. Our classified columns are the clearing house for the readers of the Cultivator. Here you can insert an ad for the small sum of 1½ cents per word per issue, and be sure that it will be read by thousands.

MACHINERY.

WE CARRY A GENERAL LINE OF MAchinery, gas engines, air compressors, boilers, engines and pumps. 40 car loads of screw pipe and casing can be cut to lengths, also all kinds and sizes of fittings. Several hundred iron fence posts. R. KELLY MACHINERY CO., corner of Mission road and Macy street, Los Angeles. Cal.

FOR SALE MACHINERY OF ALL KINDS; new and secondhand gasoline & distillate engines and electric motors our specialty also generators. See us before buying. We can save you money. BAILIE AND BRANDT CO. 943 N. Main St., Los Angeles.

FOR SALE—DISTILLATE ENGINES FROM 3 to 80 HP new and secondhand, single and double cylinder, also all sizes of centrifugal pumps. BAILIE AND BRANDT CO., 943 N Main St., Los Angeles.

FOR SALE—MEHRING MILKING MAchine with extra parts and covered pail, all in good order. WM. H. BIRD. Box 6, Compton, Cal.

FOR SALE—CHEAP FOR CASH, SMALL gasoline engine ,in good running order Address B 9, care CAL. CULTIVATOR.

FOR SALE—COMPLETE LINE OF ELECtric motors and generators both direct and alternating current, BAILIE & BRANDT CO., 943 N Main St., Los Angeles.

FARM LANDS FOR SALE.

RANCH FOR SALE—105 ACRES AT $40 AN acre; 85 acres in cultivation; nearly all of remainder can easily be put in cultivation; 45 acres level land; 800 full bearing apricot trees; 5-room dwelling; good large barn; fruit drying plant; 5 miles north west from Moorpark; half mile of school; land suited to beans, hay and corn. For further information apply to WM. ROBINSON, Moorpark, Ventura county, California.

FOR SALE—1 TO 10-ACRE TRACTS ON CAR line, between Riverside and new cement works; good for chicken ranches, alfalfa or gardening; will sell on easy terms; plenty of water on each tract. C. C. POND & N. R. BELL. Riverside, Cal.

POULTRY

SPECIAL SALE—TO MAKE ROOM FOR my young growing pullets I offer at common stock price all my this year's breeding pens, including many prize winners. This is a rare opportunity to get first class breeders cheap. At the last L.A.C.P.A. show my birds won all specials, all first prizes, and all seconds but one, that were offered on Barred Rocks. CHAS. E. SMITH Gardena, Cal. San Pedro car via Gardena to Smith's Crossing.

FOR SALE—STOCK OF THE FOLLOWING standard bred varieties of poultry, Black and White Orpingtons, Brown and White Leghorns; won fourteen first and second prizes on fifteen entries, State Fair, 1908. J. J. VERKOUTEREN, Route 3, Hanford, Cal.

PARTRIDGE WYANDOTTES—C. ANdrews, 823 W. Franklin Ave., Hollywood, Cal.—1st cock, hen, cockerel and pullet; 1 cups, Poultry Breeders' Show, 1908.

WANTED—MALE HELP.

NINETEEN JOBS GOING AT PRESENT—Electricity, plumbing, bricklaying taught in few months; tuition back after two months; advanced students paid wages. Free catalogue. UNION TRADE SCHOOL & CONTRACTING CO., 120-126 E 9th St., Los Angeles, Cal.

DOGS.

SABLE AND WHITE COLLIE PUPPIES—Sires, Brandane Wishaw Squire and Glen Fana Bounder, litter brother to Aufield Model. Dams, Ormskirk Gloriana and Presidio Nellie. $10 to $25; 2 to 8 months. GLENALPINE KENNELS, Grandville, Cal.

TREES.

FOR SALE—1,500 EUREKA LEMON TREES and 1,000 Washington navel orange trees, true to name. Also street and ornamental trees. Clean, healthy stock only offered. GEO. B. WARNER, SANTA ANA, CAL.

WANTED—ORDERS FOR EUCALYPTUS trees for spring delivery. Write for prices. Seed of the Rostrata and Sugar gum for sale. ENCINITAS FLORAL & PRODUCE CO., Encinitas, Cal.

PIGEONS.

HOMERS FOR SQUAB BREEDING—ARE prolific breeders and are banded. Price $2.50 per pair. WM. CULP, Escondido, Cal.

SHOPPING BY MAIL.

SAVE MONEY AND GET A BETTER choice by shopping in a large city. We will do your shopping for you. Send for our free book. It tells you how. LOS ANGELES PURCHASING CO., 506 Bradbury Bldg., Los Angeles, Cal.

HOGS.

REGISERED BERKSHIRE AND POLAND China hogs, both sexes. C. A. STOWE, Stockton, Calif.

"Now, Johnny," said the Sunday school teacher, "can you tell me one of the most remarkable things Moses did?"

"Yes, ma'am," replied the bright youth," he broke all the ten commandments at the same time."—London "Opinion."

Turlock has a 50 pound watermelon.

What MORE Could You Desire In A Savings Bank?

20,000 Depositors
Strong Directorate
Capital and Surplus Over
$900,000
Resources
$10,000,000

GERMAN AMERICAN SAVINGS BANK

Tallest Building in Los Angeles

SPRING & FOURTH STS.

Heart of the Business Center
Model Banking Facilities

6% INTEREST PAID
STATE MUTUAL
BUILDING & LOAN ASSN.
223 S. SPRING ST., LOS ANGELES, CAL.

ESTABLISHED 1889
Largest Association in California
Assets [Jan 1, 1908] $2,002,111
No Admission or Withdrawal Fee
Only 30 Days' Withdrawal Notice
Money to Loan for Building
OFFICERS AND DIRECTORS
DR. W. G. COCHRAN, President
A. E. POMEROY, Vice President
J. M. ELLIOTT, Vice President
W. D. WOOLWINE, Vice President
C. J. WADE, Secretary

D. M. CUTHBERT, Loan Inspector.
Send for Booklet and Statement
Mention This Paper

Your Eastern Trip

SOUTHERN PACIFIC

May be arranged so that you may travel by way of

New Orleans and the Sunset Route

San Francisco and the Ogden Route

Portland and the Shasta Route

Enjoying the balmy air of the South or the cool and bracing air of the North.

Personally conducted excursions every day from Los Angeles via all routes without change to principal eastern points.

Southern Pacific

Household Department

CONTENTMENT.

Once on a time an old red hen
  Went strutting around with pompous clucks,
For she had little babies ten,
  A part of which were tiny ducks.
"Tis very rare that hens," said she,
  "Have baby ducks as well as chicks;
But I possess, as you can see
  Of chickens four and ducklings six!"

A season later, this old hen
  Appeared, still cackling of her luck.
For, though she boasted babies ten,
  Not one among them was a duck!
"'Tis well, she murmured, brooding o'er
  The little chicks of fleecy down;
"My babies now will stay ashore,
  And, consequently, can not drown!"

The following spring the old red hen
  Clucked just as proudly as of yore.
But lo! her babes were ducklings ten,
  Instead of chickens as before!
"'Tis better," said the old red hen,
  As she surveyed her waddling brood;
"A little water now and then
  Will surely do my darlings good!"

But, oh, alas, how very sad!
  When gentle spring rolled round again,
The eggs eventuated bad,
  And childless was the old red hen!
Yet patiently she bore her woe,
  And still she wore a cheerful air,
And said, "'Tis best these things are so,
  For babies are a dreadful care!"

I half suspect that many men,
  And many, many women too,
Could learn a lesson from the hen
  With foliage of vermilion hue.
She ne'er presumed to take offense
  At any fate that might befall,
But meekly bowed to Providence.
  She was contented—that was all!
—Eugene Field.

THE BONNET BOTANY OF PROF. ELI BOOP.

"YES, this must be the place," said Eli Boop to himself, as he paused at the entrance of a hall into which people, that is, women, were streaming. Mr. Boop had grown very nearsighted, even with his spectacles, and very deaf besides; on account of these infirmities he had experienced some difficulty in finding his way to the new quarters of his beloved Linnaean Society.

Thinking that he was late, he slipped into a rear seat. But the meeting had not begun. When it did open, he saw with astonishment that instead of his dear president, a fierce-looking woman was calling the meeting to order; and her remarks, so far as his poor ears could catch them, dealt, indeed, more with woman's rights than with botany. But he knew that he could no longer depend on his ears and eyes, and accordingly he waited patiently for fifteen minutes for the mystery to be explained.

Suddenly the dangling of a little flower under his very nose attracted his attention. It was a brilliant red flower on a long stem of vivid green; and it was drooping from a large bunch of similar flowers, red with green stems. Eli Boop, of course, was interested at once, and perplexed also; for although he thought that his knowledge of botany was nearly perfect, he did not recognize the plant before him by any of its parts. He took out his pocket microscope, instinctively, and was absorbed forthwith in a scrutiny of this strange specimen. "Flowers kermesine," he began, speaking softly to himself, "monadelphous—anthers anfractuose, pistils apocarpous—buds adventitious, stems, ramentaceous." He became more and more interested. "Leaves, biserrate, bracteolate, chartaceous, some hippocrepiform, lentiginose some hypocraterimorphous." The botanist seized firmly one leaf tthe strangest of all, and drew it nearer his spectacles. Surely, he thought, that was a remarkable species of plant life.

Just then there was a convulsive jerk given to the stem of the leaf, followed by a feminine shriek. Mr. Boop was startled by this, to be sure; but he was more startled when a large hat with ribbons and flowers descended into his lap. As he glanced up, he saw a tall woman glaring down at him in wrath, trying frantically, with both hands, to rearrange her gray curls at the back of her head. A moment more and the president was striding down the aisle directly toward Mr. Boop.

"Who are you?" she demanded, facing him savagely, while her followers arrayed themselves behind her in serried ranks.

"Boop is my name, madam," answered the professor, modestly.

"So it was not enough for you to intrude here. What do you mean by assaulting our honored vice-president, Miss Virginia Tool? Do you think to oppose woman's suffrage by violence? Do you think that brute force can conquer right?"

"No, no, of course not," assented the botanist, with a faint attempt at a good-natured smile. He glanced again furtively at the door. "My intrusion,

> "The world wants men, large-hearted manly men—
> Men to join in the chorus and prolong
> The psalm of labor and the psalm of love."
> —Holland.

madam, was entirely unintentional, entirely." He seized his hat nervously and slipping past the irate president, he made for the street.

Professor Boop was troubled more and more over Miss Virginia Tool. He told himself that he owed her an apology. He made inquiries about Miss Tool and succeeded in finding her abode. Then, one afternoon, he set out to redeem himself.

Miss Tool was at home, the maid said, and would receive him presently. After a while the door opened and Miss Virginia stood before him. She eyed him for a moment uncertainly. Then, with a scream, she threw up her hands. "O, you wretch! You wretch! Are you still persecuting a defenseless woman? Oh! murder! Help! Maria!" She turned and fled down the hall, still calling for Maria.

Reinforced by the giggling maid, Miss Virginia returned to confront the enemy. "Now, sir, go away, or I'll call the police," she ordered.

The professor awkwardly picked up his hat and started slowly for the door. His courage was fast oozing away. With one hand on the knob, however, he made a final stand. "Surely, as you are a lady, you will allow me to speak long enough to make an apology." She did not answer, but stood waiting uneasily, Then the botanist made a profuse and humble apology and implored her forgiveness. "I could not help being interested in your hat," he concluded.

"Interested in my hat?" repeated Miss Tool. She looked down at the floor modestly. "I trimmed that hat myself, and I thought it was very pretty. But nobody ever took any notice of it before. I began to think it was a failure."

Prof. Boop cunningly saw his opportunity. To the best of his ability he praised that hat. He remained to discuss botany.

The good professor came again, and yet again to see Miss Tool's collection of plants. And one day he ventured to invite her to see his own gardens. Miss Tool hesitated a long time before accepting an invitation to visit a bachelor's house. But in the end, of course, she went. All one afternoon they examined Professor Boop's flowers.

"Miss Tool," he said, holding out a small red flower, as they rested after their walk. "That is as nearly like the one you had in your hat as I can find."

"How strange you should have thought of that," she returned. "Well," she added, "it is inconsistent of you to have it here if it reminds you of anything like a woman's hat. It's the only thing about here that could remind you of a woman. It is just the opposite of my house. But I think we are both very contented with our own things."

"That's so," said Mr. Boop, reflectively. "But still, since my sister left me, a year ago, to be married, I haven't been very successful at keeping house."

"I can see that," rejoined Miss Tool. "Why don't you get a housekeeper?"

He looked at her thoughtfully through his glasses. "It occurs to me, now that you speak of it, that I ought to have somebody. Perhaps you might like to come and stay yourself. It strikes me we should be congenial."

"Me to go out as anybody's housekeeper?" asked Miss Virginia, haughtily.

"No, no," replied the botanist. "I never thought before of being married myself; but I might stand it. Will you come and marry me?"

Miss Tool grew redder than the flower which he held in his hand. She arose in agitation. "Sir," she demanded, "how dare you talk to me in such a fashion. I must be going at once."

But she did not go home. She went only to the door and then stopped on pretence of examining another flower. Mr. Boop kept his seat, quietly considering the question of matrimony in his own mind. At length he said, in a calm, satisfied tone: "I've a mind to try it anyway. Do you say we shall try, Miss Tool?"

"Well," she answered, burying her face in the flowers and turning her back to hide her blushes. "I am too unprepared to have any views on such a subject, you know. But it is evident that you should have some one to look after you at once. I might be able to sacrifice a little, if there is nobody else who would take care of you."—Illustrated World Life.

STUDY AT HOME
READ—THINK—ACT

We are teaching over 3000 students at their homes, in Collegiate, Commercial and Normal subjects.
No interruption of regular work.
To study with us is a pleasure.
Lessons carefully examined and corrected, and promptly returned.
Send for complete catalogue.
We want local representatives throughout California.
Help yourself by helping us.

Modern School of Business and Correspondence, San Jose, Cal.
WRITE TODAY DEPT. D

JAMES R. TOWNSEND
Solicitor of American and Foreign **Patents** Copyrights, Trademarks and Labels Registered. Rooms 428-433 Bradbury Blk. Los Angeles, Cal. Phones: Home, A4818; Sunset, Main 347

The Personal Neatness Club

The former neatness notes have all pertained to the women. The men have a chance this week. Or rather the women have a hint as to how to tidy up the men. As a matter of fact the women should not have to attend to the men, but some way they drop into that habit then it has to be continued. The last thing a woman wants around the house is an untidy man. Like a dog with fleas, he makes you feel kind o' creepy. So a little personal attention has to be given to him now and then. A. M. H. comes with the following on

Care of Men's Clothing.

The cleaning of a dust-laden coat reduces the average woman to despair, but men's suits can be renovated so thoroughly and well as to save buying a new one, as the garments often become faded and soiled long before they are badly worn. It is a good plan to keep a package of absorbent cotton in a convenient place in the dining room, as a bit of cotton instantly applied will remove oil, milk or cream before it has time to leave a stain on the fabric. Honey, molasses or sticky substance may be removed by rubbing with slightly diluted alcohol, and there is nothing better for removing grease spots from wollen fabrics than alcohol and salt. A coat, vest or pair of pants that are not much soiled will come out of a good gasoline bath looking almost like new, but the only safe place to use it is out of doors. First shake and brush the garment until it seems perfectly free of dust, then remove the spots and put the garment in a large pan or bucket and pour enough gasoline over it to saturate it thoroughly, then cover closely to keep the fluid from evaporating, and leave it for two hours. A black alpaca coat and a cloth vest and pair of pants that were still good but had become rusty, were first washed clean and then recolored a jet black by dipping the garments in black diamond dye for wool, and they looked as nice as new garments, after they were carefully pressed. It is best to remove the buttons before washing the garments and sew them in place again after the cloth is pressed, and the butonholes will look much better if they are basted together before washing the garment.

If there is a tear that needs mending set the patch neatly, taking care to match the twill or check, and sew it down so as to make it as nearly invisible as possible, then dampen on the right side and press on the wrong. If the pants legs are worn around the edges, rip out the hems and turn them up far enough to conceal the worn portion, run skirt braid on the underneath side and press carefully.—A. M. H.

Now, boys, brush up and if necessary wash up. Don't ask mother or wife to sponge and press a heavy suit. A. M. H. and lots like her are willing to press suits for the men folks, but it's hard work for a woman.

RECIPES.

How to Make Chop Suey.

"Chop suey is really wholesome, not a mysterious dish," says Fannie Merritt Farmer in Woman's Home Companion for September. "Remove the breast meat from an uncooked chicken, and cut in strips one inch long. Put in a stew pan with one tablespoonful of butter, and cook two minutes, stirring constantly. Wash and scrape stalks of celery, and cut in thin slices; there should be three fourths of a cupful. Add to the chicken with one medium-sized onion cut in thin slices and six fresh mushroom caps cut in strips. Cook five minutes and add one cupful of chicken stock, one half teaspoonful of sugar, two teaspoonfuls of Shoyu sauce and one half green pepper, from which the seeds have been removed, cut in small pieces. Bring to the boiling point and add one teaspoonful of corn starch diluted with two tablespoonfuls of cold water. Let simmer for five minutes, and season to taste with salt."

HOMELY HINTS.

To prevent salt in saltcellars from becoming damp and lumpy, when filling them put in ten to twelve pieces of rice, says Woman's Home Companion for September. "This will not come through the holes in the cover of the saltcellars, but will break the lumps of salt and gather the moisture; thus the salt is always dry and fine."

Put Salt in Shoes.

For rheumatism, sprinkle common salt in the bottom of one's shoes. Put in fresh salt every morning.

Turpentine Cures Coughing.

Inhale turpentine as much as possible. At night, saturate a folded handkerchief with turpentine and pin to the pillow. Place another handkerchief under each arm and saturate the comfort in places with the upper sheet between to avoid the turpentine burning the flesh. A flannel cloth greased with turpentine and lard laid on the chest effects an immediate cure.

To Keep Linen Nice.

What can tend to make the dining room more attractive, fresh and neat looking than nicely folded cloths and napkins? A rule always to follow is after ironing your table linens nicely and evenly to place them in a careful manner in your closet, which already you have padded. To make the pads, take two thicknesses of cotton batting, cover with cheese cloth, and sew together around the edges. A little orris root and lavender sprinkled between the cotton will impart a delicious and fragrant odor.

FOR BEAUTY.

Here are a few rules given by the celebrated French dermatologist, M. Felix Chaleux, for a clear, beautiful complexion and perfect health:

Don't drink tea or coffee.
Drink pure water.
Eat grapes, apples, raisins and figs.
Eat salted almonds.
Don't eat animal food.
An egg or two a day, soft boiled, instead of meat.
Eat an orange every day or so.
Walk two or three miles a day.
Bathe the whole body daily in tepid water.
Don't fret; don't worry; be calm and quiet.

VERY APPROPRIATE.

"My hair is falling out," admitted the timid man in a drug store. "Can you recommend something to keep it in?"

"Certainly," replied the obliging clerk. "Get a box."

By practicin' company manners in everyday life yeh will never be caught nappin' when yeh need 'em most.

The Oldest Savings Bank in California

FOUNDED IN 1857

The Savings and Loan Society

101 Montgomery St., Cor. Sutter St., San Francisco

CAPITAL FULLY PAID $1,000,000.00

Exclusively a Savings Bank whose policy is for ***Conservatism*** and ***Safety,*** the result of ***50 years experience.***
Deposits may be made and withdrawn by mail.

San Francisco Savings Union

Founded June 18, 1862 Northwest Cor. California and Montgomery Sts., San Francisco

Conducts a Savings Bank Business Exclusively

Capital Paid Up, $1,000,000.00. Surplus, $1,183,832.88.
Total Assets, $27,508,850.00.

E. B. POND, President.
W. C. B. de FREMERY AND C. O. G. MILLER, ... Vice-Presidents.
LOVELL WHITE, Cashier. . . . . R. M. WELCH, Asst. Cashier.

DIRECTORS: John F. Merrill, Wm. A. Magee, W. C. B. de Fremery, H. C. Breeden, Jacob Barth, Fred H. Beaver, Wakefield Baker, C. O. G. Miller, E. B. Pond.

Every facility afforded for opening accounts and making deposits and withdrawals by mail. Correspondence invited.

$16.30 buys this handsome six-hole Nickle-Trimmed Cast Range direct from the Manufacturer

without high shelf. With high shelf, just as shown in the cut, $19.97; large oven, six cooking holes, best quality of iron. Burns coal or wood. Handsome nickel trimmings. OUR TERMS are the most liberal ever made. You can pay after you receive the range. You can take it into your own home and use it 30 days. If you don't find it exactly as represented, the biggest bargain you ever saw, you won't have to keep it.

Write today for our beautifully illustrated Stove Catalogue No. 101-C. A postal card will do it. Don't buy until you get it.

P. F. Ross & Co.

268 Market St. San Francisco, Cal.

A Business Training for Young Men and Women

COMPLETE INSTRUCTION IN THE FOLLOWING SUBJECTS: BOOKKEEPING, CORRESPONDENCE, GRAMMAR, SPELLING, SHORTHAND, TYPEWRITING, PENMANSHIP AND ACTUAL BUSINESS PRACTICE IN OUR FULLY EQUIPPED OFFICES.

Students assisted to permanent and profitable positions.

SAN JOSE is an ideal city for study. It is rapidly growing and there is great demand for competent young people.

Catalogue and Brass Edge Ruler Free. Write for Them Today.

Pacific Coast Business College, San Jose, Cal.

NEW QUARTERS

Woodbury Business College

Fifth Floor New Hamburger Building, Hill, Eighth, Broadway, Los Angeles
Elevator Entrance, 320 West 8th St.

A school of FORCE, CHARACTER and INFLUENCE. Prestige of long experience, thousands of graduates. "THE SUCCESS OF THE STUDENT" its slogan. Entire year—begin when ready. POSITIONS SECURED. Write for CATALOGUE.

The
Barker Portable Cottages, Bungalows, Garages, Tent and Poultry Houses

These houses are correctly built of selected material and are so different from the ordinary portable houses as the aim has been to make them look like a permanent structure built on the ground. They have stood the test of years and are conceded by experts to be the best, cheapest and most practicable portable house made. Please investigate before purchasing or building. We also manufacture sanitary poultry houses of our own designs. Write or call at office and factory, corner of Topeka and Alameda Streets, Long Beach car line.

Pacific Portable Construction Company Los Angeles, Cal.

Home Made Ice Cream and Candy

Appeals to Everyone in the Family

Has been going since the very day of publication. Full of all that is known about Home Made Ice Cream and Candy. Nearly Three Hundred Formulas.

Make 60 cent Chocolates for 15 cents
Taffies Nut Candies Butterscotch Everything

A 50c Book **You Get It Free With the Cultivator** For 1 Year's Subscription

Paid in advance. For old or new names who pay for the coming year. Enclose a $1.00 bill and ask for the "Candy Book." But remember, you will not receive the book unless the remittance pays for at least a whole year from this date. Address

Cultivator Pub. Co., Los Angeles, Cal.

The Produce Markets

Los Angeles Markets

LOS ANGELES, Sept. 16, 1908.

Butter.

Butter has made a sharp advance and is very firm at present quotations. A strong effort has been made to lower price, but official quotations are as follows:

Creamery ex per roll	62½
Firsts	60
Dairy	24
Cooking	24
"Butterine"	16@20

Cheese.

Southern California	14@15
Northern fresh	14@14¼
Longhorn	17@18
Eastern singles	16
Cheddars	19
Imported Swiss	27@28
Swiss	15½@16
Oregon	15½@15¾
Limburger	17@17½

Eggs and Poultry.

Eggs have taken almost a daily advance and are now 6 cents above last week's quotations. Receipts are now very light which tends to hold at present or stronger price, Easterns have been marked up which strengthens all other grades.

Eggs local candled	38
Eggs case count buying price	34
Firsts fresh	35
Storage selected	26@27
Storage	26½
Storage, short time	28@30

Wholesale prices:

Hens per pound	14
Young roosters per lb	17
Fryers	18
Brollers per pound	18
Roasters	16
Old roosters	8
Turkeys	16@20
Geese	11@12
Ducks	11
Squabs	1.25@1.50

Live Stock.

The following quotations are f. o. b., Los Angeles, on all stock.

Hogs from 175 to 200 pounds	6¼
Prime steers	4¼
Helfers	3½@3¾
Calves per lb	4½@5
Sheep ewes per head	3.75@4.00
Lambs per head	2.75@3.25
Wethers	4.00@4.50

Potatoes.

Heavler receipts of potatoes have enabled the bears to depress the quotatlons on potatoes.

Market is in fair condltion.

Wholesale prices are:

Sweets per ctl	1.35@1.40
Burbanks choice	25@75
Northern Burbanks fy	1.25
Local Burbanks	1.50
Highland fancy	1.35
Coast	1.30

Onions.

Wholesale quotations are:

Sllverskin new	90
Northern Red	90@1.00
Australlan Browns	1.00@1.10
Danvers	90
Garlic	9@10

Vegetables.

The following are commission house prlces; deduct freight and commisslon to secure farm prlces.

Asparagus per doz	85
Artichokes per doz Northern	75@80
Beets per doz	30
Bell peppers per lb large	3@4
Bell peppers box	15@20
Beans limas per lb	2½@3
Beans string	3½@4
Brussels sprouts per lb	9@10
Cabbage sack	75@1.00
Cabbage red per lb	2
Celery per crate	2.25
Corn per box	40
Chicory per bunch	10
Chili peppers per sack	50
Cucumbers per box	25@40
Cauliflower per doz	1.25@1.40
Carrots per doz	30
Egg plant per pound	1@1½
Green onlons doz bunches	20@30
Horseradish	12½
Lettuce per crate	75@1.00
Okra	8
Peas sugar per lb	5@6
Parsley	30
Parsnips	35@40
Rhubarb per box	1.25
Radlshes per doz	15@20
Summer squash per box	25
Spinach per doz	15@17
Turnips dozen bunches	25@30
Tomatoes lug box	15@25
Tomatoes yellow	40@65

Citrus Fruits.

Valencias	2.30@2.50
Grapefruit seedless	3.00
Grapefruit seedlings	1.75@2.00
Lemons fy	1.75@2.00
Lemons choice	1.50

Fresh Fruits.

Wholesale prices on the market are:

Red Astrachans new	75
Astrachans packed box	1.35@1.50
Bellefleurs	1.15
Alexandria 4-tier	1.00@1.10
Gravenstein 4-tier	1.15@1.25
Skinners 4-tier	1.15@1.25
California Jonathans	1.40
Crab apples	1.50
Apricots cold storage	50
Cantaloupe locals large crate	2.00@2.25
Casaba crate	1.50@2.00
Figs per fig box	75
Figs blk per fig box	75@85
Guavas per lb	6
Grapes seedless Sultanas	50
Muscats per lug box	50@65
Grapes Malaga	50@75
Grapes Thompson seedless	35@40
Grapes Concord per lug box	1.00@1.25
Grapes Tokay	85@1.00
Cornichons	1.00
Rose of Peru	50
Grapes Black Hamburgs	50
Nectarines	1.25
Pears per box	1.50
Pears lug box	1.00
Pears winter Nellies per lb	4@5
Plums Sonoma	50@60
Plums Kelsey	60
French prunes	50
Hungarian prunes	85
Peaches per lug box	85@1.00
Peaches clings	50
Pineapples per lb	7
Quinces	65@75
Raspberries per box	12
Strawberries per box	6@7
Extra fancy	10
Blackberries per box	8
Huckleberries	4
Watermelons per lb	1@¼

Dried Fruits.

Wholesale prices are:

Apricots	7@8
Evap. apples fy per lb	7½@8
Figs loose white	6
Figs blk	4
Peaches	8½@9½
Pears	9@10
Nectarines	9@10
Prunes	4@4½

Beans Dried.

Wholesale prices:

Limas per ctl	5.00@5.25
Lima, new crop	4.50@5.00
Pink No. 1	3.55
Lady Washington	4.35@4.45
Small white	4.30
Black eyes	4.50
Garvanzas	4.80@5.00
Lentils	9@10
Bayou	3.80

Nuts.

Walnut prices as established last Tuesday are as below:

Almonds IXL per lb	13½
Almonds, choice	10@11
Pecans polished	10½
Peanuts Virginia	8
Peanuts Californla	7
Walnuts No 1 SS	12½
Walnuts No 1 HS	12
Walnuts No 2 both hard and SS	8½
Walnuts all less1½ per cent to trade	8½

Honey.

Wholesale quotatlons:

Extracted Water White	7½@8½
Extracted Amber	6@6½
Comb W W	15
Comb white	14
Beeswax	28@29

Hay.

Prices paid to producers f. o. b. Los Angeles are as follows:

Barley No 1	13.00@15.00
Barley No 2	10.00@13.00
Alfalfa northern per ton	11.00@12.50
Alfalfa local	12.50@14.00
Plain oat No 1	15.00@17.00
Wheat No 1	13.00@16.00
Wheat No 2	12.00@14.50

Grains.

Wholesale selling price f. o. b., Los Angeles.

Wheat new per ctl	1.85
Wheat in 100-lb sacks	1.90
Kaffir corn	1.80
Corn Eastern sacked	1.90
White oats	1.90

Feed Stuff.

Selling price F. O. B. Los Angeles as follows:

Cracked corn	2.05
Shorts	1.80
Bran	1.65
Oil cake meal	2.50
Feed meal	2.10
Rolled barley	1.50

San Francisco Markets

SAN FRANCISCO, Sept. 15, 1908

Butter.

Butter has advanced sharply during the week, though for the past two or three days heavier receipts have discouraged further advances. About 60,000 pounds of butter are the daily receipts.

California extras per lb	31
California firsts	26
California seconds	22
California thirds	20
Eastern extras	25
Fresh packing stock	21½
Packing stock No 2	19

Cheese.

Cheese is weaker and featureless.

California young American fy	12½
Firsts	12
California flats fy	11½
Firsts	10
Young America fy	14½
Eastern fy	16
Oregon fy	13

Eggs and Poultry.

Eggs have continued to advance, almost daily increase in quotations being observed. Market is very strong, though a little uncertainty is caused as to result of split in Sonoma County Cooperative Association.

Petaluma has withdrawn and feels she has occasion to feel agrived.

Official quotations of the S. F. Wholesale Dairy & Produce Ex. are:

Fresh ranch extras	40
Eggs firsts per doz	32½
Eggs seconds	26½
Eastern selected	22
Eastern firsts	25
Eastern seconds	23
Storage	29

Hens per doz	4.00@5.50
Hens extra	7.00@8.00
Young roosters	6.00@7.00
Old roosters	3.50@4.50
Fryers per doz	5.00@6.00
Broilers per doz	3.00@4.50
Geese per pair	1.75@2.00
Goslings per pair	1.75@@2.00
Ducks young	5.00@6.00
Hen turkeys per lb	20@22
Gobblers live	20@22
Spring turkeys	22@24
Pigeons young	1.50@2.00

Live Stock.

San Francisco prices gross weight:

Steers No 1	3¾@4
Do second quality	3¼@3½
No 1 cows and heifers	3
Second quality	2¾
Hogs 100 to 150	6
Hogs 150 to 250	6¼@6⅜
Rough heavy	4¾@5¼
Calves per lb	3½@4½
Lambs spring	4½
Wethers No 1	4
Ewes No 1	3½

Potatoes.

Wholesale market quotatlons:

River whites fy	75@90
River whites poor	50@70
do per box	1.00@1.15
Early Rose new	75@85
Salinas Burbanks	1.25@1.55
Sweets Merced per lb	1¼
Sweets crates	1½

Vegetables.

Wholesale quotations:

Asparagus per lb	7@8
Asparagus No 2	4@5
Bell peppers per box	30@40
Celery per doz	35@50
Cucumbers per box	25@50
Cucumbers, pickle	75@1.25
Cucumbers, pickle No 2	60@75
Chili peppers per box	25@40
Corn per sack	1.00@2.00
Corn per crate	1.25@2.00
Egg plant per box	25@40
Green peas per lb	4
Lima beans	2@3
Squash per box	20@40
Onions green per box	70@75
Okra per box	40@50
Rhubarb per box	50@65
Tomatoes River large box	15@40
String beans	1@4½
Wax beans	2@4½
Garlic new	4@5

Onions.

Onions yellow per sk	50

Citrus Fruits.

Valencias fy	2.00@3.50
Grapefruit seedless	2.00@3.50
Lemons ch	2.00@2.50
Lemons fy	3.00@3.50
Llmes	4.00@5.00

Fresh Fruits.

Apples green per box	25@50
Apples fy Gravenstines	90@@1.00
Apples Astrachans	50@75
Crabapples	50@60
Blackberries per chest	2.00@3.00
Figs per crate one layer	50@75
Grapes per crate seedless	60@75
Grapes sweetwater	25@35
Grapes Muscats	50@60
Grapes Rose of Peru	30@50
Grapes Tokays	50@65
Grapes Isabellas crate	60@70
Huckleberries per lb	9@12
Loganberries	4.00@6.00
Cantaloupes River nutmegs	15@40
Muskmelons	50@1.00
Nectarines red	75@1.00
Nectarines white	50@60
Pears Bartlett per box	15@50
Pears other varieties	75@1.50
Pears per ton	15.00@20.00
Plums lug box	40@65
Peaches lug box	25@60
Peaches carrier box	55@80
Peaches Mountain	30@60
Aligator pears per doz	7.00@9.00
Quinces per box	60@75
Raspberries per chest	4.00@8.00
Strawberries per chest	4.00@6.00
Longworths per chest	6.00@8.00
Watermelons per doz	1.00@2.00

Dried Fruits.

1908 prunes being contracted for at 4@4½ cents for Santa Claras and 4 for outsides.

New crop contracts, 25-lb. lots—Apricots per lb.: Choice, 8½@8¾; fancy, 10½@11.

PEACHES—Choice 7½@7¾; extra fancy 9@10.

Nuts.

Walnuts S S No 1 new crop	12½@13
Walnuts No 2	10@10½
Almonds nonp	11@12
Almonds IXL	10@10½
Ne Plus Ultra	10

Beans Dried.

Limas	4.70@4.80
Pink	2.90@2.95
Small white	4.50
Large white	3.40@3.50
Lady Washington	3.45@3.50
Black eyes	3.40@3.60
Red kldneys	2.75@3.00
Garvanzas	1.50@1.75
Bayo	2.85@2.90
Horse beans	2.00

Hops.

Hops new crop	9@13
Hops old stock	3@6

Honey.

Clear white comb	15½@16
Amber	12@14
Extracted w c	7@8
Extract light amber	6½@7
Beeswax No 1 per lb	28@30
Beeswax No 2 per lb	25@27

Hay.

Somers & Company appear to bear the market in their circular as follows:

In spite of the fact that the season is growing late and that all hay out of doors is in danger of damage from rain, yet there seems to be quite a bit of hay not housed and we note but little diminution in shipments of hay to market, the total for the week ending today amounting to 3680 tons in comparison with 3880 for last week. The situation remains unchanged in every way with a day of light receipts showing improved figures for the choicer varieties of hay and a day of heavy receipts bring material weakness to the market. Ordinarily we begin to anticipate showers about the middle of September and very frequently we have to begin drawing from the warehouses about the first of October. We anticipate that this will be so this year but as practically all the warehouses are well filled we do not anticipate any shortage on our market, although should anything in this line develop we can draw quite easily from three adjoining states for a considerably supply. The future therefore shoud cause apprehension for no one and as we see it there should be but little advance over the present range of prices during the remainder of the season.

Local business continues rather quite and although many interested parties claim they can see evidences of improvement yet the more conservative ones report that trade is very quiet and although they do not anticipate any improvement for the balance of the year yet they report matters as being in a fairly satisfactory condition. Until trade in general improves we can anticipate but little of interest in connection with the San Francisco hay market.

Choice wheat hay	16.00@17.50
Good wheat hay	14.00@16.00
Other grades same	11.00@13.50
Wheat and oat	11.00@16.00
Tame oat	11.00@16.00
Wild oat	10.00@14.00
Stock hay	8.50@10.00
Alfalfa	9.50@13.50
Straw, per bale	45@75

Grains.

Wheat No 1	1.67½@1.70
Barley new	1.30@1.35
Corn large yellow	1.80@1.85
Oats white	1.45@1.55
Oats gray	1.40@1.55
—Rye new crop	1.45@1.52½

Feed Stuff.

Bran per ton	29.50@31.00
Feed cornmeal per ton	37.00@38.00

Cracked corn per ton.....38.00@39.00
Rolled barley per ton.....29.00@30.00
Oil cake meal per ton.....36.75@38.25
Cocoanut cake per ton.....25.00@26.00
Middlings..... ....32.50@35.00

Citrus Market

LOS ANGELES, Sept. 16, 1908.

The Valencia market stands much as last week—very quiet and all good fruit bringing only fair returns. Shipments continue moderate, with less than 200 cars yet to go.

Lemons are slightly better and at this time receiving fair prices. All fruit is still going forward as cut from tree.

Shipments.

Shipments of citrus fruits since November 1, '07, 28,644 cars of which 4493 were lemons. To same date last season 26,607 of which 3114 were lemons.

NEW YORK, Sept. 15.—One car Valencias and one mixed car sold. There is a better tone to the market. Weather clear, cool.

VALENCIAS— Avg.
Blue Globe Riv Ft Ex.....3.55
Puritan SB Ft Ex.....3.45
GRAPEFRUIT (Halves)
Blue Globe seedless Riv Ft Ex.....3.70
LEMONS—
Blue Globe Riv Ft Ex.....2.05

BOSTON, Sept. 15.—Four cars sold. Thirteen on track. The market is firm on good fruit.

VALENCIAS—
Tallyho SB Ft Ex Rialto.....3.25
Sweetheart Highgrove Ft Ex Hgv...3.75
Lilac Cal Cit Union.....2.00
Lighthouse Cal Cit Union.....1.55
LEMONS—
South Beauties QC Ft Ex Corona..2.30
Justrite QC Ft Ex Corona.....1.55

NEW YORK, Sept. 14.—Eight cars Valencias, two mixed cars and one car lemons sold. The market is depressed and prices are from 25 to 40 cents lower. Weather clear, cool, favorable.

VALENCIAS— Avg.
Old Mission fy C C Chapman.....$4.70
O'd Mission ch C C Chapman.....4.35
Golden Eagle std C C Chapman....3.50
GypsyQueen exfy Moulton&Green..3.15
Orchard National Orange Co.....4.00
Standard std National Orange Co..3.05
Orchid fy Altland Ft Co.....3.30
Buscada Altland Ft Co.....2.85
Bunker Hill fy Cal Cit Union.....3.00
Golden Orchard Ind. Ft Co.....3.20
Citrus Belle ex ch Ind Ft Co.....2.20
Blue Seal ACG Ft Ex.....4.15
Red Shield ACG Ft Ex.....2.80
Green Crown ACG Ft Ex.....2.30
Sceptre SS Ft Ex.....3.70
Planet SS Ft Ex.....3.20
Searchlight SS Ft Ex.....3.00
Suqirrel AH Ft Ex.....2.65
Palm Tree AH Ft Ex.....2.25
Cerrito fy L V W Brown.....3.90
Swastika std L V W Brown.....3.15
VALENCIAS—HALF BOXES—
Squirrel AH Ft Ex.....1.55
GRAPEFRUIT (Halves)
Cerrito sd fy L V W Brown.....4.30
Blue Globe Riv Ft Ex.....3.70
LEMONS—
Blue Globe Riv Ft Ex.....2.10
Squirrel AH Ft Ex.....2.00
Seclected ventilated N W Blnchd'..2.50

CINCINNATI, Sept. 14.—Weather warm. Market is depressed on lemons. Two cars sold. Four on track.

VALENCIAS—
Volunteer SA Ft Ex.....3.05
Greyhound SA Ft Ex.....2.75
LEMONS—
Pet SA Ft Ex.....2.50
Greyhound SA Ft Ex.....2.25

BOSTON, Sept. 14.—Six cars sold. Fourteen on track. Weather favorable. Market is steady on valencias, weak on lemons.

VALENCIAS—
Queen Bee or run QC Ft Ex.....3.10
Pet SA Ft Ex.....3.60
Geisra..... ....2.45
Citrus Belle ex ch Ind Ft Co.....1.85
LEMONS—
Pet SA Ft Ex..... .....1.50
Silence ex ch Flagler Ft Co.....2.45
Cry Baby std Flagler Ft Co.....1.55
Seelected fy N W Blanchard.....2.30

ST. LOUIS Sept. 14.—Weather hot and muggy. Market is weak on account of the other varieties of fruit selling. Five cars sold. Nine on track.

VALENCIAS.—
Volunteer SA Ft Ex.....2.95
Greyhound SA Ft Ex.....2.30
Orchid fy Altland Ft Co.....3.05
Buscada Altland Ft Co.....2.55
LEMONS—
Orchid fy Altland Ft Co.....2.25
Defender ex fy Altland Ft Co.....2.10
Buscada Altland Ft Co.....1.55
Planet SS Ft Ex.....2.25
Searchlight SS Ft Ex.....2.20
Sunset SS Ft Ex.....2.15
Camel QC Ft Ex.....2.65
Family QC Ft Ex..... .....2.25

PITTSBURG, Sept. 14.—Two cars sold. Ten on track. Weather favorable. Market is steady.

VALENCIAS—
Jasmine DM Ft Ex.....3.15
LEMONS—
Excellent special Citrus Ft Ex....1.90
Sunside special Citrus Ft Ex.....1.90

CLEVELAND, Sept. 14.—Weather favorable. Market is weak. Two cars sold. Five on track.

VALENCIAS—
Orchid fy Altland Ft Co.....3.00
Buscada Altland Ft Co.....2.20
LEMONS—
Trail ST Ft Ex.....2.55
Canon ST Ft Ex.....2.15
Our Beauty ST Ft Ex.....1.65

PHILADELPHIA, Sept. 14.—Three cars valencias and two cars lemons sold. Weather fair. Market steady. Seven cars on track.

VALENCIAS—
Stag ACG Ft Ex.....4.03
Pointer ACG Ft Ex.....3.60
Hunter ACG Fe Ex.....2.88
Native Son ch King Ft Co.....3.39
Aurora fy or run E Peycke.....3.36
Sunshine J F Bowen.....3.19
Climax ex ch or run E Peycke.....2.74
Salt Lake std A L King.....2.49
Sunrise J F Bowen.....2.33
LEMONS—
Loma ch Limoneira Ft Co.....2.51
Purity ST Ft Ex.....2.65
Lucky ST Ft Ex.....2.25

IRRIGATION IN CALIFORNIA.

Continued from Page 273.

irrigation. The danger always arises from the liability of the soil to become alkaline caused by the constant deposit of salts in solution.

The analysis of the chemical composition of the silts reveals the fact that they contain quartz, feldspar, mica, calcium carbonate, nitrites and nitrates and are exceedingly rich in animal and vegetable matter. The analysis points out very clearly their value as a fertilizing element. In 1902 some observations were made and data gathered with reference to the fertilizing value of silts deposited by the Salt River of Arizona. The estiacre foot of water. The results were as follows: Total sediments deposited 22,660 pounds; phosphoric acid deposited, 17 pounds; value 34 cents. Potash deposited, 44 pounds; value $2.25. Nitrogent deposited, 35 pounds; value $5.42, making a total of $8.01.

The values given to the fertilizing materials were taken from eastern market prices on fertilizers. Thus we are at once convinced of the great value of silts from the fertilizing point of view and should endeavor to irrigate with silt bearing waters when possible.

Onward.

The past quarter century may be looked upon in the history of agriculture in California as one in which great advances have been made. The day of the careless and uneducated tiller of the soil has passed, and we are now entering upon a new and greater agricultural era that shall require a scientific and systematic knowledge. The science of agriculture is just dawning and we are compelled to marvel on what the next quarter century will bring forth. One by one the problems that confront us are solved. The great problem confronting agriculturists in the past has been the transforming of semi-arid lands into fertile fields. Irrigation has solved that problem, and the great possibilities for opening up vast and infertile regions cannot help but attract the eyes of the world to our golden State, and cause California to enter into a new and unparalleled commercial era.

SECOND HAND PIPE

We will sell you pipe that can be used for any purpose. **Satisfaction guaranteed** or money returned. We handle all sizes of standard pipe and casing. Shipments made on same day as order is received. Price of pipe is low now. Write for our prices.

Pacific Pipe Company

S. W. Corner Howard and Main Streets, San Francisco, California

RULES AT A SUMMER HOTEL.

1.—Plug hats, also white derbys, shot 15 minutes after arrival.

2.—Penalty for wearing boiled shirts on Sundays is cigars for the crowd; on week days, $2.50 for first offense; $5 for each offense thereafter.

3.—More than one shoe shine per day, or one suit of clothes per day, is punishable by a fine of not less than 25 cents or more than $3.25 for each offense.

4.—Telling a lie, fishing on Sunday, or indulging in games on Sunday is deemed bad taste.

5.—The proprietor shall be fined cigars for all if meal time vary fifteen minutes from regular time.

6.—Dudes are ducked in 50 feet of cold water in the lake.

SUGAR CURED MEAT.

Butcher in the coolest weather and after scalding and cleaning, the animal should be hung up to cool over night. Cut the meat up and shape it nicely. Salt very lightly, to bring out the blood and allow the salt to remain a day or two. Prepare a brine, using ten pounds of salt, two ounces saltpeter, two pounds brown sugar, one ounce red pepper, and five gallons of water for each one hundred pounds of meat. Let this brine, which will be strong enough to float a fresh egg, stand until the ingredients have dissolved, then place the hams in a tight barrel, rind side down, then the shoulders, and then sides, and pour the brine over them until they are covered. After 110 days pour this brine off and cover with fresh brine prepared as the first was. When they have been in the brine a month take them out, wipe with a cloth, and while still damp sprinkle powdered borax over the flesh side, using a tablespoonful to 15 pounds of meat. A large pepper box is a great help in applying the borax. Hang the meat up and smoke for two or three weeks. The smoke must be cool before striking the meat. This can be done by running a tile under the ground 10 or 12 feet and allowing the smoke to pass through this tile before coming in contact with the meat. If a high smoke house is used the tile won't be needed. When the meat is smoked slip each ham into a flour sack and hang in a cool, dry place until you wish to use them.

The first purchases of hops at Portland were at 6½ cents per pound.

Character, is what we are; reputation is what people think we are. We are daily building our characters. Every act is a stone in the building. We should be careful to have good material. There is much that is wood. hay and stubble. The four elements that enter into character building—thoughts, companions, reading and aim in life. Be careful of your thoughts. company, books, motives. These make enduring character. Reputation will take care of itself.

HOW TO GET RID OF ANTS.

Black and brown ants may be gotten rid of by sprinkling the shelves with borax. The borax may have to be renewed for several days for the ant is a persistent enemy and will not give up his home until literally forced to do so. Red ants are proof against borax, but a few drops of cinnamon oil will usually drive them to new haunts.

DOES SOMETIMES.

Youthful Customer (at bookstore)—What does "Bridge Whist For Beginners" cost?

Somber Salesman—It will probably cost you your entire wad.—Pick-Me-Up.

HE WANTED TO KNOW.

Mr. Calipers (didactically)—Hunger, my son, is the best.

Little Clarence—Yes, sir. But how do they spread it on anything?—Puck.

AS TO A FRIEND.

"How about him? Is he straight?"

"Yes he's straight, but he dosen't bend over backward."—St. Paul Pioneer Press.

The editor of an agricultural paper was grumbling about a puzzling question he had received from a city man who had recently removed to the country. The inquiry was this: "Will you kindly tell me how long cows should be milked,"

The office boy, passing near, heard his superior repeating the question aloud.

"Skuse me boss," he said; "but w'y don't yer tell him jes' de same 's short cows?—"Judge."

Small Grace viewed the new baby with open scorn and indignation. "Why, mamma, you surely won't keep it? You know you always exchange damaged goods, and this one has no teeth, no hair, and its skin doesn't fit at all!"—Lippincott's.

Mrs. Henpeck—They say that women do all the talking, but I notice in a wedding ceremony the man has as much to say as the woman. Mr. Henpeck—Yes, but it usually stops right there.—Brooklyn Eagle.

"Now, tell me why I punished you."

"That's it," sobbed Johnny; "you nearly pound the life out of me, and now you don't even know why you did it."

A neat little booklet entitled "Wholesale Price List Placer Nurseries," has just been issued by the Silva-Bergtholdt Company of Newcastle, Cal. This enterprising company is building up a magnificent business by its offerings of high grade stock. All kinds deciduous fruits, grapes, berries and citrus fruits are offered.

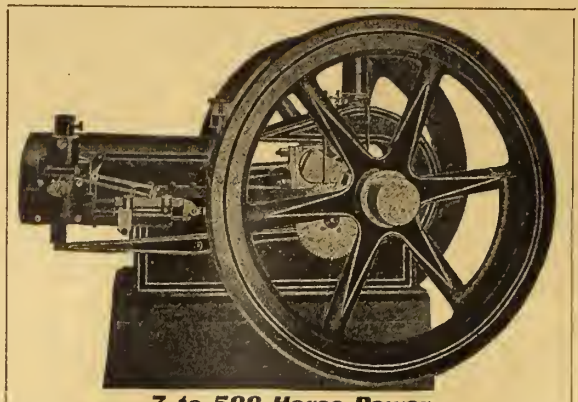
The Popular

Western

Built In the West **Best** For the West

FACTORY AT YOUR DOOR

LONGEST LIFE LEAST FUEL FEWEST PARTS ALWAYS GOES



7 to 500 Horse Power

Irrigation Plants Designed Constructed Installed

U. S. GOVERNMENT TEST

35 H.P. Western Engine Been Run 2 Years

RAN 87 DAYS DAY AND NIGHT

With One 20-Minute Stop to Lace a Belt

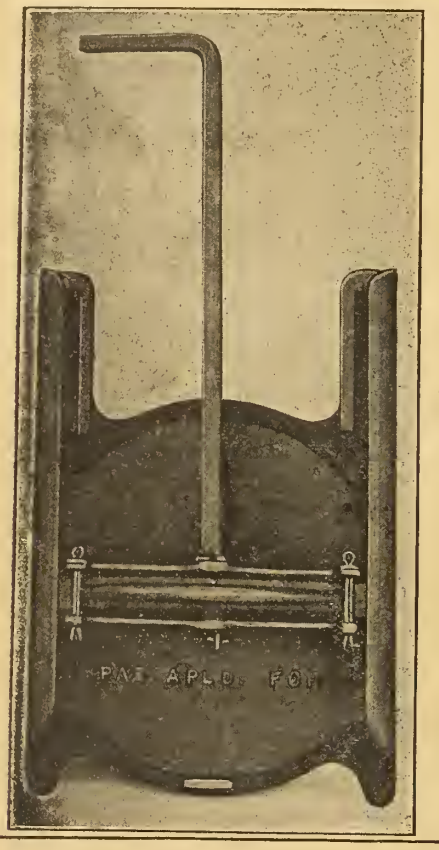
Send for the Copy of Test

Western Gas Engine Co.

Works and Office:

908 to 932 No. Main St. Los Angeles, Cal.

Send for Catalogue.



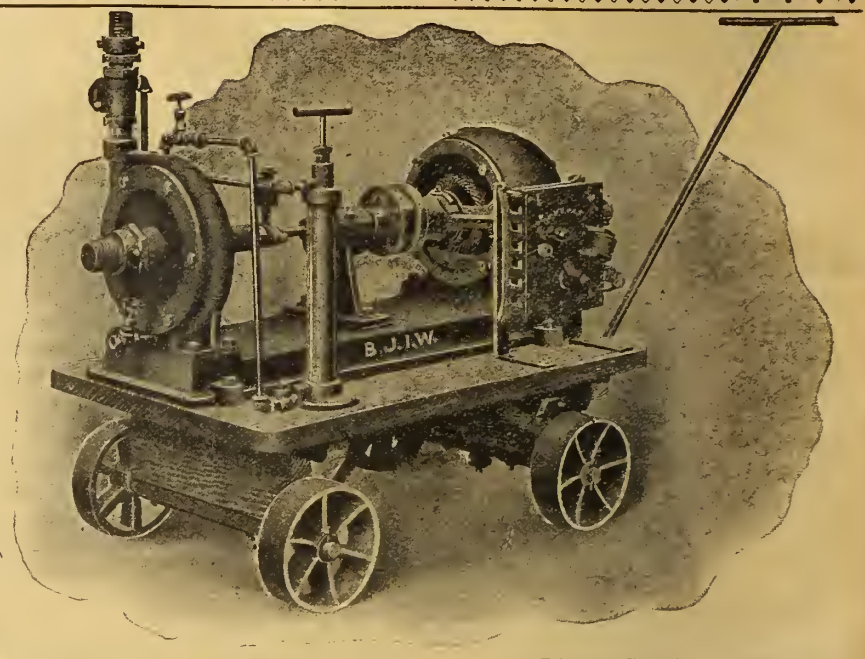
Pomona Pressure Gates

A Great Aid in Irrigation

These gates are made similar to the ordinary slide gates except that there is a locking device interposed to lock the cover in any desired position or to press the two faces together to make a WATER TIGHT joint, from either direction when closed. The parts are very simple, only a tapering screw with a split tapering nut socket. By turning the handle to the right tightens, and to the left loosens the cover or it may be removed entirely.

Pomona Mfg. Co.

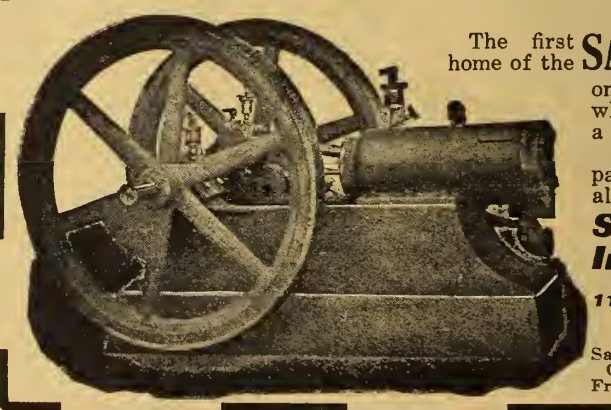
Pomona, Cal.



Jackson Wine Pump Direct Coupled to Motor and Mounted on Truck. Write for Bulletin 25.

Works: Carlton Station West Berkeley **Byron Jackson Iron Works** Branches: San Francisco Los Angeles Portland

Samson Gasoline and Distillate **Engines**



The first home of the **SAMSON** engine is a large one. It's second home, which is everlasting, is a happy one.

They may be compared with the sea—always ready to roll.

Samson Iron Works

Office and Factory: 1100 to 1198 Aurora St. Stockton, Cal.

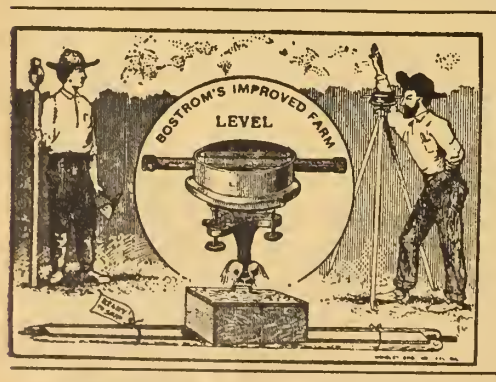
BRANCHES: San Francisco, Cor. Market and First Sts. Fresno, 920 J St.

Alamo Gas and Oil Hoisting and Stationary Engines

Best in price, appearance and quality. Self-starting and small operating cost. A complete line of repair parts and accessories always on hand. Complete pumping plants installed and we are prepared to construct all kinds of mining machinery on contract. Write for catalog and prices.

Harrison Machine Works

719-721 N. Main Street Los Angeles, California

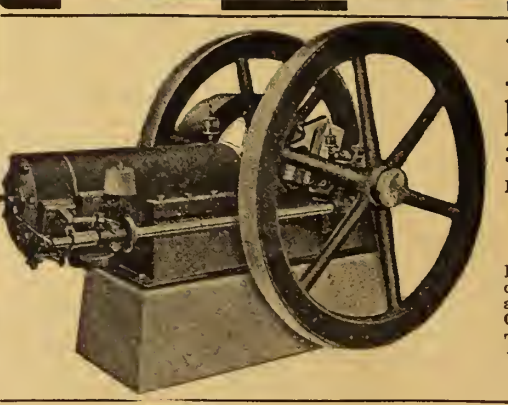


BOSTROM'S IMPROVED FARM LEVEL

Used for irrigation and drainage work. Cheapest and best level yet invented for farm use. Has the latest patented improvements in simplicity and usefulness. Can be operated by any one. Price including telescope tripod and target rod $15.00.

PALACE HARDWARE COMPANY
581 Market Street, San Francisco.

Coast Agents. Send for Circular.



HERCULES DISTILLATE ENGINE

Heavy, Strong and Simple in Construction

The Right Engine at the Right Price

Horizontal and Vertical; All Sizes. Buy direct from the manufacturer and save agent's commission. Send for our new Catalogue C.

The Hercules Gas Engine Works

Alameda, Cal.

Wine Tank

Tanks Tanks

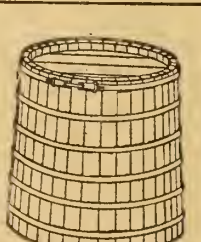
WINDELER'S PLANING MILL AND COOPERAGE

GEO. WINDELER, Prop

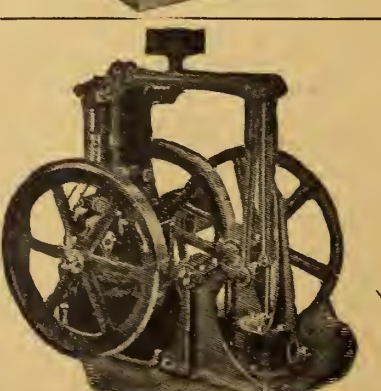
Water Tanks, Wine Tanks made from carefully selected stock by careful and experienced workmen. "Tanks that are well made last a long time." It will pay you to get my prices before buying.

Geo. Windeler

144-154 Berry St. San Francisco, Cal.



Water Tank



A Handy Little Engine

Just the thing to run the feed cutter, the pump, the churn, the grinder, or anything on the ranch. It's well named

The Little Wonder

Write or call on

Wm. Gregory

602 No. Main St. Los Angeles, Cal.

ARNOTT HARNESS $10.00 to $80.00

Everything guaranteed. Money back if not satisfactory. Factory in Los Angeles. California leather for all uses. Send for No. 10, eighty page FREE Catalogue.

ARNOTT & COMPANY 112–118 So. Los Angeles St. Los Angeles, Calif.

When writing advertisers, mention Cultivator.

When writing advertisers, mention Cultivator.

California Cultivator

Published Weekly — One Dollar a Year

Los Angeles — September 24, 1908 — San Francisco

The Riches of San Joaquin County

FROM the fact that these garden spots of San Joaquin county are principally islands surrounded by natural or artificial streams, it is made imperative that their product be moved by water craft of great or small tonnage; hence the number and variety of the vessels seen upon the waters of the San Joaquin.

During the entire year this river is navigable above Stockton for a distance of forty miles, and it taps one of the most abundantly productive districts in the State of California. Below Stockton, and immediately adjacent to it, the San Joaquin and its most important tributaries, the Mokelumne and Old and Middle rivers, traverse the greatest delta and reclaimed land area known to the agricultural world. This consists almost entirely of islands reclaimed from the bottom lands and comprises hundreds of thousands of fertile acres yielding generous crops of barley, potatoes, asparagus, garden truck and fruit, as well as furnishing rich grasses for the support of the extensive dairies here found.

IN the United States are 2744 counties, all of which figure to some extent in the returns of agriculture. This is, more distinctively than any other region of the Earth's surface, an agricultural country; and wherever in the United States agriculture is most intensive and varied, there will be found thrift the most general and prosperity the most uniform and continuous. The only universally recognized authority on the products of agriculture in the United States is the Federal Census. The most recent report of the Census Bureau on the statistics of agriculture was the report of 1900 for the crop of 1899. Therefore to ascertain the comparative standing in agriculture of any county of the United States, it is only necessary to examine the reports of the Census Bureau for 1900 and note the outputs of the various counties.

In the production of barley the ten leading counties were all in the states of California, Wisconsin, and Minnesota. San Joaquin county ranks first in acreage and output, according to the census, yielding 3,467,520 bushels.

From photograph showing amount of

Ten-Inch Pipe

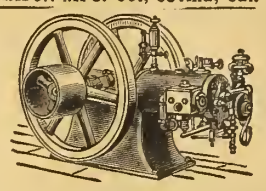
made by four men from 10 bbls. of cement in 9 hours — 280 two-foot joints, or 560 feet. This pipe was made with the

"K T" Moulds

An equal amount can not be made with any other tools in the same period of time. Write for "Brown Book" and price list.

THE KELLAR-THOMASON MFG. CO., Covina, Cal.

A Gasoline Engine 35 H.P.



Used short time; in good condition.
For Sale at Half Price. A Bargain.

National Wood Pipe Co., 404 Equitable Bank Building Los Angeles, California

Crimson Winter Rhubarb and **Berry Plants**

Our Specialty

1000 choice Navel Oranges, together with a few other Citrus Trees. April and May are best months to plant Rhubarb for heavy Crops next winter. It has never been equalled as a money maker. $1.50 per dozen, $6 per 100, $40 per 1000. Pedigreed plants.

J. B Wagner

The Berry and Rhubarb Specialist — Pasadena, California

Cultivator Order Blank

_____ 1908

CULTIVATOR PUBLISHING CO.,
115½ No. Broadway, Los Angeles, Cal.

Gentlemen—Enclosed find $_____ for which please send the **Cultivator** for one year to the following, or credit on my account from _____ 190— to _____ 190—

NAME	P. O. ADDRESS	STATE

Are you an old or new subscriber? _____

SIGNED _____

ADDRESS _____

The _____

Superlative Raspberry

Orders booked now for 2-year-old plants for December delivery. Send in your name and address for my 1909 Catalogue.

A. Mitting, Santa Cruz, California

Pacific Seed Co.

C. Bagnall, Prop.
GROWERS AND IMPORTERS OF
Grass, Vegetable and Flower Seeds
All Kinds of Bulbs and Onion Sets
609 J St., Sacramento, Cal.
Send for Catalogue. Please mention Cultivator.

Fair Oaks Creamery at Tulare has changed hands, now being owned by C. L. Montgomery.

Peckham Says:

Try Farming in Kings County

Where "failure" is an unknown word; where every intelligent effort is rewarded by nature's greatest gift—a bountiful harvest. We are selling land in the richest section of Kings county, adjoining the new town of Corcoran, in

20, 40 and 80 Acre Tracts

with abundance of water, with every acre guaranteed.

One crop of sugar beets will nearly pay for the land. Wheat, barley, oats, alfalfa or grapes will do nearly as well. New $1,000,000 beet sugar factory now completed at CORCORAN. Thousands of acres coming under cultivation. Capital investing heavily. Values increasing rapidly. GREATER RETURNS WITH LESS LABOR THAN IN ANY OTHER PART OF THE COUNTRY. A fortune in DAIRYING. LAND NOW IS cheap. We sell on easy terms.

Call or write for "Profitable Realty," which tells the whole story.

George C. Peckham & Company

203-4-5 Union Trust Bldg., Corner Fourth and Spring Sts.
Phones: Main 3221, F5392.

JUST RECEIVED NEW CROP SEED

Alfalfa, Vetch, Field Peas, Eucalyptus seed from Australia. Bermuda Onion, Garden Peas, New York Lettuce. Now is the time to plant them.

Johnson & Musser Seed Co.
113 No. Main St., Los Angeles, Cal.

San Fernando claims a four-legged chicken.

GOPHER DOPE

Gophers destroy annually a large per cent of the crops, trees, lawns, etc., and they are a great nuisance to land owners all over the country.

The Gopher drives burrows or tunnels of very great extent and wherever it gains admission into a garden it works much damage to the roots of the plants. Every root that crosses the tunnel the Gopher will eat and not only herbs and flowers but even fruit trees of many years' growth have been killed by this destructive animal. In such cases the extremity of the tunnel is always to be found among the roots of some tree, which acts at the same time as a defense and a larder, for the Gopher hides itself under their protection and eats away their tender shoots.

A great many things have been devised to exterminate this pest with some success. Gopher Dope works on a different plan. It is in a powdered form and about one-quarter ounce placed well down in each hole and also in the run ways will soon rid the place of gophers. It gets in their eyes and pouches and on their feet. They track it through their tunnels. They will not stay where it is used. It will not harm domestic animals or fowls. It must be used thoroughly and systematically, the Gopher given time to work in it and any new holes thoroughly treated. If this is done you will soon find the place free from them.

Do not irrigate for one week after the dope is used.

Gopher Dope is sold in 50c, $1.00 and $4.00 tin cans, and is for sale at grocery, drug and hardware stores, also at feed yards, and is absolutely guaranteed or money refunded.

Free on board cars at Los Angeles. Live agents wanted in every county.

Yours very truly,

B. & G. Disinfecting Co., 415-417 Laughlin Bldg., Los Angeles, Cal.
Home Phone A 9089

Pioneer Rubber Sanded Roofing

Rubber Sanded Roofing won't chip, won't rust, won't tear, won't warp, won't decay, won't crack, won't absorb moisture, won't attract electricity, won't wear out, won't be affected by climatic changes or conditions, won't cost as much, in the long run, as other roofing.

PIONEER ROLL PAPER CO.
Department 11 — Los Angeles, Cal.

PLOWS AND SEEDERS

Ranchers, don't forget that we are headquarters for the **Fosmir Plow** and extras for same and also the **Shaw Stockton** and **Madison & Williams Stockton.** All the extras in stock for above plows. Also **Pacific Seeders.** A postal card will get you any of the above articles at the right prices.

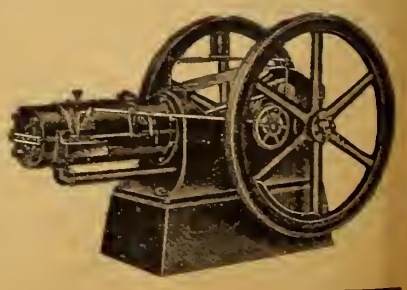
Los Angeles Vehicle and Implement Co. 110 and 112 North Los Angeles Street Los Angeles, California

Commercial Gas Engines

are Better Engines than you have been using.

See One — Buy One

So will your neighbors.
Send for Bulletin No. 11



Commercial Engine Company
953-955 No. Main St., Los Angeles, Cal.

When writing advertisers, mention Cultivator.

California Cultivator

Vol. XXXI.—No. 13 Los Angeles, California, Thursday, September 24, 1908 Subscription $1 a Year

Winter Onions in the Southwest

An Article Written for Arizona and South Eastern California Conditions
By E. L. CRANE and R. H. FORBES of the University of Arizona

ONIONS are very successfully grown as a winter crop in our warmer Southwestern valleys. Planted at the close of hot weather, the crop grows during the cool months when labor is most effective, and early varieties mature in time for high prices in mining and coast towns.

The Soil.

While onions may be grown successfully on various types of soil ranging from a sandy loam to a heavy adobe, the lighter loams are preferable because of less cost in preparing the ground. Onions require a fertile soil and are especially favored by an abundance of organic matter which may be cheaply added in the form of well rotted barnyard manure. Onions will not endure much alkali in the soil, especially if ridge culture is followed, which favors a surface accumulation of soluble salts around the plants.

Arrangement of the Ground.

Onions are grown either in flat culture by flooding, or on ridges by furrow irrigation. The flooding method is more applicable to heavy soils, which work easily and sub-irrigate readily.

For ridge and furrow culture the field should be perfectly level and laid off for rows from 100 to 500 feet long. This arrangement will permit of equal and sufficient irrigation without loss of water or flooding the rows. Having previously plowed under a heavy application of well rotted barnyard manure, or a green manuring crop with subsequent irrigations, the ground is again irrigated just before planting time. When sufficiently dry it is disk and drag harrowed to secure perfect surface pulverization. To make the ridges, begin at one side of the field and with a six-inch turning plow throw a shallow furrow towards the right. Returning to the same furrow throw an equal amount of soil in the opposite direction. At a distance of 30 inches between furrow centers repeat the operation, thus throwing soil slices together in pairs to form the ridges in the rough. These may be conveniently finished by dragging them lengthwise with a long weighted plank drawn by a horse. This will leave flat-topped ridges about 24 inches wide on top, with furrows about six inches wide and deep between. Thus prepared the soil may be more easily kept in tilth and weeds controlled, than in flat culture.

Methods of Planting.

Onions may be grown from sets, from seed sown in the field, or by transplanting young onions from seed beds to the field. Although onions grown from sets may be matured about two weeks sooner than from seed there is a large percentage of multipliers among bulbs so grown. Also many blossom stalks are sent up, requiring much labor to remove and seriously damaging the selling and keeping qualities of the crop. To the plan of sowing seed in the field there are several objections. Being somewhat difficult to germinate the seed must be carefully sown in perfectly prepared soil. This entails much more expense in a large field than for seed beds only. Again, between planting time in September and the first frosts, several weeks of weedy weather intervene, necessitating several expensive cultivations. Also, the labor of thinning and replanting missed spaces, is greater than for transplanting; and the cost of seed is more.

The best and cheapest method is to sow the seed in beds and transplant later in the field. As soon as hot weather abates, (usually in September) the seed is thickly sown in drills five inches apart in beds of well fertilized soil. The water furrows must be placed at intervals suitable for sub-irrigation. Two pounds of seed thus planted will provide young onions enough for an acre. If the soil is moist when the seed is planted, the seedlings should begin to appear in about nine days. An irrigation will then bring the whole stand up quickly, and with proper irrigation and cultivation thereafter the young onions will be as large as slate pencils in nine or ten weeks and ready to transplant, usually in December.

The ridges having been prepared just in advance of planting, the young onions are lifted, as needed, the roots trimmed to an inch in length and the tops cut back about half. The rows are best laid out along the ridges by means of Crane's marker. This is a round cottonwood log two feet long and ten to twelve inches in diameter, with three rows nine inches apart of pegs extending around the roller. The pegs should be about 1½ inches long and spaced at four to six inches, according to distance desired between onions. By means of a light frame tacked to the end of the roller, the marker is drawn along the ridge, leaving three perfectly uniform rows of holes. The trimmed plants are then dropped one at each hole, set about 1½ inches deep and the soil firmly pressed about them by hand. It is then well to irrigate them lightly to insure an even start of all the plants. By this plan about 120,000 onions an acre may be placed, planting five inches apart in the row, with three rows to each ridge.

Irrigation and Cultivation.

If the ground has been well prepared and ridges and furrows carefully constructed, the labor of irrigating and cultivating onions is not excessive. For the sandy loam of the Yuma trial ground about 15 irrigations are required from September to April in seed beds and field. Irrigation should be followed by cultivation both in furrows and on ridges, to kill weeds, lessen evaporation of soil moisture, and break up the salty crust which in most arid soils tends to form on inter-irrigated ridges. The Planet, Jr., No. 4 wheel hoe and cultivator is an effective tool for onion culture.

Insect Pests and Diseases.

Grasshoppers have occasionally damaged young onions in the fall before frost; but the onion thrips is the most serious insect pest thus far encountered. This minute creature developed in great numbers in Yuma onion fields in the spring of 1908. Strong kerosene emulsion is the best treatment tried.

The downy mildew, peronospora schleideni, which does much damage both in the Atlantic states and California, also appeared, doing much damage. Bordeaux mixture, applied with a spraying apparatus, is the proper treatment for this fungus.

Varieties.

In order to reach the early markets in April and May, it is essential, planting seed in September, to use the earliest varieties of onions, inasmuch as they require between seven and eight months, including the winter season, to mature. At Yuma the White Bermuda is the most successful variety thus far proven, although the Red Bermuda and the Crystal White Wax are close competitors. These are all mild, early onions and good producers, but must be sold promptly as they do not keep long. The superior appearance of the Crystal White Wax brings it a somewhat higher price than the Bermudas, compared with which, however, this variety is a little later and a poorer keeper. New White Queen produced a good test crop of large late onions in 1906. The El Paso and the Prizetaker are very uncertain yielders under Colorado Valley conditions; while Louisiana Creole and Australian Brown have thus far produced tops only, and no onions. At higher elevations, however, near Tucson and Graham county, Australian Brown is a good producer and keeper.

Onion seed must be fresh and should be secured from reliable dealers.

Harvesting and Marketing.

As the onions attain marketable size, maturity may be hastened by withholding irrigating water and drying out the soil. To the same end also the tops may be broken over by means of a small roller. By these means three weeks may be gained in time of ripening. The lessened yield will usually be more than made up by higher prices for an earlier crop.

Next to transplanting and cultivation, harvesting is the most costly item in connection with the crop. Flat culture onions are most costly to harvest, requiring the aid of a digging tool, especially in adobe soil. Ridge culture onions, however, if the soil is light and has been kept mellow by cultivation, may be pulled by hand, and tops and roots trimmed with a sharp knife in one operation. The trimmed onions are collected in small piles, covered lightly with grass or weeds to prevent sunburn and left a few days to cure. If to be kept for some time they must then be stored in thin layers or crates in a cool, shaded, well ventilated place.

Sacks are a cheap market package, costing 5 to 10 cents for 105 pounds; but sacks allow the onions to bruise. Fifty pound onion crates, costing 14 to 25 cents each in Arizona, are more convenient to handle, insure better keeping, and are usually demanded by the trade.

Costs, Yields and Profits.

The cost per acre, in money, of growing onions must vary widely according to local conditions and personal management. At the Yuma garden, with a sandy loam soil, by the method of transplanting to ridges, an acre of White Bermuda onions, delivered in Yuma, requires about eighty days' labor by men and boys, and five to ten days' team work, worth in wages about $170.

The yield of White Bermudas at the Yuma garden in 1906 was 8330 pounds per acre. In 1907 on the same ground, 20,000 pounds per acre. Eight tons per acre is a common yield in the region, this figure being sometimes exceeded in the onion district of south Texas.

The profits depend not only on skill in growing and yield, but also upon prices and marketing facilities. In 1907, with a good yield and prices ranging from two to five cents a pound delivered at Yuma, 1.2 acres of White Bermudas netted about $400 after deducting all costs, including labor. In 1908, with increased costs and decreased yields due to onion thrips and mildew, with a late season, demoralized markets and poor shipping arrangements, the crop was grown at a loss.

With a considerable early market demand in California and Arizona towns and with an efficient shipping organization, early onions may still be considered a fair chance as a winter crop for the Southern Arizona grower.

THE CANTON CLIPPER

Has been on the market **since 1842—two-thirds** of a **century,** and is made in the largest and oldest permanently established plow factory in the world. It is

The Perfect Plow

WHY?

Has a high beam, giving good clearance at the throat. The beam and handles are long, giving a powerful leverage. The handles and beam are thoroughly and strongly braced, and the plow will withstand any strain. The **bottoms** are **mechanically perfect** in shape, material and finish, and have the high polish and scouring qualities which have made the **P. & O. Canton Clipper** the **leader** of **all plows** in all sections.

Quality and merit wins, and the Canton Clipper has both. Hundreds of thousands are in daily use—a lasting testimonial to their superior features.

You will make no mistake in buying a **Canton Clipper,** as they never disappoint.

Pacific Implement Co.
GENERAL AGENTS
131 Kansas St. San Francisco, Cal.
B. Hayman, Agent, Los Angeles, Cal.

Gold Medal Citrus Trees

Are fully described in our treatise of Citrus Culture, which is a trifle the best thing of its kind ever published. Contains about 50,000 words and 100 illustrations telling about oranges and lemons from the seed bed to the bearing orchard. Price 25 cents. Remember we are the largest producers of Citrus Trees in the world and stand ready to serve you with the finest nursery stock that can be grown. Correspondence invited.

San Dimas Citrus Nurseries
San Dimas, Cal
R. M. Teague, Prop.

Notice to Orchardists

Now is the time to plant your cover crops. Plant Vetch, Blue peas and White peas in sandy soils or where there is slight alkali. Plant Burr Clover or Fenugreek on heavy soil. Write us for prices and for any particular information you may wish.

Johnson & Musser Seed Co.
113 N. Main St., Los Angeles, Cal.

When writing advertisers, mention Cultivator.

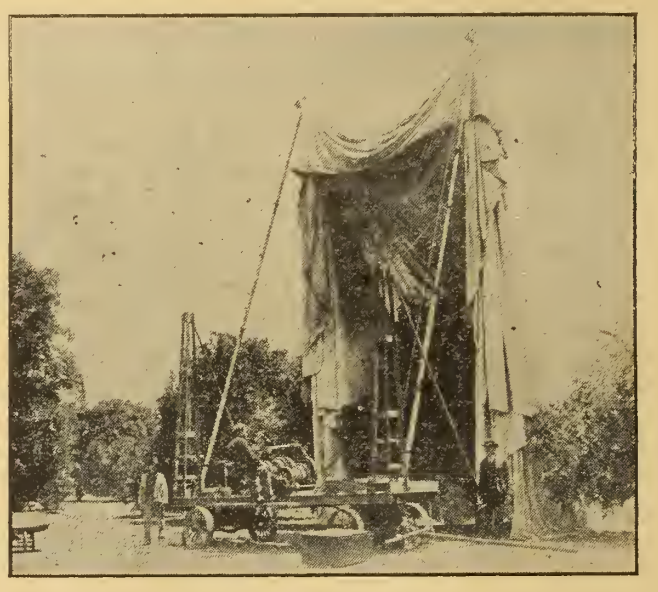
With the Citrus Growers

TENTS OVER BIG TREES.

THE process of fumigation of small citrus trees has been very satisfactory and economical in handling. But the placing of tents over big trees has been so difficult and slow as to make the proportionate cost much greater. Several methods of throwing the tents with poles and with small derricks have been devised but all are more or less cumbersome.

We recently learned of a plan now being followed by McFadden Brothers of Fullerton and from Mr. C. E. McFadden we have received the item from which the following was made up:

The machine in question has several points of advantage over the old method of handling tents. First of all it does away with the hard work of handling large tents, no matter what the size. They are taken from one tree and placed on another with perfect ease in exact position, thereby reducing the pushing and hauling of



The McFadden Tent Hoist.

tents into position after they are once placed. Second, it saves the trees, as the tent is lifted bodily off from the tree and placed over the other in such a way as to cause the least possible "drag" over the top of the tree. This dragging of the tent off from the tree has been the cause of more breakage of limbs and loss of the fruit than any other part of the work. This method also saves the tents as the gentle lifting does less tearing than the pulling over the tops of the trees. Lastly, by using the new system of sizing trees and generating, by using six men, a string of from 30 to 50 tents can be shifted so as to cover fifty to seventy-five trees an hour. This is from three to five times the number that can be handled the old way by the same number of men.

Mr. McFadden writes that he is operating a machine in the Placentia district and that one minute is sufficient to throw the tents. The tents are 55 to 65 feet. The photograph given on this page will give a very correct idea of the work by which the two masts are operated by a little gasoline engine on the truck.

At the recent annual meeting of the Indian Hill Citrus Association held at North Pomoua the followiug officers and directors were elected for the coming year: C. B. Sumner, president; E. C. Robinson, vice-president; A. T. Currier, treasurer; V. W. Baker, W. A. Fox, C. E. Straight, D. C. Crookshank, W. H. Schuremau, secretary and manager.

CITRUS FRUIT GROWING IN SOUTHERN CALIFORNIA.

FARMERS' Bulletin No. 238 treats of this subject in a concise form and sums up the situation as follows: "The growing of citrus fruits is a horticultural accomplishment not surpassed in any line of the art. There are very few agricultural occupations that require an equal amount of judgment and very few that give as remunerative a return for the mental outlay. Everyone who is willing to pay the price either in labor or in dollars, can grow orange and grape fruit, but only he who is so constituted as to derive pleasure in exercising his mental faculties to their fullest extent can produce fruit of the first quality. There is a very long series of conditions from the choice of the stock with which the bud is to be placed, to the delivery of the package of perfect fruit to the consumer, which must be met successfully. If any of these links in the chain is broken, first place cannot be obtained. Good judgment with previous knowledge must be exercised in the choice of stock, the bud, the soil and the location of the orchard, in the cultivation of and the fertilization of the crop, in the treatment of fungous and insect disease, in picking and packing the fruit, and in selecting a market for its disposal.

"The production of the finest oranges requires years of most careful study and as diligent attention as the most intricate business operation. Unless the citrus grower is in full sympathy with his work, he will as surely fail to produce the best results as would be in the case of any other occupation."

The above remarks do most certainly apply to California, as they deal with men and methods, but in the discussion of the climatic conditions that govern citrus culture in the Gulf regions, the discussion does not apply to California at all. It is stated that in the Gulf regions, places where the temperature does not fall below 18 deg. above zero nor rise above 100 deg., and where there is sufficient moisture, citrus fruits may be raised, intimating that the best fruit is not always raised where those limits are reached, though as a rule, such limitations mark the locations in which it is considered safe to grow citrus fruits. In that region it is considered impossible to grow oranges if the rainy season comes during the time the oranges are maturing, as it interferes with gathering and marketing. We do not consider the rainy season at all in California, in fact it is quite common to hear growers express a desire to have it rain during the height of the picking season so that the market may have a chance to clear, by stopping the rush of fruit to the mar

SAMSON WIND MILLS

Have double gears, removable bearings and center lift, which double the life of the mill. They will last longer, pump more water and give better satisfaction than any other WIND MILL.

This is an up-to-date Sub-structure, Tank and Wind Mill outfit complete; substantial, economical and attractive. We build all kinds. Write us or our general agents for full information and prices, description &c., before purchasing.

The STOVER MFG. CO.
FREEPORT - ILLINOIS
30 California Avenue
CRANE CO., LOS ANGELES and SAN FRANCISCO
General Agents for California

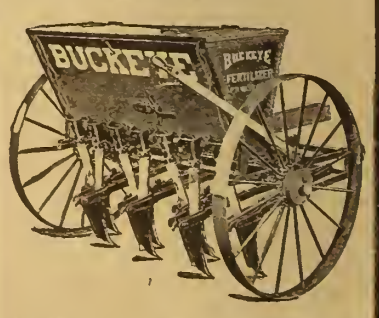
When writing advertisers, mention Cultivator.

Fertilizer Drills

GET THE BEST

Buy the Buckeye

7 Hoe 7 Inch or 8 Hoe 8 Inch



Will furnish set of plates when requested (without extra charge) for sowing peas or vetch.

Hawley, King & Co.
Los Angeles St. bet. 2nd and 3rd Sts.
Los Angeles, Cal.

ket. In fact, this is quite an important item some seasons. The great bulk of the California orange crop is harvested during the rainy season, and very often the market is strengthened by a rainy period.

The bulletin states the more nearly the northern limit the fruit is grown, the more sprightly and deliciously flavored it is, some of the best being grown where the trees are in danger of being frozen. An ideal climate is described as one where the rainfall occurs after the fruit is picked and before the new crop begins to ripen, and where there is not a continued cold of less than 26 to 27 deg., and preferably not above 100 deg.

There is but one condition here that is desirable for the California growers and that is the 26 to 27 degrees. Our rainy season is just the opposite to the one described as desirable and nothing so delights the grower as to have a temperature of 110 to 112 deg. for a few days in July or August. It reduces the black scale to a minimum and dispenses with fumigating for that part of the season at least.

A temperature of 26 or 27 degrees will not seriously affect the trees in this state during the time from November to the middle of February, though it will surely injure the fruit. We do not know what would happen should such a temperature occur during our spring growing season. We know, however, that freezes that will kill almonds (the nuts) which are nearly full grown, will not affect the blossoms of orange trees, showing that the orange has a remarkable resistance to cold in our climate.

When Florida was in her prime as an orange growing state, certain natural features preserved her climate that was favorable to orange growing. The orange groves were among the pine forests and as the profits in orange growing showed a growing tendency, these forests were cut down and orange groves planted. The tempering agency of the climate was removed, the orange groves were frozen dead and the Florida citrus belt was compelled to move further south and occupy a much reduced area.

In Southern California we again find the conditions reversed. What was once a barren and desolate waste from the San Bernardino mountains to the sea, for instance, is now dotted and streaked with groves and rows of Eucalyptus trees which exert a modifying influence on both the winter and summer climate. It has been recognized for several years by some growers that a liberal planting of Eucalyptus trees around the groves prevents severe freezing. There are groves in Cucamonga, divided into blocks of a few acres, where it is found that dangerous temperatures are unknown where they used to be quite common. Other instances are common and it is a fact the extremely low temperatures that occasionally visited Southern California have not occurred in recent years, and as the craze to plant Eucalyptus has spread all over the south, there is reason to believe that the dangerous winter temperature will in time be of the past in fact.

These points were brought out by Dr. Pearson at Claremont one time and in the course of his address he said that the time is not far distant when the country from Redlands to the sea will be the "Paradise of the Earth."

This, coming from a man of his standing and wide travel is certainly reassuring to the orange grower of Southern California.—J. W. Mills, Marysville.

Pickling Olives

FOR home processing of olives, the following written for a department bulletin by W. W. Skinner of Arizona, is good.

The olives, either green or ripe, should be packed into pails about one-third full of water, to prevent bruising, and sorted as to size and ripeness. The fruit is then placed in suitable vessels (preferably stone jars, though wooden kegs, etc., may be used if sterilized so that they are free from mold spores), the water poured off, and the fruit covered with a solution made of 2 ounces of soda lye, 1 ounce of lime, and one ounce of common salt to a gallon of water. The solution should be thoroughly mixed and allowed to stand an hour before using, and is best if made of boiled and cooled water. It should stand about 2 inches above the fruit and if any of the olives float it is necessary to cover them with a board and weight.

The time of the lye treatment varies from three to seven days, according to the variety, size and ripeness of fruit. The solution should be examined daily, and should the sleek, soapy feeling peculiar to lye disappear, it indicates that the solution is exhausted. The old solution should therefore be poured off and new solution added. It should be changed at once should any scum or mold appear. The fruit should be frequently examined, always sampling the largest olives by cutting away a portion with a sharp knife. The progress of the lye toward the interior of the fruit is plainly marked by a distinct dark ring. When the ring has reached almost, but not quite to the pit, it is time to remove the lye and commence the washing.

The lye should now be poured off and water added and renewed morning and night. The wash water should also be boiled as a preventive of mold, which is very likely to develop at this stage of the pickling process. The fruit should be kept in water, as before, with the board and weight, and throughout the extraction, washing and salting, the vessel should be closely covered. It will require from four to seven days to remove all traces of the alkali. Washing should be continued as long as the fruit has the peculiar hot taste due to the presence of lye, and it is well to test it with red litmus paper, which will turn blue if a trace of the lye remains. If the olives are still bitter after the washing has been completed, they should receive a second treatment with lye, followed by washing.

When free from lye, the olives are ready for salting, the brine being composed of 2 ounces of common salt to a gallon of water. It should be thoroughly boiled, cooled and poured over the olives. The next day this solution should be poured off and a solution containing 4 ounces of salt should be used. "If the stronger solution is used to begin with, the olives will shrivel. The fruit should next be treated with an 8-ounce brine, and if intended to keep for some time, finally with a brine containing 14 ounces to the gallon. A 14-ounce brine, however, makes the olives too salty to be used without a slight soaking."

In the author's opinion, a better method of keeping the finished product is to process the olives after adding the 8-ounce brine. Glass fruit jars filled with olives and brine, with the covers lightly screwed down over the rubbers, are stood in water in a tin wash boiler and heated to 175 deg. F. for thirty minutes. They should be then removed and the covers quickly tightened. By this process the flavor of the olive is not injured, and if properly done the fruit will keep at least several months without deteriorating.

REVISE CITRUS TARIFF UPWARD.

The citrus growers are moving early and vigorously for the tariff revision, and are adopting as their slogan "Revise Upward." At the Eighth District Republican convention recently the plank on revision contained:

"We urge upon our representative the importance and justice of the present moderate tariff on citrus fruits and other agricultural products of this district. Any revision that may be considered with reference to these schedules should be upward, rather than downward. We endorse the movement among the citrus fruit growers of the state to secure an advance in the tariff on lemons, and pledge our congressman to use his best efforts to maintain the protection the fruit growers now enjoy and to secure such increase as may be equitable and just."

Do Irrigation Work---Quicker and Easier

For Leveling Fields—For Cutting and Clearing Laterals

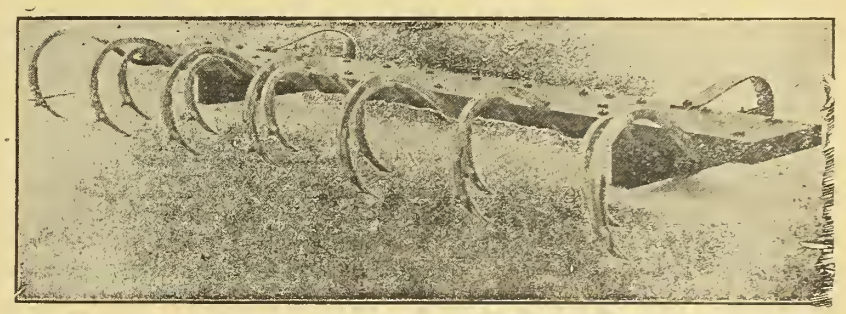
The photo is from an actual field-scene in New Mexico, where a 20th Century Grader is leveling seed-beds on the great truck-farm of Herman Blueher. He says: "Your 20th Century Grader has no equal for land-leveling, seed-bed making, ditching and for all kinds of irrigation work. I have reduced my force one-third since buying this machine." The

20th Century Grader

weighs only 600 lbs—light and handy—and is easily handled by one man and two horses. It is all steel and malleable iron. Price very reasonable. It pays for itself in one season. If your dealer hasn't it ask for name of nearest agent. Write now for new free booklet with large cuts showing every part.

Baker Manufacturing Co.
281 Dearborn St. Chicago, Ill.

WILLIAMS' GOOSE-NECK CULTIVATOR



Especially adapted for citrus orchards. Sizes 8 to 14 feet. Lightest draft. Free trial to responsible parties. No agents. You pay only one profit. Write today

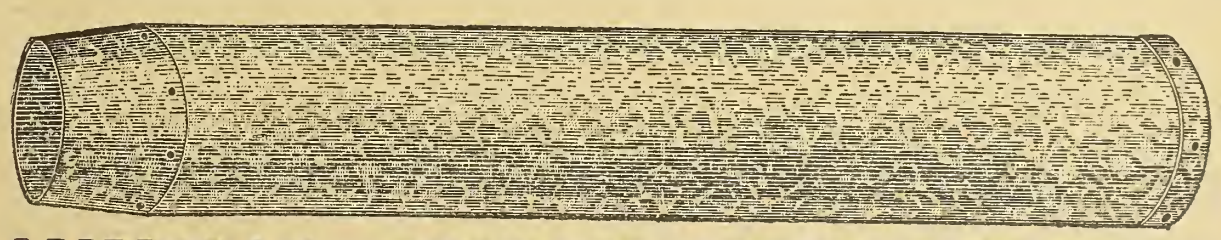
WILLIAMS & SON, Manufacturers
Orange, California

TENTS

Fumigating and Lemon Curing Tents our Specialties

Irrigating Hose, all sizes. Prices and Samples quoted upon application. Write your wants
Wagon Covers, Hay Covers, and Canvas Covers of Every Description.

Mellus Bros. & Co
Phones—Home, F 4871; S. S., Main 3500
250 East Fifth St., Los Angeles, Cal.



AMERICAN SURFACE IRRIGATION PIPE

SAVES WATER, GRADING AND TIME

The **only** way to **Irrigate Alfalfa. Cheaper** than **Flumes.** This is only **one** of our **specialties.** We make **Riveted Water Pipe** in lengths of **ten feet** from **single sheets.** Let us **prove** to you that we make **Pipe** and **Tanks right.** WRITE FOR CATALOGUE.

AMERICAN STEEL PIPE & TANK COMPANY
FORMERLY TALLERDAY MANUFACTURING COMPANY
636-7 Pacific Electric Building **Los Angeles, Cal**

California Cultivator

ESTABLISHED 1889

Subscription Price One Dollar per year, payable in advance. Dates of expiration of subscription accounts appear each week on the address label. John Jones 7-08 means July 1, 1908. Notify us by mail if you desire to discontinue.

Thursday, September 24, 1908

Address All Communications to

CULTIVATOR PUBLISHING CO.
115½ No. Broadway, Los Angeles.
733 Merchants Ex. Bldg., San Francisco.

Copy for Change of advertisement must be in office on Saturday preceeding date of issue. New advertising copy should reach the office not later than Tuesday to insure insertion.

CULTIVATOR PUBLISHING COMPANY
H. A. PERKINS, EDITOR AND GEN. MGR.

C. B. MESSENGER - - - - Associate Editor
FRANK H. THOMAS - - Advertising Manager
H. G. HUTCHINS - - Subscription Manager

EDITORIAL CONTRIBUTORS:

J. W. MILLS - - Deciduous and Citrus
JOHN ISAAC - - - Horticulture
J. B. NEFF - Walnut Culture and Irrigation.
Mrs. M. E. SHERMAN - Live Stock and Dairy
Q. A. LOBINGIER - - Vegetable Garden
S. S. TWOMBLY - - - - - - Poultry
W. E. FOSTER - - - - Pigeons
L. M. FALL - - - Law Queries
RALPH E. SMITH - - Plant Pathology
S. A. PEASE - Plant Diseases and Injurious Insects

Entered at the Post Office at Los Angeles, California, as Second-class matter.

Contents

RICHES OF SAN JOAQUIN COUNTY. Cover.

WINTER ONIONS.—291.

CITRUS.—Tents Over Big Trees; Citrus Fruit Growers in Southern California; Picking Olives; Revise Upward, 292, 293.

EDITORIAL.—Rose form the Farm; Place your Nursery Orders; Fresh Eggs; Better Fruits Served to Tourists; Grow Trees; Co-operate; Some Apples at Watsonville, 294.

AGRICULTURAL NOTES OF THE PACIFIC COAST.—Northern, Central, Southern the Coast, 294.

DECIDUOUS.—Charges Against our Fruit; Gummosis of Cherry; Picking Pears, 296.

DAIRY AND LIVE STOCK.—Grain Feeding on Pasture; The Dairy in Hot Weather; Sand-cracks; Importance of Live Stock Industry, 297, 298, 299.

MARKETING PRODUCE.—300, 301.

POULTRY.—Controlling the Molt; Brevities; Ventilation, Pigeons; Importance of Strain; Dust Bath; Crop Dropsy; Patience, 302, 303.

SMALL FRUITS AND VEGETABLES.—Time and Wor-- savers; Strowberries; Celery Plants Going to Seed, 304.

ORNAMENTAL GARDEN.—How Trees are Made Symetrical; The Calladium, 305.

QUERIES AND REPLIES.—Grape Juice; Dried Fruit Wanted; Grafting Pecans; Washington Grapes; Fungous Diseases; Plums; Drying of Figs; Bottle-Neck Melons; Dry Pasture; English Walnuts; Freak Chrysanthemuns; Horticultural Commission; Curing Olives; Bleaching Walnuts; Cracked Hoof; Budded Loquats; Gumming of Orange Trees; Alfalfa Grinder; Ticks; Harvesting Beans; Douglass' Mixture; Itch or Lice; Various Questions; Chicken Fleas, 306 307.

HOUSEHOLD.—Make Good; Br'er Rabbit at Uncle Remus'; Recipes; Curing the Borrowing Habit; A Goat for The Baby, 308, 309.

PRODUCE MARKETS.— Los Angeles Market; San Francisco Market; Citrus Markets, 310, 311.

ROSE FROM THE FARM.

In the biographies of many of our great men it is chronicled of them that it was their good fortune to be born upon the farm. More recently the turn has been made of this phrase "rose from the farm" until it has become rather threadbare and in fact is used to convey the impression that notwithstanding the great incubus of being born upon the farm and amidst rural surroundings the great man in question has risen to his present dizzy height.

The country boy who was perhaps too dull to know which end up to plant a tree, migrates to the small town, gets himself appointed as dog catcher and at once proclaims that he has achieved his present position, notwithstanding "he rose from the farm."

An exchange in speaking of this customary method of expression says:

"Would that some one with a little insight would issue a volume entitled, 'Fallen from the farm.' including the lives of a few representative corporation lawyers, trust magnates, predatory preachers, defaulting bank presidents, special interest senators, and hireling judges. We are not certain but that a president or two could be used as a climax for the concluding chapters."

PLACE YOUR NURSERY ORDERS.

The young trees planted last spring have not yet ceased their summer's growth, but they are near enough to it that it may be wise to consider the coming season's planting. Many orchardists will have occasion for filling in where others died; more will probably extend their orchard planting. It is none too soon to cast about and determine what that planting shall be, also where the trees shall be secured for the planting. There are but few growers who will ever look this far ahead. But many have been disappointed in rushing to the nurserymen for trees desired at the last moment only to find the selection culled over until the required "sorts" may not be secured. An order placed at this time or within the next few weeks with any reputable nurseryman will insure delivery of the best of trees and at a price probably as reasonable as may be secured later.

FRESH EGGS.

In the main the National Pure Food Law has been in the interests of the producing class of the country. Occasionally a ruling is made which seems unjust and very detrimental to the best interest of the farming class. A recent ruling which we believe is not only just but will be to the best interests of the poultry industry declares that fresh eggs are fresh eggs. In other words, any one attempting to market cold storage or processed eggs as "fresh ranch" will be up against the Department of Agriculture and a possible heavy fine. The Cultivator is aware that this method of disposing of cold storage eggs is not only sometimes done but has been a too common practice. Nor is this entirely laid at the door of the commission man or large egg dealer. The writer of this was once told by an egg producer of this state that during April, May and June all his surplus eggs were placed in cold storage. Later in the season when prices were doubled or more he would take his load of fresh eggs to town, dispose of them and returning with a case or more from cold storage warehouse would "candle out" the finest stock and take them back the next day mixed with his freshly gathered eggs and sell all as "strictly fresh." This was told in an off-hand way as if it were a legitimate practice. Hence for the benefit of such the Cultivator now calls attention to the fact that such practice is not countenanced under the National Pure Food Act.

BETTER FRUITS SERVED TO TOURISTS.

The fight which was inaugurated by the California Promotion Committee and is being continued by fruit growers up and down the State to induce hotels and restaurants of the Pacific Coast to serve a better grade of fruits on their tables is attracting much attention and will, we believe, lead to satisfactory results. Editor E. F. Adams in the San Francisco Chronicle suggests that instead of making a high grade of California fruits as high priced as most of the better class hotels do, they should make them according to the department store plan, a "leader."

It is notorious that the better grade of fruits has been sold to canners or to shippers of fresh fruits, while we have brought to our own markets lower grade fruit which will be refused or will not carry by eastern markets. This has placed the lie upon our own claims of being the producers of the finest fruits in the world. We are glad the hotel men are receiving the suggestion in the spirit which they are, although at first they came back with the claim they were unable to secure first class fruit in the open market.

Let our producers correct this condition and see that our best markets are supplied with our best fruit.

GROW TREES.

Some have complained of the fact that California farmers are impulsive. That is, when one plants orange trees, everybody wants to plant orange trees. When the style is peaches, peaches go with anybody. This season, owing to the prolonged campaign of education for forest trees, there will be extensive plantings of eucalyptus trees. There is but little danger that this will be overdone, fortunately; on the other hand, it will be entered into by many growers who have an insufficient understanding of the problems before them. Such may be disappointed because exaggerated claims of profits have been made.

Too many have an idea that eucalyptus is a synonym for such a vigorous life that the tree will grow and flourish remarkably with no care on almost any kind of soil. Truly remarkable results have been obtained in many sections with many kinds of eucalyptus trees. But let not the prospective planter be led astray by claims of wonderful worth for many of the untried varieties.

There are 150 or more varieties of this wonderful family, some of which are in this State practically worthless. For instance, the Jarrah has been often referred to as producing in Australia some of the most serviceable timber grown in that country. That far the claim is true, but in California we have yet to hear of a single tree which has lived in the open, unprotected for more than two or three years. The common blue gum or Eucalyptus globulus, stands today as one that has been absolutely proven and made good in California conditions, and only in the last few months has the wonderful worth of this wood been proven. Others may be shown to have as great worth in Australia, but let not the planters proceed to put out acres of them until the test has been made under California conditions.

CO-OPERATE.

Like the preacher who can always get the right doctrine from any text he may take from the Bible, the Cultivator is always able to get the lesson of co-operation out of any problem which may confront the farmer. The plan of co-operation is almost essential in the marketing of our fruits, in fighting our pests, in gathering together the fund of information necessary to conduct intelligent farming. Regarding the marketing of our products we have spoken in season and out of season. Occasionally also we have referred to the advisability of co-operation so as to secure tents, spray pumps, or other appliances to combat our enemies. More economical and more effective work is possible thereby. A correspondent in this paper some weeks ago suggested the advisability of passing a law compelling the killing of ground squirrels on a certain day. This may be, probably is, impracticable, but certainly the united action of a whole neighborhood going to work on a certain day or certain week would have a much more beneficial effect than the way it is usually done. We believe it has been tried in Monterey county and would be glad to hear from those who have tried it there.

In any case, let us co-operate, let it be in marketing our fruit, killing our pests, or along any line in which we may strengthen each other's hands.

SOME APPLES AT WATSONVILLE.

We have ever championed the apple in California, for we believe that in time, as her apple sections become known and developed, she will stand at the head of the apple-growing States of the Union. This year the Pajaro Valley alone will ship 4000 carloads, and these are now going forward at the rate of 25 to 30 cars daily. From all the apple sections reports reach us that the crop this year has been a fair to good one, although the fruit as a rule is somewhat undersized. Prices being received from the shippers are fair and satisfactory to the growers.

Shop Talk

DRY FARMING.

We are receiving orders daily for Campbell's "Dry Farming Manual." This nicely bound $2.50 book, devoted exclusively to dry farming methods, has been lately reviewed and commented on by the **Cultivator.** Every rancher is interested in the subject and should have the book; especially at the terms offered by us in this and previous issues.

For either a paid new subscription, or a renewal, to the **Cultivator,** with $1.50 in cash additional, we are sending the book prepaid. Or, for $5.00 for five new subscribers at $1.00 each we will send the book **free of charge.** Note that in this latter case renewals do not count. For admirers of the **Cultivator** this will be an attractive way of obtaining the book. Especially in sections where there are many new arrivals there will be no difficulty in getting these few new names.

Agricultural Notes of the Pacific Coast

Northern California

Bartlett pear harvest of the Sacramento valley is about over.

Several Ukiah hop growers have sold their crops at 7 cents.

The Meridian Creamery in Sutter county has been sold to Mr. C. F. Summy.

Butter output of the Sacramento valley will be greater this year than ever before.

The State Dairy Bureau has a very active force enforcing the State laws bearing upon creameries and dairies.

Gold Ridge, Sonoma county, is attracting attention this year for the remarkably fine quality of its apple shipments.

Hop growers of Sonoma county have found trouble in finding sufficient help at the price of 80 cents per hundred for picking.

The Oroville Chamber of Commerce is perfecting arrangements for its citrus fair to be held November 30th to December 5th.

Rains which visited many sections of Sacramento valley were sufficient to lay the dust but did no serious damage to hay or fruit crops.

Owing to the low price of wool Tehama county sheep men will not shear sheep this fall, but will allow sheep to carry over till spring clip.

The Vacaville Reporter says that some of the better cherry orchards of Solano county will bring a profit to their owners this year of $300 to $500

The contract for restoring the Tisdale Weir near Colusa has been let to the Western Bridge and Construction Company for nearly $11000.

The hop picking season at Wheatland has ended, and the first season's operation of the Horst hop picking machines has been very satisfactory.

Steps are being taken to secure a large irrigation system for lands near Corning, Tehama county, the water to be secured from Coast Range Creek.

Owing to shortage of spring rains the season's beet crop in many sections of Sacramento valley will not be equal in quantity to the usual output.

Greater scarcity of snow exists in the canyons down the sides of Mount Shasta than for many years which is the cause of a serious water famine in Siskiyou county.

The prune growers of Geyserville have formed a pool of two hundred and fifty tons of French prunes and are holding for a four cent basis. First come first served, writes a subscriber.

Some grape growers at Healdsburg claim to have sold the wine grapes for as high as $14 per ton. One winery is paying $8 cash and balance to be according to prices at which wine sells.

Farmers near Fair Oaks, Sacramento county, are making an energetic campaign against Johnson grass. To that end a permanent agricultural club has been formed, looking after the welfare of the region.

Owing to low bids for the shorthorns of the Gibson Roselawn herd, most of the cattle were withdrawn and will be offered at private sale. The attendance at the sale was quite large but there were more spectators than buyers.

Central California

Turlock claims to have a 21¾ pound sweet potato.

Stanislaus County Fair at Modesto is on during the present week.

Lodi grape growers are feeding their lower grade grapes to the hogs.

The average sugar content for the season at the Visalia sugar factory was 19.5.

Occasionally as high as 25 cars of Tokay grapes are shipped in one day from Lodi.

Many eastern sales of Tokay grapes from Lodi run from $1.40 to $1.80 per crate.

Tulare is to have a seeding plant which will be in readiness for this season's raisin pack.

Irrigationists at Turlock recently voted $100,000 bond issue to increase its irrigation facilities.

Bakersfield is becoming more and more a shipper of butter, most of it going to Los Angeles.

Exeter is beginning work for the coming Tulare County Citrus Fair which may be held December 1-6.

The Sempervirens Club of San Jose is protesting against the defiling of Big Basin park of redwood trees.

The Fresno County Fair Association is pushing work on its grounds to be ready for the coming exhibition.

One citrus nurseryman at Porterville recently let the contract for budding 65,000 seed bed orange stock.

Turlock sent one full car load of cantaloupes which were given away at the State Fair for advertising purposes.

The unusually early dropping of leaves of prune trees in the Santa Clara valley was thought at first to be due to insects but is now believed to be owing to the dry season.

Tomato and watermelon growers along the river above Watsonville have been exasperated by the depradations of small boys who destroy the crops simply for the fun of the thing.

Professor L. O. Howard, head of the entomological division of the Department of Agriculture, and professor Swingle recently visited San Jose to investigate matters concerning the thrips.

One large fruit producer at Lodi has sold his Tokay crop at 70 cents f. o. b. This is considered a good price for this year. The expense of harvesting and packing the crop is about 25 cents per crate. This would leave to the grower about $36 per net ton

A $10 cash prize is to be given at the Tulare County Fair to the farmer, either man or woman, who can show the best judgment as to the quality of dairy cows which they have never seen. Prof. E. W. Major of the State University will be the judge of these judges.

The managers of leading hotels in this state come back at the fruit and vegetable men who have complained of the low grade of fruit served on California tables with the claim that they are unable to buy better grade of products at home because all better grade of stock is sent for eastern consumption. The fruit men maintain that if our hotel men will meet the price which eastern people are willing to pay the finest of fruits and vegetables will be kept at home.

Southern California

Upland has found its colony of Argentine ants.

Up to September 12 Redlands shipped 4721 cars of oranges.

Redlands shipped 1400 more cars this year than she did during 1906-07.

Southern California has shipped to this time nearly 25,000 cars of oranges.

Escondido, San Diego county, gave away over a ton of grapes at her recent grape festival.

A syndicate will plant 200 acres of eucalyptus in Reche canyon, Redlands, San Bernardino county.

San Bernardino is making a strong fight for the issue of bonds for funds for good roads purposes.

Several sections of Southern California have suffered somewhat from shortage of irrigating water.

Some parties have taken up land on the desert near Daggett and will plant to eucalyptus and alfalfa.

The Santa Ana sugar factory which is now building, plans for the handling of beets from 9000 acres next season.

Southern California Walnut Associations are many of them building new salt solution bleaching apparatus.

The most destructive forest fire in Southern California this year was that of La Crescenta, Los Angeles county.

A eucalyptus pile driven into the ocean at Santa Barbara has sprouted and is now sending out a branch of considerable size.

San Fernando is discussing the question of having a "citrus day." with the expectation of making it an annual celebration.

The Montana Land Company at Orange county has a field of 160 acres of sugar beets which averages 10 tons per acre of 2 per cent beets.

Apple trees in the Yucaipe Valley are so heavily loaded with fruit that nearly all are propped up. One ranch placed over 7000 props under its trees.

A San Luis Obispo county farmer has asked for an injunction to prevent State Veterinarian Keane from dipping his cattle for Texas fever-ticks.

The most severe wind storm which has struck the Imperial valley since its settlement visited that community last week. Several houses were blown down.

Articles of incorporation were recently filed in San Bernardino county by the Pratt Eucalyptus Association. It is to grow trees for manufacturing into lumber.

The Chino sugar factory recently made a record for itself of 977 tons of beets sliced within 24 hours. The plant was guaranteed by the builders to slice 700 tons within 24 hours.

Preparations have been made for a full trainload of the representatives of the California Fruit Growers' Exchange from several Southern California points. Riverside alone will send one full car load of delegates.

The ice and cooling plant built by the Pacific Fruit Express Company at Colton will be the finest and largest of its kind in America. The machinery alone for this plant will cost about $200,000 and the total expense will be well up toward a million.

The Coast

Lewiston, Idaho, will hold its annual fair October 12-17.

Pueblo county, Colorado has just launched a $30,000 irrigation project.

North Yakima, Washington, has shipped over 800 cars of fresh fruits this season.

Present price of barley at Portland, Oregon, is $1.30 with some growers asking $1.32.

Apple buyers in Oregon have been very slow in making their offers satisfactory to the growers.

Editor C. B. Minton, of the Northwest Poultry Journal, has purchased the Oregon Agriculturist.

The Hood River, Oregon, people will hold their next Biennial Apple Fair November 14th to 16th.

Washington vetch seed growers are reaping a rich harvest from their sales of vetch, largely to California.

A superb showing of highbred cattle was made at the Pacific National Live Stock Show at Portland last week.

The Yakima, Washington, fruit shippers have a contract for shipping quantities of fruit to a London concern.

The members of Evening Star Grange, Portland, Oregon, celebrated the 35th aniversary of that grange recently.

Lewiston-Clarkson fruit growers have shipped quantities of fruit to Albuquerque to be exhibited at the Irrigation Congress.

Recent rains have caused such bad roads in some sections of Washington and Oregon that shipment of wheat has been greatly delayed.

The Rogue River Horticultural Society has apointed committees which will take steps toward securing irrigation for a large tract of land.

Arrangements are being made for an apple show to be held at Marshallfield, Oregon, as soon as plans can be perfected and prizes arranged for.

A land company at Pendleton, Oregon, has taken steps looking toward irrigation of 7000 acres of land. $150,000 will be spent in the irrigation system.

National Convention of the Farmers' Educational & Co-operative Union held at Fort Worth, Texas, has decided to hold its next meeting at Walla Walla, Washington.

Washington and Oregon wheat growers are much concerned over the pest of smut and are taking steps to so handle their crops another season as to escape this pest another year.

The last year's efforts of the Wenatchee Apple Growers' Co-operative Selling Association resulted more successfully and will result in a stronger co-operative organization next year.

An association of all the apple growers of Albany, Oregon, has been formed and an agreement entered into by which the organization will employ expert packers to handle the output of the community.

The clover seed producers of Northwestern Oregon have produced a larger output of seed this year than ever before. The Chas. H. Lilly Seed Company reports that prices will be about 25 per cent lower than last season.

Even the richest soils will wear out unless replenished by

Potash

Highest yields of grapes of superior shipping quality result from the liberal application of fertilizers containing at least 10 per cent. of Potash. (If you cannot get such brands from your dealer, reinforce your fertilizer by adding Muriate of Potash).

Our booklet, "Plant Food," is full of valuable information about the use of fertilizers. Send for it; it is free.

GERMAN KALI WORKS
New York—93 Nassau St. Chicago—Monadnock Building
Atlanta, Ga.—1224 Candler Building

Meyer, Wilson & Co., San Francisco, Cal., are Sole Agents for the Pacific Coast

A Unique Specimen of Ginseng

GINSENG

You can grow this root, and we can tell you just how to do it. A small Ginseng Garden established and maintained with a limited outlay of money and labor will yield from its

CULTURE

A good income, and from its own natural increase will, in a few years, represent the handsome sum of $20,000. This is what an acre is worth. We have been

SUCCESSFUL

Growing Ginseng on California soil, and can show you that it is the most profitable intensive crop to which you can give your attention

IN CALIFORNIA

A postal will bring you our booklet containing complete and reliable information concerning the nature, culture, value and profitableness of Ginseng. Address

LILYDALE GINSENG GARDENS
SANTA CRUZ, CAL.

Placer Nurseries

We have now growing for next season's delivery a large stock of all leading varieties of trees and vines. We propagate only the best commercial sorts. Our trees and vines are the best that good care can produce and in their selection, propagation and growing we spare no labor or expense; and they are true to name. That is what you want.

Contract now the trees and vines you will want for next season's planting.

Write us.

Silva & Bergtholdt Company
Newcastle, California

TREE TANGLEFOOT

A Sticky Preparation Applied Directly to the Bark of the Trees

Will not injure trees. A band 5 inches wide and 1-16-inch thick cannot be crossed by any climbing insect pest. Remains sticky five to ten times as long as any other known substance. You can test it at slight expense, as no apparatus is required. Used by the carload in New England against the Gypsy and Brown-Tail Moths. In California it preserves prune orchards from the Canker Worm Wherever the Gypsy or Brown-tail Moths, Tussock Moths fall or Spring Canker Worm or Web Worm appear TREE TANGLEFOOT is of great value, and should be used when the caterpillars begin to crawl while they are very young.

Price 25c per lb. Liberal discount on quantities. The only safe and effective banding preparation. Send for testimonials.

THE O. & W. THUM COMPANY
Manufacturers of Tanglefoot Fly Paper Grand Rapids, Michigan

Pacific Sugar Company's plant at Visalia has about finished its season's run.

Kings County Fair is now assured for this fall and promises one of the best ever.

Deciduous Fruit Culture

CHARGES AGAINST OUR FRUIT.

Recently several shipments of California fruit to Seattle have been condemned and destroyed, as infected by pests. Thereupon Mr. Pendleton, Fruit Inspector at Seattle, says that California is making that port and the Northwest "a dumping ground for diseased fruit," and that "California fruit growers are not spending any money for spraying their trees and plants, but the Washington growers are."

Mr. Pendleton adds that as a result of the spraying, "the Washington fruit is far better than the California brands, and Seattle people in buying state-grown fruit can also have the satisfaction of knowing that they are getting the finest fruit."

We are not denying that careless shipping may have sent infected fruit to Seattle. If so, its condemnation was proper and not subject to just complaint. But we do deny, with knowledge, that California fruit growers neglect spraying or other precautions in the care of their trees. The study of economic entomology began in this State, and in no part of the world is its application to the eradication of fruit pests more persistently or intelligently pursued. A great part of the time of the last annual meeting of the Fruit Growers' Convention at Marysville was taken up in discussing fruit pests and their treatment. Every fruit-growing county in this State has its inspector who compels the destruction of pests if the planters are negligent. More money per tree is spent in keeping orchards clear of pests in California than in any horticultural section in the world.

It is true that notwithstanding all this expenditure of money and labor some infected fruit may appear in the market, for local consumption or shipment. In either case it should be destroyed as a warning to growers and shippers to increase their vigilance. We do not dispute the excellence of Washington fruit, but for climatic reasons California fruit in its variety and excellence yields to none. In the next meeting of our Fruit Growers' Association, these reckless and wholesale charges of Mr. Pendleton will no doubt receive the attention and get the refutation they deserve.—Sacramento Union.

GUMMOSIS OF THE CHERRY.

At the recent meeting of the Northwest Fruit Growers' Association there was a discussion of the disease of cherry trees commonly known as gummosis. From the reports of this discussion it is evident that there is nothing definitely known as to the nature of the disease or as to successful remedies. Even horticultural experts who should be authority differ in their opinions, though all agree that the disease is a serious one, for, if not checked, it results in the death of the tree. Since cherry-growing has become an extensive industry in this state, and will become many times greater in the next few years, it is of much importance that exact information be gathered concerning gummosis and its remedies.

One cherry grower of many years experience asserts that the disease is one of the sap, while another of just as much experience declares it is a disease of the bark, and a third says the oozing of gum from the bark is due to some sort of injury. Another grower is of opinion that over-cultivation or over-irrigation causes the trouble, while others, who have cultivated their cherry trees thoroughly, are just as certain that cultivation does not cause it. Scoring the trees—cutting a number of slits up and down the trunk through the outer bark—is the remedy most commonly recommended, on the theory that the bark fits too tight and that the sap oozes from the tree for that reason. But this remedy has not always been found effective, and even if it is a proper course of treatment, no one seems to know at what season or under what conditions the scoring should be done. Other remedies suggested by those who have tried them are spraying with Bordeaux mixture, rubbing the gummosis sores with blue vitriol, injecting kerosene in the sore. But, since scarcely any two growers agree in their observations and opinions, and authorities differ, the whole subject is one which should receive the most thorough investigation as early as possible, so that the cherry industry of Oregon may be fostered.—Portland Oregonian.

PICKING PEARS.

As most pears become thoroughly mellow only after being removed from the trees, some difficulty is experienced in getting them into a marketable condition without letting them decay. The weather is so warm during much of the pear season that all of the injured fruit decays very rapidly. If, however, care be taken not to pick the fruit until it is thoroughly mature, and to handle it very carefully, much difficulty may be avoided. Varieties differ very much in the length of time required for mellowing after being picked, and in the perishableness of the fruit, some quickly becoming ready for eating, with little loss, and others mellowing so slowly that a large percentage decays before they become palatable.

FARMERS' NATIONAL CONGRESS..

Arrangements for the 28th annual session of the Farmers' National Congress, which opens September 24, at Madison, Wis., are now practically completed. The programme is exceptionally strong and attractive. Some of the leading agricultural specialists of the nation will take a prominent part.

We have been taught that cultivated cherries may be divided into two classes, sweet cherries and sour cherries, and that the sour cherries are again to be divided into two subclasses according whether the juice is light or dark. We believe this classification is correct and our experience has been that it is useless to plant any except the sour cherries, and of those only such as have light colored fruit or fruit in which the juice is light and watery.

Imperial Valley is making a campaign to secure the next annual meeting of the National Irrigation Congress, same to be held at El Centro next year. A strong committee will go to Albuquerque to present the claims of Imperial county.

Live Stock and Dairy

GRAIN FEEDING ON PASTURE.

A question asked every fall is this: "Will it pay to feed cows on pasture a grain ration?" As a rule it is not a paying proposition in California to feed the ordinary cow when the pasture is reasonably good. Usually these dairymen asking this question have waited until their cows have shrunk in their milk below the cost of the labor of milking them. When this is the case it certainly will not pay to add grain to their ration. The cow that has been allowed to shrink in her milk will not respond to a ration that is not succulent. The ordinary dairy cow will increase in milk if she is nearly fresh and the pasture has not been deficient for a great while. A light addition may be made without much expense if the cow is given ten pounds of wheat straw with a quart of middlings each day. The whole matter simmers down to one of cost, and that comes back to the Babcock test for proof. I know of no way that saves waste of feed in the dairy barn better than the monthly testing of the cows. A cow that does not pay for the grain is then cut off from the feeding lists. It pays well, however, to feed at all times a little wheat straw to cows that are grazing on alfalfa, as it more nearly balances their rations.

SHEEP AND GOATS RAISED ON "WEST SIDE" NEAR LOS BANOS, MERCED COUNTY.

Balanced Rations.

The production of any breed of dairy cattle can be raised by balancing the rations with a variety of food instead of feeding one form of nutriment. Corn is the natural balance of alfalfa, is fortunately grown well wherever alfalfa is a crop in California. I have seen fair crops raised in the Coast counties that were only irrigated when started and grew from the dampness of the nightly sea fogs. In the great central valleys of California the corn plant finds a congenial home. The growth is rapid and it continues to grow until one wonders how high it might become if tho forming of the ears and shortening days did not bring it to the end of the season's growth. There are many family cows that have never been developed to the extent of their capacity. Now if a few hills of corn were planted and fed green during the growing season, they would surprise their owners by the increase of milk. The waste of money, or, rather, the misuse of money in buying feed stuffs that we should grow ourselves is a reckless way of farming. While the ordinary American farmer, to his credit, will not live on the food left after even the pigs are fed, and the farmer's wives and children have the best from the farm, this same farmer is not doing all he should do when he buys and pays to others the profit on the grain he feeds to his live stock. He should save that profit as part of his earnings. Corn should be grown for dairy cows wherever it can be grown as a field crop. Its use comes first as green feed directly from the field, and it can be siloed or dried into fodder for dry season use.

Planning a Dairy Farm.

The common way of planting a farm for a dairy entirely to alfalfa is not the most profitable way. In planting a forty-acre place, put thirty in alfalfa and leave ten acres for soiling crops. In the winter season plant the ten in part to barley or wheat and to oats and peas. These crops can be cut to feed green, or they may be pastured off; if any is left, make it into hay; save the little lots, the scraps of every crop. Old Howard, the stable man, used to say, "Save the rimlets and the barn jest biles over full afore yuse knows ut." In the summer sow a portion of the ten acres to Indian corn and pumpkins and the rest to sorghum. Sorghum is like the old woman's name for mignonette, "Cut and Come Again." Sorghum can be cut again and again during the season, and it comes right out again. It has stood the heat this year well, while Egyptian corn is a short crop on account of burning. The soiling of cows with corn or sorghum while on pasture pays well.

Another View.

Now to return to the question as to whether it will pay to feed a grain ration to cows on pasture. While I say No! I mean if one has to buy, with ordinary cows not record breakers. It is not expensive to learn this for yourselves with your cows. There is no way to know if it will pay to feed the particular bunch of cows except by trying it. Take every cow that has freshened within four months, weigh her milk and take a sample for three days, test the sample and make a record of weight of milk and test of butter fat. Then feed the cows on a mixture of 100 pounds of middlings, 200 pounds of bran, and 50 pounds of oil meal. Feed two pounds of this mixture twice a day. After two weeks weigh the milk from each cow for three days; those that have increased in milk retain in the feeding string. At the end of a month, test the butter fat of each cow separately, and if any cow does not show a net profit drop her out. The amount of feed used in such test is not expensive. The present outlook is for high prices for butter fat. The high prices of feed will also crowd many common cows into the market as beef.

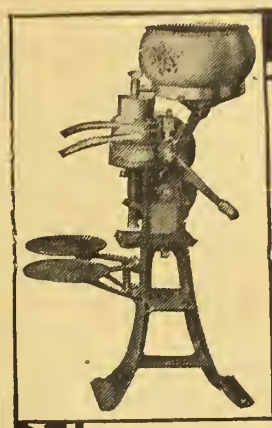
Sorghum.

The great amount of hay that can be made from a few acres of sorghum will astonish any one that has never tried it. The mower is set with sickle bar very high and run over the sorghum field when it is three feet high. It is raked into bunches and hauled away to a good drying place. It is left in bunches and turned over every third day until nearly cured, then it is made into larger cocks. After it has sweated the cocks are opened to let it dry. The leaves should be tough and leathery, not rattlingly dry. It is stacked and fed out like other hay. Horses are very fond of it, as well as cows. As soon as the sorghum is off the field, irrigate and cultivate between the rows. In a few weeks another crop will be ready to cut. I have made five cuttings from fields sown the first week in April.

Stacking Green.

Where there is no silo, a sorghum stack can be built. I am always afraid to recommend this as it must be done right or it is wasted labor. I had one man that helped on this work who tried to do it for others and failed utterly.

We start the stack by laying the sorghum down on the ground as close together as possible, putting the butt ends out and making the outline of the stack. Throw the centers in any way so it is reasonably compact. When the pile is six feet high, reverse the sorghum and make a layer of two feet with the heads out. Now if there is old hay or straw, work in a layer of a foot thickness between every four feet of sorghum. Tramp it from the time it is six feet high from the ground. The stack should be high and nearly square as possible, about a half



ONE MILLION IN USE

DE LAVAL CREAM SEPARATORS

First—Always Best—Cheapest

The World's Standard

Ten years ahead of all others in every feature of separator practicability

Beautiful In Design

Perfect In Construction

Everlasting In Daily Use

Send for handsome new catalogue illustrating and describing the new and improved machines in detail, to be had for the asking

DE LAVAL DAIRY SUPPLY CO.

108 So. Los Angeles St. LOS ANGELES
42 E. Madison Street CHICAGO
74 Cortlandt Street NEW YORK

General Offices: 101 Drumm Street, SAN FRANCISCO.

107 First Street PORTLAND, OREG.
1016 Western Ave. SEATTLE
Box 1052 VANCOUVER, B. C.

Sugar-Beet-Pulp (Kow Breakfast Food) For Sale

At fifty cents per ton F. O. B. cars or wagon, fresh from factory. Conceded to be the cheapest and best Dairy Food in California. Write for freight rate if too far to haul.

Also MOLASSES at $1.50 per barrel.

Los Alamitos Sugar Company Los Alamitos, Cal.

Creamery Supplies

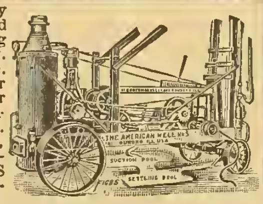
Cream Separators Milk Cans
Combined Churns Milk Bottles
Babcock Testers Brushes
Butter Moulds Wrappers
Engines and Boilers Milk Coolers
PASTEURIZERS
MILKING MACHINES

Creamery and Dairy Supplies and Machinery of all Styles and Sizes

Send List of Goods Wanted and we will Quote Prices

O. J. WEBER CO.
555-57 S. Los Angeles St.
LOS ANGELES, . . CALIFORNIA

$10 a day may be earned by a man using our machinery. Some earn more. FULL LINE for prospecting for water, coal, mineral, oil, etc. Any DEPTH, any DIAMETER. PUMPS also. Free catalogue.



THE AMERICAN WELL WORKS
AURORA, ILL., U. S. A.
BRANCH OFFICES
Chicago, Ill., First National Bank Building
New York, N. Y., 2-4 Stone St.
San Francisco, Cal., 305 Market St.
New Orleans, La., J. H. Menge & Co.
R. B. Whitacre & Co., 205 Robert St., St. Paul, Minn.
Dallas, Texas Joplin, Mo.

CUTTER'S
Anthrax and Blackleg VACCINES

Are given the preference by 80% of California stockmen because they give better results than others do.
Write for prices, testimonials and our NEW booklet on Anthrax and Blackleg
The Cutter Laboratory
Berkeley, California

SECOND HAND PIPE

Just bought cheap ten carloads of water pipe, sizes ½-in. to 6-in., which we offer cheap for cash: ½-in. 1½c. a ft., ¾-in. 2½c a ft., etc. Get the benefit of our close buying. All pipe guaranteed good as new and dipped in asphaltum. Write for complete price list.

WEISSBAUM PIPE WORKS
133 Eleventh St., San Francisco

PASPALUM DILATATUM

King of dairying and fattening grasses. The great Australian drouth resister. Primest heavy seed direct from the grower, 4 lbs. (ample for trial) post free, $2.00. Full information.

C. F. JULIUS
Central Bucca, Coffs Harbor, New South Wales

Live Oaks Farm

Frank A. Meacham, Proprietor.
Importer and breeder of RED POLLED CATTLE, SHROPSHIRE SHEEP, RAMBOUILLET SHEEP, HORNLESS AMERICAN MERINO SHEEP. Both sexes for sale. Take electric car at Petaluma or Santa Rosa for LIVE OAKS STATION. Address all mail to
Petaluma, Sonoma Co., Cal.

HOLSTEINS

We Have For Sale a Number of Registered Young Bulls and Heifers $100
All our stock comes from the celebrated herd formerly owned by the Pierce Land and Stock Co., the premium herd of Holstein Friesians in California. Oakwoods Stock Farm Co., Lathrop, Cal

VENADERA HERD OF REGISTERED JERSEYS

I have for sale a number of richly bred young bulls, some of them from cows that have high official yearly records.
GUY H. MILLER,
Route 3, Modesto, Cal.

Berkshires--Shorthorns

My Berkshires took 9 First, 6 Second and 4 Third Prizes and both Gold Medals. 50 Head For Sale.
G. A. MURPHY, PERKINS, CAL.

to two-thirds higher than wide or long. When built up full height, put on a couple of feet of hay or straw.

But I am going too fast. Before covering with the hay, take a corn knife and cut the sides and ends as even and smooth as possible; the cut off stuff can be thrown on the center of the top. Then cover with the hay or straw, rake in into a roof. Take five or six fence boards—I use the 6-inch 16-foot fence board—lay these on the top and staple a heavy wire across them, letting the end come down to within a few inches of the ground. Five wires on boards of the length mentioned is about right. On the ends of each wire tie a weight of twenty-five or more pounds. A well-made stack will mould only a few inches on the sides. In feeding begin on a side that the boards lay lengthwise. Then cut it straight down, taking four inches each day. The secret of keeping the feed is making it firm by tramping and weighting.—M. E. Sherman.

THE DAIRY IN HOT WEATHER

Nothing, not even meats, undergoes more rapid changes during the heat of summer than the products of the dairy, milk and cream. If ice cannot be obtained it is the rule to separate and feed immediately or bottle and deliver at once to customers. Cream is seldom held more than two days and often after 24 hours it has acquired an unpleasant odor which can be easily detected after the cream has been churned and worked into butter. If these changes could be controlled or prevented the dairy business would be more profitable. So writes the Dairy Department of Oklahoma Experiment Station.

It is a well-known fact that where changes take place, as in the souring of milk, there is a cause, and this causal agent may be seen by the use of a powerful microscope. As to form, these causal agents are like strings of beads, like two beads touching each other, or like a lead pencil cut into short pieces. Careful experiments have demonstrated that the various changes which take place in milk, such as normal souring and the production of bad odors, are due to the growth of one or more of these different forms of vegetable life called bacteria. It has also been determined that milk which contains none of these forms, or only those which have been killed by heat, does not sour, become gassy, or develop bad odors. From this we may conclude that if no bacteria are permitted to get into the milk, or if those which do gain entrance are killed by heating, there will be no difficulty in keeping the milk fresh and sweet.

It is impossible, in practical dairy work, entirely to prevent bacteria from falling into the milk, but if the following suggestions are heeded the number gaining entrance and their rate of development will be greatly lessened:

Do not feed dry hay or fodder at milking time, and to prevent dust from rising from the floor use the sprinkling can, for dust means bacteria.

Do not brush the cow just before or at the time of milking, for the dead skin and hairs, carrying thousands of bacteria, will be loosened ready to drop into the pail.

Do not permit the cow to switch her tail over the milk pail, for she is certain to throw hundreds of bacteria into the milk at every flip.

Do not soak the teats or udder with milk or water so that drops fall into the pail, but moisten with a cloth, for a moist surface does not readily permit bacteria to leave it.

Do not regard milking as a dirty task and wear old and filthy clothes, for the handling of food for human beings should be made a cleanly task.

Do not wash pails and cans with cold water, but scald with boiling water and steam; and by all means, avoid rinsing with cold water just before milking, for a few drops of water usually contain several thousand bacteria.

Do not wait to finish milking before beginning the cooling of the milk, but set the can in a tub of cold water so that each cow's milk will be cooled immediately after milking; for a high temperature causes bacteria to multiply very rapidly.

Do not fail to thoroughly clean and scald the parts of the separator each time it is used, for bacteria thrive in the separator slime.

The heating of milk to destroy bacteria or the use of a preservative to prevent their growth has been resorted to, but neither of these takes the place of cleanliness. The first injures the quality of the milk, the second makes it dangerous to health, and is prevented by law. If it is thought that there may be a case of tuberculosis in the herd, or that it is possible for the typhoid germ to get into the milk, heating may be resorted to as a safeguard. To render milk safe from these bacterial diseases, it should be heated to a temperature of 165 degrees, Fahrenheit, for a period of 15 minutes. Milk obtained from tested herds under the proper sanitary conditions will, if kept at as low a temperature as possible, seldom need to be pasteurized. It is as true here as anywhere that "an ounce of prevention is worth a pound of cure."

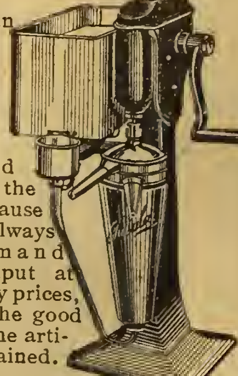
It is encouraging to note the increased attention now being given by farmers to the testing of their herds by the use of the scales and the fat-test. Next in importance is the determination of the presence or absence of bacteria which cause various changes in milk, cream and butter and bring to the producer a high or a low price for his product when placed on the market. Then the present requirement is some simple test which will reveal to the eye and nose the source of an objectionable germ. To prepare for such a test, several small bottles or vials should be boiled in water for 10 minutes, then drained and stoppered with clean cotton. If these are filled with the milk to be tested and kept in a warm place for 24 hours, the appearance of the sample will indicate the character of the bacteria that are most active. If the milk is unchanged or if it has a firm curd, mostly favorable bacteria are present; if gas bubbles are rising or there is a curd much torn by gas, it is a sign that the milk has been handled in an uncleanly manner or that there is an objectionable germ in the udder of the cow; if there are highly offensive odors being given off, it is a sign that there are bacteria at work digesting the curd of the milk.

Recently a ropiness, accompanied by gas, was the result of heating some of the college milk to a temperature of 175 degs. F. for a period of 10 minutes and allowing it to stand for about 16 hours. A careful examination showed that this was due to the rapid growth of two different kinds of germs which are quite resistant to heat.

In a number of our Eastern cities

Famous Institutions

are located in every large city of the globe but the most important institution established anywhere is the **dairy**—because there is always certain demand for its output at good, steady prices, as long as the good quality of the article is maintained.



Tubular Separators

are carefully and finely constructed and are producers of high grade, unwhipped, unchurned cream; the kind that makes "sweepstake" butter.

They are used in the finest dairies, because they are recognized everywhere for simplicity, durability, efficiency and economy.

To make quality butter—read catalog 260—sent free.

THE SHARPLES SEPARATOR CO.,
West Chester, Penna.
Toronto, Can. San Francisco, Calif. Chicago, Ill.

Water Pipe Cheap

25 CAR LOADS NOW BEING UNLOADED

250,000 feet of this shipment is second-hand pipe, practically as good as new, and is now on sale at a big discount by the Adams Pipe Works, 2025 Bay street. Sizes and prices: ¼ inch 1½ cents per foot; 3-8 inch, 2 cents per foot; ½ inch, 2½ cents per foot; ¾ inch 3½ cents per foot; 1 inch, 4¾ cents per foot; 1¼ inch, 6 cents per foot; 1½ inch, 7 cents per foot; 2 inch, 9¾ cents per foot; 2½ inch, 15 cents per foot; 3 inch, 18 cents per foot; 3½ inch, 20 cents per foot; 4 inch, 32 cents per foot.

Oil well casing prices and sizes: 2 inch, 7 cents per foot; 2½ inch, 9 cents per foot; 3 inch, 13½ cents per foot; 3¼ inch, 15 cents per foot; 3½ inch, 17 cents per foot; 4 inch, 18 cents per foot. All pipe is carefully inspected, new coupling and new thread are put on every piece, every joint is guaranteed to be first-class, serviceable pipe. This pipe is sold in any amount; small orders are given the same attention as large ones. Mail orders promptly filled. To reach the Adams Pipe Works, take car marked Pacific Boulevard, starting east on 7th St. from Broadway. All lines will transfer to East 7th St. new line. Ask conductor to let you off at Bay St., and go east half-block. Phones, A1917, Broadway 1564. Los Angeles, Cal.

SEND FOR CAT. No. 20 IT TELLS ALL
KING OF THEM ALL — U. S. CREAM SEPARATOR — ASK THE USERS
RELIABLE DURABLE CLEANSABLE PROFITABLE
VERMONT FARM MACHINE CO., BELLOWS FALLS, VT.

John Lynch Breeder of Registered **Shorthorns**
MILK STRAIN
Box 321 Petaluma, Cal.

PURE BRED BERKSHIRES
Young Stock For Sale
Wm. H. Bird Box 6, Compton Cal.

The Whiting Jersey Stock Farm Company
Is making the very best strains of blood fresh from the island of Jersey a specialty.
Whiting Jersey Stock Farm Co. Heber, Imperial Co., Ca

Geo. C. Roeding, Fresno, Cal., breeder of
Thoroughbred Holstein Bulls and Heifers
Thoroughbred Berkshire Boars and Sows

FAC-SIMILE OF GUARANTEE BOND

CONGO NEVER LEAK ROOFING

Is Your Roof Guaranteed?

To show our confidence in Congo, we now give a *Guarantee Bond* with every roll.

These Bonds are issued by the largest and best known Surety Company in the United States—The National Surety Company of New York, assets over $2,000,000.

Our 3-Ply Congo is *guaranteed absolutely for ten years.* If it wears out before, the owner is given a new roof *free.*

The Bond means that should we not make good our guarantee, the Surety Company would be compelled to by law. The buyer is thus *doubly protected.*

Congo is the only ready roofing on the market that *dares* to place a Guarantee Bond in every roll.

SPECIAL NOTICE—If any Congo rolls that you purchase do *not* contain Guarantee Bonds, write us at once, telling us where and from whom they were purchased, and we will at once mail you the missing bonds. Write at once for further information and samples.

United Roofing and Mfg. Co.
Successor to Buchanan-Foster Co.
567 West End Trust Bldg., Philadelphia, Pa.
Chicago and San Francisco
Blake, Moffitt & Towne, Agents
Los Angeles

milk which is being produced under the most cleanly conditions is selling for 10 and 12 cents a quart, while ordinary milk sells for about half that amount. People are giving some attention, and the interest is growing, to the need of a more sanitary milk, especially in the larger cities, and the dairymen who have their herds tested and earn the name of producing a high-grade product are sure to get the higher prices. Butter is being graded more closely every year, and in the future must be made from the best quality of cream if it is to bring a fancy price in the market.

SAND-CRACKS.

A sand-crack is a fissure in the horn of the wall of the foot. These fissures are quite narrow, and as a general rule they follow the direction of the horny fibers. They may happen on any part of the wall, but ordinarily they are only seen directly in front, when they are called toe-cracks, and on the lateral parts of the walls, when they are known as quarter-cracks.

Toe-cracks are most common in the hind feet, while quarter-cracks nearly always affect the fore feet. The inside quarter is more liable to injury than the outside one, for the reason that this quarter is not only thinner, but during locomotion receives a greater part of the weight of the body. A sand-crack may be superficial, involving only the outer part of the wall, or it may be deep, involving the whole thickness of the wall and the soft tissues beneath.

Relative dryness of the horn is the principal predisposing cause of sand-cracks. Excessive dryness is perhaps not a more prolific cause of cracks in the horn than alternate changes from damp to dry. Heavy shoes, large nails, and nails set too far back toward the heels, together with such diseases as canker, quittor, grease and suppurative corns, must be included as occasional predisposing causes of sand-cracks.

Fast work on hard roads, jumping and blows on the coronet, together with calk wounds of the feet, are accidental causes of quarter-cracks in particular. Toe-cracks are more likely to be caused by heavy pulling on slippery roads and pavements or on steep hills.

When the cracks are deep and the motion of their edges considerable, so that the soft tissues are bruised and pinched with every movement, a constant inflammation of the parts is maintained and the lameness is severe.

Insofar as preventative measures are concerned, but little can be done. The suppleness of the horn is, of course, to be maintained by the use of ointments, damp floor, bedding, etc. The shoe is to be proportioned to the weight and work of the animal; the nails holding it in place are to be of proper size and not driven too near the heels; sufficient calks and toe-pieces must be added to the shoes of horses working on slippery roads, and the evils of jumping, fast driving, etc., are to be avoided.

When a fissure has made its appearance, means are to be adopted which will prevent it from growing longer or deeper; and this can only be done by arresting all motion in the edges. The best and simplest artificial appliance for holding the borders of a toe-crack together is the Vachette clasp. These clasps, and the instruments necessary for their application, can be had of any of the more prominent makers of veterinary instruments. These instruments comprise a cautery iron with which two notches are burned in the wall, one on each side of the crack, and forceps with which the clasps are closed into place in the bottom of the notches, and the edges of the fissure brought close together. The clasps being made of stiff steel wire are strong enough to prevent all motion in the borders of the crack. Before these clasps are applied the fissure should be thoroughly cleansed and dried, and if the injury is of recent origin, the crack may be filled with a putty made of 2 parts of gutta percha and 1 part of gum ammoniac. The number of clasps to be used is to be determined by the length of the crack, the amount of motion to be arrested, etc. Generally the clasps are from one-half to three-quarters of an inch apart. The clasps answer equally as well in quarter-crack if the wall is sufficiently thick and not too dry and brittle to withstand the strain.

In all cases of sand-crack the growth of horn should be stimulated by cauterizing the coronary band, or by the use of blisters. In simple quarter-crack recovery will often take place if the coronet is blistered, the foot shod with a "tip" and the patient turned to pasture.

The shoe, in toe-crack, should have a clip on each side of the fissure, and should be thicker at the toe than at the heels. The foot should be lowered at the heels by paring, and spared at the toe, except directly under the fissure, where it is to be pared away until it is set free from the shoe.—From Department Report on the Horse.

IMPORTANCE OF LIVE STOCK INDUSTRY.

In speaking on the subject of cattle raising in California, Judge Peter J. Shields in a recent address said:

"The breeding of live stock in California has many features peculiar to itself, and may well be said to be in a formative condition. The breeding and ranging of cattle of both the beef and the dairy varieties are in a condition of adjustment, and the next ten years will witness many material changes in the manner in which they are conducted.

"California is probably the only one of the Middle Western and Pacific Coast states which does not produce all the dairy and beef cattle used for slaughter. This condition is the more remarkable when taken in connection with another fact, which is that California is the best fitted by reason of soil, climate and food products to produce cattle economically of any state in the Union. The reasons for this underproduction are many. California is not an old state, nor is its population dense. Its agriculture is not greatly diversified, and there is almost an entire absence of the small breeder and of small herds bred and fed upon the farm. The chief reason, however, is that California's energies have been exercised in other directions, and she has subordinated her beef-growing and dairy industries to others which she has carried to a high development. Her first great industry was mining and she produced more gold than any other state in the Union, or other subdivision of the earth. Wheat growing followed, in which she took high rank, especially excelling in the use of agricultural machinery. Horticulture succeeded, and in this particular she is without a parallel. Cattle breeding has waited on these industries; but in the progress of events the day of the cow has come, and the next few years will witness a development and perfection in the breeding of high class cattle which will compare with her present horticultural pre-eminence."

Dehorn your calves before they get so old that that the knife is the only way to do it. A bit of caustic potash rubbed over the horn when the calf is not more than three weeks old will do it as sleek as a pin. Doesn't hurt much, either.

Cream Separators, all sizes, all prices. O. J. Weber Co., 555-557 S. Los Angeles Street, Los Angeles.

Wood Soled Boots and Shoes. Boots, $3.25; Shoes, $2.00. O. J. Weber Co., 555 South Los Angeles St., Los Angeles, Cal.

Warranted to Give Satisfaction.

Gombault's Caustic Balsam

Has Imitators But No Competitors.

A Safe, Speedy and Positive Cure for Curb, Splint, Sweeny, Capped Hock, Strained Tendons, Founder, Wind Puffs, and all lameness from Spavin, Ringbone and other bony tumors. Cures all skin diseases or Parasites, Thrush, Diphtheria. Removes all Bunches from Horses or Cattle.

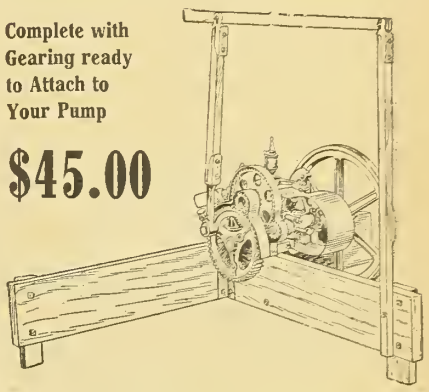
As a Human Remedy for Rheumatism, Sprains, Sore Throat, etc., it is invaluable. Every bottle of Caustic Balsam sold is Warranted to give satisfaction. Price $1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars, testimonials, etc. Address

The Lawrence-Williams Co., Cleveland, O.

Aermotor Gasoline Engine

Complete with Gearing ready to Attach to Your Pump

$45.00



Will pump all the time, wind or no wind, and deliver as much water as an 8 ft. Aermotor in a good wind.

From 225 to 1600 gallons per hour, depending on height water is to be raised.

Air cooled, uses Gasoline or Distillate.

A reliable, durable engine at a very low price. Can You Afford to be without one.

Send for Special Circular.

Tanks Towers Pumps Distillate Engines

Smith-Booth-Usher Co
Machinery and Supplies
Successors to
S. J. Smith Machinery Co. and L. Booth & Sons
212-214 S. Los Angeles St., Los Angeles
Home, Ex. 1090—Sunset, Main 1090

IRRIGATING HOSE

12 oz. canvas, coated or plain; good for several seasons. 1¾ inches, 2½ inches, 4 inches, 6 inches, 9 inches, 13 inches. Galvanized or brass couplings.

Tents, Tarpaulins. Picking Sheets, Picking Bags, Stack Covers

Our Tent Catalogue, mailed free, gives full information.

The Wm. H. Hoegee Co.
INC.
138-140-142 So. Main St., Los Angeles

Thoroughbred Poland China Swine
Black Minorca and Barred Rock Poultry
High Grade Stock of Best Strains.
Young Stock For Sale
W Bassett Hanford, Cal.

EUCALYPTUS SEED

Eucalyptus rostrata, the Red Gum
E. corynocalyx, the Sugar Gum
E. tereticornis, the Forest Red Gum
E. globulus, the Blue Gum
E. citriodora, Lemon-Scented Gum
E. cornuta, the Yate Tree
E. polyanthema, the Red Box
E. leucoxylon, Victorian Iron Bark

and Many Other Valuable Sorts

I shall be pleased to correspond with prospective buyers and give particulars as to prices on the seeds I am offering. Trial packets of any variety 15c each, 2 for 25c, or twelve for $1.25. Also young trees of many varieties for sale. Send for circular and cultural directions.

THEODORE PAYNE
NURSERYMAN AND SEEDSMAN
Home Phone A2480
345 S. MAIN ST., LOS ANGELES

Eucalyptus

We have made a specialty of eucalyptus for the past ten years. We are no mushroom concern. We are prepared to accept contracts for raising eucalyptus for next season's planting. Take advantage of our **Low Prices on Contracts. Do It Now.** Twenty of the leading varieties to be seen at our nursery.

Saint & Warner
Sycamore Grove Nurseries
4584 PASADENA AVE., LOS ANGELES

Eucalyptus Expert Returned

Mr. R. S. Webb has just returned from Australia with an abundant supply of seeds of the various Eucalypts, together with practical information from the forests, the mills, and the manufacturies of Australia. He is now in charge of the Eucalyptus nurseries of

Johnson & Musser Seed Co.
113 N. Main St. Los Angeles, Cal.

GERMAIN SEED CO.

326-330 So. Main St.
Los Angeles, Cal.

Headquarters for Eucalyptus, all varieties, both in seed and plants. Write for catalogue and cultural directions. They are FREE.

For the Season of 1908-09

We Shall Have to Offer

Pedigreed Fruit Trees

SEVERAL NEW FRUITS AND NUTS OF IMMENSE VALUE TO CALIFORNIA

Eucalyptus Trees

BY THE 1000 OR 100,000
NO BETTER STOCK GROWN

Please send us your name and address, and you will get all particulars.

Leonard Coates Nursery Co. Inc.
Morganhill, Santa Clara Co., Cal.

SEED GRAIN

Black and Red Oats, Wheat, Barley, Bean Screenings, Etc.
constantly on hand and for sale at lowest market rates
Bray Brothers Buyers of Grain and Beans Members Merchants Exc.
220 Clay St., San Francisco, Cal.
Established in 1855. Correspondence Invited.

When writing advertisers, mention Cultivator.

Marketing Produce

THE CULTIVATOR gets a great many questions occasioned by the perplexities of fruit and vegetable growers. The fungi, the insects, the drouth, all combine to prevent easy production of the products which are valuable to man. Therefore the farmer who starts out to produce a first-class article finds himself reminded of the remark which Adam heard in the Garden of Eden a great many years ago, when he was told that he must earn his bread by the sweat of his brow.

But as perplexing as these questions are, they are very simple compared to the one most often received at this office, which is, with some little variation, "How may I sell the product which I have been growing for the past year so that I may secure cost of production and some little remuneration for myself?"

The question of marketing the products of the farm is today one of the biggest and we believe the hardest to solve which confronts the farmers. The government is spending millions in scientific investigation in questions which confront our farmers. Occasionally the marketing side is looked at for a moment, but we do not believe any adequate effort has ever been made to throw light on this question. We believe the time will yet come when the department will realize the advantage which may be secured by farmers by co-operative or other methods and will devote a great deal of energy to solving this question.

Meanwhile what is to be done? It is easiest perhaps to answer by asking, Yankee like, what has been done by our most successful farmers? There have been without question some remarkably satisfactory results secured by co-operative methods. In the same breath we may say there have been a few remarkably disastrous results following attempts at co-operation. Notwithstanding that the Cultivator believes it is the only solution for this question.

Only this week the Cultivator has a letter from the San Joaquin valley in which a peach grower says that he noted in the market quotations of the Cultivator that dried peaches were quoted at 7 to 9 cents, and requests us to send him a buyer who would pay him that figure. Perhaps he had not noticed that immediately above the quotation was a little line which stated "wholesale prices are."

This brings us to the consideration of market quotations as they appear in the Cultivator or any other paper, for that matter.

The Cultivator gives more attention to cultural matters than it does to those pertaining to the market. Nevertheless, the weekly quotations are approximately those which prevail in San Francisco and Los Angeles markets. The market rate quoted in the daily or weekly paper applies only to the hour the quotation is made and six hours or three or four days later an entirely different quotation may prevail. The market report therefore gives one the general trend or "feel" of the market, but cannot be relied upon as an exact figure a few hours after it is in print. And this statement applies to any daily or weekly market report you read. This fact cannot be too strongly impressed upon the readers of this or any other paper.

The fact that peaches are quoted at 7 to 9 cents carries with it no guarantee, or assurance, rather, that the producer can send his product here and secure that price. Merchandising is made up of many wheels, and wheels within wheels, so that when the producer with his one little crop comes to market he finds himself up against a very hard proposition. For instance, his little bunch of peaches, be it a wagonload or a carload, may be offered to a retailer at the prevailing price or open market quotation. There is slight chance of his acceptance for the reason that all his goods are largely bought through certain channels and of large concerns which he knows will stand back of his purchases and supply him next week or next month or next year with the same identical goods which he buys today. This he knows the farmer cannot do for his wagonload or his carload is the end of his string until another season.

Therefore the fruit grower goes to a wholesaler. Here again another factor is encountered, in that the wholesaler has dropped into the habit of doing business with a broker whose judgment he relies upon to supply him constantly with a line of goods which

A BUSY MORNING ON THE LOS ANGELES MARKET. THE BIGGEST RUSH IS BE

meets the requirements of his trade. Therefore he turns a cold shoulder to the discouraged fruit grower, who in turn goes to the broker. The broker perhaps passes him on to the packer and large buyer, who makes it his business to buy of growers the country over, process, pack and supply to the trade in uniform packages and with a guarantee of quality.

By this time the grower's patience is exhausted, he has seen three or four profits whittled off of what he knows he ought to get for his product, and finds before him an offer which will not permit him a penny of profit and possibly not the cost of production of his crop.

Again, in the matter of other products, for instance, strawberries. The

This may have been due to connivance on the part of owners of market stalls to bear the market so the discouraged grower would soon accept any price they saw fit to offer. We do not doubt this is often done. And tricky dealers with plenty of capital plainly manipulate the market to their own advantage. They may fight amongst themselves but are united when the farmer appears. Of course when their stocks are long and they want to sell, the effort will be to up hold the market and get good prices. When their supply is short and they wish to stock up every effort will be made to discourage the producer and force down the price. The beating up and down of onions and potatoes for the past few months are examples of

change, which handles nearly $20,000,000 worth of citrus fruits, is an example of co-operation which is commanding the respect of transportation companies and fruit buyers the world over.

The raisin men of the state have organized and succeeded and then gone to pieces, after which reorganization brought success again and they are now more or less disorganized again. It is an exceedingly hard proposition to hold the producing classes together. It is sometimes due to the fact that fear of dishonesty in headquarters prevents all from joining in such a movement. This is a matter regarding which there can be no guarantee, but notwithstanding that chance, we believe it the only wise course left for the producers.

EEN 5 AND 6 O'CLOCK. THIS PHOTO WAS TAKEN AFTER 7 O'CLOCK.

prevailing market price today may be $1 or $1.50 per crate. Say that $1.50 is a fair report of the general market condition on sales which have actually been made. The berry grower offers his load to dealer after dealer who have supplied themselves and he finds himself unable to sell at even a material shading from the quoted price. It would not necessarily follow that the quotations as given were either dishonest or even blundering. He consents to a much lower price, which, after commission is deducted, leaves little to take home. When peaches were quoted at 60 cents on the market recently we saw a peach grower endeavoring to sell as nice peaches as the average of those sold at 60 cents for 40 cents per box. Up to the time of our leaving the market we saw no offers to accept his bid, one-third under the day's quotation.

the manner in which this is accomplished.

This manipulation of the market cannot be prevented by any farmer unless he goes into the market with just as big a club as he is met with when he tries to dispose of his crop. This he surely cannot do when he, or one or two of his neighbors with him attempt to deal with the shrewdest of manipulators who understand the boosting up or knocking down of prices and will usually accomplish these results at their pleasure.

As we said, the farmer must have the biggest club or he himself gets hit the hardest. Co-operation or the bunching together of large quantities of produce all placed under the management of one honest and intelligent man will put the farmer where the buyers will be far more courteous in their propositions. California Fruit Growers' Ex-

The man who expects to dispose of his fruits in the markets of the world ought to understand something about the fruit markets themselves. There are many different markets, and each of them has its peculiarities. For a proper understanding of the matter it would be well for the man who wants to study them to divide them into the retail markets and the wholesale markets. These two have an entirely different sphere, and the one you intend to cater to you should study thoroughly and become conversant with its many features that tend either to lower or to raise the price you may expect to receive for your goods. In this country the wholesale markets are much the larger and absorb by far the larger proportion of the fruits. The retail markets are numerous and growing, and every fruit grower ought to more carefully cultivate them. It is through these that many a small grower will make his most money.

High Priced EGGS

Are what all poultrymen like to get during the fall and winter; but without the very best of health in the flock and a good variety of sound, wholesome feed it is hard to get such eggs.

Nature requires that hens have a rest just prior to and during the molting period; the result is a scarcity of eggs, with higher prices, and a larger profit for those who can overcome the difficulty. The one that can get eggs during the fall will be just that much ahead of his neighbors and others who fail to do so, which in the end is the difference between success and failure.

COULSON'S EGG FOOD is the feed that will turn failure into success by enabling you to secure eggs in the fall and winter while prices rule high.

Improvements have been effected in the composition of the **EGG FOOD** during the past year, so that it is now richer in the various nutrients required by the laying hen, and is a better feed than ever before. Coulson's balanced ration poultry foods are guaranteed to contain nothing but wholesome ingredients.

"**THE RIGHT WAY,**" our booklet fully describes **COULSON'S IMPROVED MASH EGG FOOD** and other balanced rations for poultry and gives full particulars of guarantee and directions for feeding and care of poultry from the time they are hatched. If you have no copy of it, you should drop us a line today; a postal card will bring it to you.

We have agents selling our poultry foods in nearly every town in California. If you cannot obtain what you want from your dealer, write to us and we will tell you where to get it.

Coulson Poultry & Stock Food Co.
Petaluma, Cal.

Germain Seed Co., Los Angeles
Distributing Agents for So. Cal.

PER 2 BUSHEL SACK **$1.90** PER 2 BUSHEL SACK

Buy the World's Famous Egg Food No. 4

MIDLAND

IF YOU WANT EGGS
YOU WILL FEED NO OTHER.

Used by the largest and best breeders in the country. Thousands of poultrymen are using it, and it is the acknowledged standard of the world. Haphazard feeding is no longer profitable. Try Midland Food and be convinced.

Petaluma Incubators and Brooders

The acknowledged standards of perfection. All poultrymen who have used these machines have supreme confidence in their ability to hatch and breed. Hence their ever increasing popularity. Winners of the Gold Medal at the St. Louis World's Fair for the greatest hatch, with 40 different makes of incubators in competition. How's that?

St. Louis, Mo., Dec. 8th, 1904.—Petaluma Incubator Co., Petaluma, Cal: My dear Sir—The awards have been held up owing to a controversy between the Exposition officials and the national commission, but today I am able to state the award of a gold medal on your Petaluma Incubators has been confirmed. You are at liberty to make use of this in any way you see fit and in due time the diploma will be issued and the medal obtainable. Congratulating you upon this evidence of the merits of your incubators, in which there was very great competition, I beg to remain, yours very truly, J. A. Filcher, Commissioner.

And Now Comes New Reward for Merit

Read the following telegram received from the Lewis & Clark Exposition at Portland:
"Petaluma Incubators and Brooders just awarded Gold Medal at Lewis & Clark Exposition."

WRITE FOR CATALOGUE 47—A BEAUTY

Petaluma Incubator Co.

Main Office and Factory, Petaluma, Cal., Box F.
Los Angeles, 636 South Main Street.
San Francisco Office and Salesroom, 83 Market St.

Coulson's No. 3 Condition Powder

Is just the thing for molting hens. It acts as a tonic and digestive. Keeps the hens laying longer into the molt and quicker after it. Our FREE Booklet, "THE RIGHT WAY" gives full particulars and special offer. Manufactured only by

Coulson Poultry and Stock Food Company
Petaluma, California

Poultry Supplies

Best of All Kinds at Lowest Prices

West Coast Seed Co.

707 So. Spring St., Los Angeles, Cal.

Mammoth Bronze Turkeys---S. C. White Leghorns

From our large, vigorous White Leghorns, the largest eggs produced by any Leghorn breeder in the West. $1.50 for 15, $7.00 for 100 and $60 for 1000.
To make room for young stock we must dispose of a large number of this year's breeding birds. They are two years old and the pick of our flock and must be sold at once. Write as your needs. The price is right.

STUHR-WILLIAMSON POULTRY COMPANY
373 Bandini Ave. Home Phone 1490 Riverside, Cal.

Black Langshans Well, we won again at Los Angeles. Two firsts, one second, one third on five birds shown. Best stock ever in show room in California. Eggs, $2.00 to $5.00 per 13, $10.00 to $20.00 per 100.

White Rocks Large and vigorous. Improve your stock with a setting or get a fine flock with an incubator lot. Eggs, $1.50 to $2.50 per 13, $8.00 to $12.00 per 100.

S. C. White Leghorns Order eggs now, we have plenty of them. Have had all winter, great big white ones. Eggs, $1.00 to $2.00 per 13, $6.00 to $10.00 per 100.

Phone East 915 **Foster's Poultry Yards, 128 W. Avenue 41, Los Angeles**

Now is the time to hatch **BANTAMS**
Golden Sebright, Buff Cochin, and Light Brahma Eggs, $2 per 15. Prize winners.
M. E. Dillingham Box 67, San Gabriel, Cal.

White Wyandottes Exclusively
Good, White, Typical Birds. Stock and Eggs For Sale.
W. A. SEYMOUR, R. F. D. No. 1, Anaheim, Cal.
Take Santa Ana Electric Line to Harper Station

Profit in the Poultry Yard

We solicit short articles of a practical nature from the fancier and utility breeder, giving their experience with poultry. All inquiries pertaining to feed, management, disease and its prevention will be answered through these columns.

CONTROLLING THE MOLT.

A FEW years ago there was considerable excitement in the poultry world over the discovery of Mr. Van Dresser of New York, that he could control the time of molt in his flocks. During July and August Van Dresser made his hens molt and grow a new coat of feathers that they might be ready to produce high-priced eggs in November and December. For two weeks the hens were kept in a pen and fed very little, and then they were let out and fed a highly nitrogenous ration and particularly sun flower seed. This soon loosened the old feathers. Under the high feeding they soon grew a new plumage, their combs got red and with every appearance of health they were ready to lay eggs at the proper time.

The idea was not a new one at the time Mr. Van Dresser tried it. We are told of a New England farmer who had adopted the plan several years earlier. This farmer's method was to select 30 or 40 of his hens, put them in a colony house in a pasture lot where there was shade and water. After they were used to the new house they were turned out and given the run of the lot. They were fed once a day a light feed of grain. This was continued a month, at the end of which time they were reduced considerably in flesh and were in a good vigorous condition. They were then fed a good grain ration with considerable beef scrap. Under this treatment they molted immediately and in three or four weeks were well clothed with a new set of feathers and laid abundantly during the fall and winter.

In the fall of 1902 the West Virginia Experiment Station tested the system with two pens of White Leghorns and two pens of Rhode Island Reds about two years old. One pen each of Rhode Island Reds and White Leghorns received no food for thirteen days, except what they could pick up in their runs. The other two lots of fowls were fed as usual on mash, beef scrap, corn, wheat, etc. After the expiration of thirteen days, all four lots were fed liberally. Each flock contained twenty hens and two cocks.

The following table shows the number of eggs produced during the first 30 days after the test began.

1. Rhode Island Reds, fed continuously, 75 eggs.
2. Rhode Island Reds, no food, 17 eggs.
3. White Leghorns, fed continuously, 172 eggs.
4. White Leghorns, no food, 25 eggs.

Lots 2 and 4 ceased laying on the seventh day of the test. Thirty days after the test began the "no food" pen of Rhode Island Reds had practically a new coat of feathers and had begun to lay and in a week from that time one-half the hens were laying regularly, while the other lot of Rhode Island Reds were just beginning to molt and the egg production had dropped to two or three eggs per day.

Both lots of White Leghorns were a trifle slower in molting than the Rhode Island Reds, otherwise the treatment affected them in the same way. The conclusions drawn were that mature hens, which are fed sparingly for about two weeks and then receive a highly nitrogenous ration, molt more rapidly and with greater uniformity and enter the winter in better condition than similar fowls fed continually during the molting period on an egg-producing ration.

There is no doubt about being able to produce a molt by the method indicated and if fed properly the hens will grow a new coat rapidly.

The mistake is made by many of forcing the molt too early in the season. If this is done the hens are apt to go into a second molt later on and be molting all the fall. A starving process at the beginning of the natural molt and then liberal feeding will hasten matters and at the same time avoid the second molting period. —S. S. T.

POULTRY BREVETIES.

Ventilation.

I believe with the Cultivator that a good disinfectant liberally used in the poultry houses is a better investment of time and money than doctoring sick hens, but I am at loss to know what to use to get the best results at the least expense. Will you kindly advise? We have two houses; each is 8 x 12 feet, shed roof, four feet at the back and six feet at the front. There are no windows but a door in each end. Do you think a window would be an improvement? We are keeping 25 hens in each house; do you consider that too many for such a house?

Kerosene emulsion is an excellent insecticide and if a pint of crude carbolic acid be added to four gallons of the emulsion it becomes a good disinfectant as well. Zenoleum, a disinfecting preparation much used, is excellent and easily prepared by simply adding it to water. This can be prepared for about two cents per gallon ready to apply. It is well to keep the inside of poultry houses covered with whitewash, as it fills up the cracks and gives less place for vermin to secrete themselves, consequently spray gets at them more readily.

If the houses have no windows. I would cut in the front an opening two feet by two feet, six inches, and tack over the same muslin, or during the summer it may be left open with wire netting tacked to the inside. Twenty-five hens are not too many for such a house. S. S. T.

* * *

Fruit For Poultry.

Will it injure chickens in any way to be fed tomatoes, watermelons or pumpkin seeds? What is good to put on a kitten to keep fleas off?

The eating of tomatoes, watermelons and similar seed will in no way injure the chickens. Dusting frequently with Persian insect powder will tend to keep the kitten free of fleas.

PIGEONS FOR PROFIT.

Good stock is the secret of success.

A lack of vigor offers inducements for disease.

The squab raiser and the fancier are occupying entirely different fields—the former for meat, the latter for feathers.

It is a mistake to allow food con-

tinually before the birds, as tho old ones are apt to help themselves from time to time, but neglect to feed the young in the nests.

Homers are of such a rugged condition that they thrive in any part of the United States or Canada in all seasons.

Keep the visitors out of the loft, as their presence excites the stock and does harm.

Some permanganate of potash, enough to color the bathing water crimson, it is said, will help to keep the young birds in good health.

Pigeons are great bathers, the young ones getting in the water and having a good wetting as soon as they can fly.

A good sized colony of mites will sap the vitality of a pair of squabs in forty-eight hours.

If the old birds with eggs appear uneasy and leave the nest very frequently to indulge in nothing but picking themselves, investigate at once, and you will probably find lice.

The American Stock-Keeper says that if one of the flock should choose to be "cock of the walk," and fight for possession of the main portion, the plan of scattering feed about on the floor allows the timid to partake. Much can be said in suport of this system of feeding on the floor, as it provides a natural way to keep the tips of mandibles in proper trim, thus doing away with any necessity of cutting for sake of comfort.

One can readily detect musty and unpleasant odors when mice have overrun a loft.—Farm Journal

THE IMPORTANCE OF STRAIN.

While the different breeds of utility poultry are divided into three distinct classes, the fact of a bird belonging to one class cannot be taken as an absolute guide to its characteristics, because there is the very important question of strain to be considered. It is extremely difficult to describe in so many words the exact meaning of the word strain, but perhaps I may be permitted to give an example which will serve the purpose better than a definition can possibly do. Say, for instance, two men decide to commence poultry keeping with a pair of White Wyandottes, and say further that both procure their birds from the same source. One man wants to specialize in winter egg production, and during a period of ten or a dozen years he systematically selects his breeders with this end in view; he is quite unconcerned how the table qualities may be neglected; all he cares about is to increase the number and size of his eggs. The second man, on the contrary, is anxious to improve their table characteristics, and he likewise for a similar period selects accordingly; he is indifferent to the fact that his stock may be degenerating as layers; all he cares about is to make the chickens good edible birds. At the end of ten or twelve years both men possess White Wyandottes, it is true, and anyone judging the qualities by rule would imagine that both flocks combined the two essential features of table and laying, whereas, as a matter of fact, one flock would consist of admirable layers with poor table qualities, and the other of splendid marketing chickens with poor laying powers. While, therefore, the breed of the fowl denotes certain qualities, it cannot be taken as altogether conclusive.

The Sacramento River is lower this year than it has been in over thirty years.

COLOR OF EGGS.

A recent bulletin from the Department of Agriculture on the color of egg shells, says:

"It is a matter of common observation that hen's eggs vary rather widely in color, ranging from a clear white to a decided light brown. Domestic poultry have descended from several wild strains, the various breeds being formed by numerous crossings. The color of the egg shell,it is generally believed, is a characteristic which has been transmitted from the early ancestors of our modern breeds.

"There is no constant relation between the color of the shell and the composition of the eggs, although there is a popular belief in some localities that the dark shelled eggs are 'richer.' That there is no difference in the physical properties and chemical composition between brown shelled and white shelled eggs was shown by investigations carried on at the California and Michigan experiment stations, this work having been summarized in earlier publications of this department.

"The color of the shell has, however, an effect upon market value, and brown shelled eggs bring the higher price, for instance, in the Boston market, and the white shelled eggs in the New York market. In England the tinted eggs.

"One great advantage which all breeds producing tinted eggs possess is that they are in general better winter layers than the varieties producing white shelled eggs, this being perhaps due to the fact that they are usually very good sitters and mothers, and so obtain a rest during the spring and summer months."

THE DUST BATH.

The dust bath may apparently be a matter of little importance, though in fact it has happened that success or failure depended upon this necessary adjunct to poultry keeping. No flock will thrive unless dust is supplied, and strange as it may seem, dust is a scarce article in some poultry establishments, as many poultrymen do not consider it worth their while to provide it. Without the dust bath lice will overrun the bodies of the fowls. Whatever the material used for the dust box may be, it should always be dry and fine, so that it will fly in every direction. When the hen dusts herself it is not for the enjoyment of wallowing in it, but to throw the dust over her body; hence, if the material used is not dry and fine, it will be of little service to the hens. Ashes are often used, but there is a difference between those produced from wood and those from coal. They should be carefully sifted, and either kind may be used in dry weather. Should a wet spell come on, however, the wood ashes should be avoided, as the contact with moisture renders them injurious to the skin, owing to their caustic alkaline properties. It is usual, on large poultry farms, to store road dust in summer, so as to have a supply in winter, as road dust is one of the best materials to be found for the purpose; but any kind of fine dirt will answer if it is dry.—Farm and Fireside.

HAVE PATIENCE.

Patience is something that the poultryman must have an abundance of. A shortage of it has been the cause of many failures. For instance, a plan of feeding has been decided upon and followed up long enough, as the owner supposes, to bring about the desired results, but days and weeks pass and no eggs are produced, until finally the owner begins to have doubts about the correctness of his plan; he changes the ration, increasing or decreasing, and goes on, perhaps, for two or three weeks changing about, until finally the hens are not so near the laying point as they were when he commenced with them. Good judgment and lots of patience go hand in hand in the poultry business.

Hens that are given a variety of food, just enough during the greater part of the day to keep up their inclination to dig and scratch for more, then all they will eat up clean before going on the roost, should produce eggs, provided they are healthy and comfortably housed. Those who have not given any special attention to examining their hens closely are not aware of the very unfavorable condition for egg production they may have been in when they started to get them to laying. Some hens lay more eggs than others under the same conditions. It is natural that they should; it is in the strain and breeding; but all properly-developed hens will produce some eggs, and do it in the winter, if rightly handled. The main thing for the attendant to do is to keep everlastingly at them.—Country Gentleman.

CROP DROPSY.

"Crop Dropsy, Soft Crop, Cropsick, are all names used to denote a distension of the crop by foul watery fluid, with general ill-health. There is little doubt that profuse drinking is often a cause of this. The crop must be evacuated, holding the bird head downward, twice a day: feeding rather scantily an hour afterwards with biscuit-meal in which grains of wheat are mixed, moistened with brandy and water. In the water should be placed some quassia chips and a little tincture of perchloride of iron. First of all give 30 grains of Epsom salts. In some cases, about three grains of iodide of potassium daily seems of marked benefit, but in others we were unable to trace any effect to it."

Egg-More

Not a strong tonic and stimulant, but a highly nitrogenous Poultry Food very rich in protein. A little fed daily with good grains will keep hens healthy, make them molt early, feather out quickly and lay lots of eggs when they are scarce and high. If not sold by your dealer, we will prepay freight on 25 lbs., $1.90; 50 lbs., $3.60; 100 lbs., $7.00. Send for free Booklet with testimonials.

$50 Cash Premiums

$20 first; $10 second; $5 third; fifteen $1 each. Easily earned in an hour or more by any boy or girl, man or woman, but only one in each family, without any cost to you and no peddling or canvassing. And to each one competing, we will also give a useful article. Send postal for particulars mentioning this paper, to

West Coast Mill

707-709 So. Griffin Ave., Los Angeles, Cal.

Trap-Nested White Wyandottes

That won 22 ribbons out of 25 and 6 Silver Cups and a carving set and a cut glass vase. All the National White Wyandotte Club Ribbons. Second on 10 pullet pen, contest open to all breeds. Mammoth Bronze Turkeys, winners of 5 blue ribbons, all at Los Angeles County Poultry Association Show, December 7, 1907. White Wyandottes were judged by H. Berrar of San Jose, Cal., and W. W. Browning of Ogden, Utah. Hens and Pullets, $15, $20 and up.

MISSION VIEW POULTRY RANCH, MRS. C. D. HUBBARD, SAN FERNANDO, CAL.

Closing Out Sale

Ross & Tate are closing out their poultry business. Everything goes regardless of price. Here is a chance to get some of the finest Buff and Black Orpingtons on the coast at your own price. Call or write

ORPINGTON RESERVATION
ROSS & TATE,
ALTADENA, CAL.
BUFF, WHITE, BLACK
ORPINGTONS.

One Block North and Two Blocks East Altadena Post Office

Is Your Dog or Cat Sick?

You may lose your valuable dog or cat at this season of the year, when a simple remedy would effect a cure. We have that cure in the Celebrated CLAYTON'S DOG & CAT REMEDIES. In short, we have a cure for all ailments that "Fido" and "Tabby" are heir to.

Write for treatise on diseases of both. It's FREE.

Germain Seed Company
326-330 So. Main St., Los Angeles, Cal.

F. E. Baldwin's WHITE LEGHORNS

THEY LAY
THEY PAY
At Every Pop
THEY SHOW
THEY GO
To the Very Top

First Prizes Everywhere Shown. Bargains *now* to make room. Send for Prices and Free Booklet.

46 Washington Ave. - San Jose, Cal.

GUTTING'S SUPERIOR WHITE ROCKS

Won 9 firsts out of a possible 10 and all specials and many other prizes at the great L. A. C. P. A. and Pomona Shows last winter. Place your order now for exhibition birds for the winter shows. Eggs now $3 per setting. Send for circular.

E. GUTTING 131 W. SLAUSON Los Angeles, Cal.

Thoroughbred White Leghorn Cockerels For sale; price reasonable. MRS. J. F. SULLIVAN, Sunset P. O., Sunset City, Sutter County, Cal.

Mollie—I wish you were more like Mr. Simpson.

Coddle—My dear, if I were more like Mr. Simpson I should have married a woman more like Mrs. Simpson.

Hanford made quite an extensive display at the State Fair and won many premiums.

Flowering Bulbs

We have a large line of Flowering Bulbs ready for immediate shipment. We have carefully selected this line.

Our New Bulb Catalogue

will give all desired information. Just what you ought to have. Mailed free npon request.

Morris & Snow Seed Co.

425 S. Main St. Los Angeles, Cal.

Berry Plants

Hopkins' Improved Strawberry plants in all standard varieties. One-year-old plants of Brandywines, A-1 and Lady Thompson still on hand; also one-year-old Himalaya Blackberry and Cal. Surprise Raspberry. Catalogue soon ready.

G. H. HOPKINS & SON
Burbank, Cal.

Burbank Crimson Winter Rhubarb

Plants and Seed for sale in any quantity. Warranted the genuine article. Orders filled promptly

A. L. Fratt, Ventura, Cal.

Nurserymen, Orchardists and Farmers

A guaranteed cure for Pear Blight. Cheapest, easiest applied and longest lasting. Protection against borers, San Jose scale, rabbits, mice and sunburn, etc. Send for free booklet.

GOLDEN RULE NURSERIES

Agents Pac. Co. States Loomis, Placer Co., Cal.

An investigation of the onion conditions of Western Oregon finds that crop will be somewhat lighter than that of last year and that the crop is of magnificent quality.

Small Fruits and Vegetables

TIME AND WORK SAVERS.

BOTH ends of every row of vegetables should be marked with a stake, so that you will know where to weed and cultivate without hitting the line where the young vegetables are coming up. Weeding before the young food plants are more than a one-leaf or two-leaf stage high will save many of them from being smothered. and will give all of them such a good start that the weeds will have a hard time catching up. But you will find it a sad job to weed without cutting off the young vegetables unless the rows have been plainly marked.

Each of these stakes should have one side smoothed off so that you can write on it in pencil the name of the plant, when it should be thinned and how much, when it should be ripe, etc.

Always have a long, narrow board near the patch—narrow enough so that it can be laid between the rows without touching the crops. This will be found invaluable when picking or weeding on wet days or after irrigation, not only because it will save your shoes and clothes, but also because it will save you from tramping down the wet earth and perhaps a whole row.

Buy a skein of the tying stuff called raffia. You can get a lot for 15 cents Hang it somewhere where you can get it in a minute. It is worth all the rope and string that ever were for tying things up in a hurry and making them stay tied.

Whenever you cut a straight branch or find a straight slender stick anywhere put it aside for a stake. Everything will seem to call for support at once. A mad search is then generally made by amateurs, with the result that most of the plants either do without and go to ruin or get staked to such miserable makeshifts that the whole garden is disfigured.

IN THE ORANGE COUNTY CELERY FIELDS.

The ranchers of the Antelope valley have planned for a rabbit drive in which they hope to round up forty thousand or more jacks.

CELERY PLANTS GOING TO SEED.

Celery planting is now in order and the experienced grower is undoubtedly striving to guard against loss by plants going to seed. This tendency in celery plants to throw up seedstalks when grown in semi-arid districts is very marked and is the cause of much loss each year.

The wild celery from which our cultivated forms have been evolved is a native of moist climates in many portions of Europe, Asia, and northern Africa. In fact in its native state it is a swamp plant. Although celery has been cultivated for centuries, and under many conditions, it is still a moist soil and a moist atmosphere-loving plant. While it is true that Colorado-grown celery excels in quality yet it is well known that it requires more skill on the part of the gardener to grow this crop successfully under our conditions than it does in sections where rain is abundant.

The growth of seed-stalks the first season is, of course, abnormal, as the plant is a biennial. The opinion of those who have studied the subject is that such plants have always received a check in growth which corresponds in a measure to the rest that such plants take during winter. Under semi-arid conditions such influnces are intensified; so much so that it seems at times as though the cause could not be accounted for.

Growers have found that if they can keep the plants growing steadily from the seed bed to maturity loss from this cause is small. This is desirable, of course, with all classes of plants, but the celery plant happens to be extremely sensitive. The way plants are handled before they are transplanted to the field is important, as it is quite common for hot bed grown plants to go to seed. On the other hand, plants grown in greenhouses, if well grown, give good satisfaction; however, most growers must depend upon cold frames, and such plants seem to be most reliable

The best soil for celery growing is loamy river bottom land. Such soil is inclined to be moist, but not soggy, and does not bake. Given such soil and a reliable water supply the skilful grower finds but few seed-stalks in his field during the season, providing the conditions in the seed bed were right.—W. Paddock, Horticulturist, Colorado Agricultural College.

STRAWBERRIES.

Strawberries will be taking a rest in September so far as fruitage is concerned, unless the vines are young, but unless the vines are too old for profitable bearing, good treatment now in the line of irrigation and cultivation will insure more or less berries until winter. The life of the strawberry plant is not as long as the blackberry, but under good treatment a bed will bear for six or eight years. In the Eastern states, where irrigation is not practiced, they have to be renewed every three or four years.

Speaking of the cantaloupe failure this year and looking to the future, the Imperial Standard says:

"But the best remedy the Standard can see is the passage by the supervisors of an ordinance which will bar the shipment of any green or inferior fruits or vegetables from the county, and the appointment of disinterested inspectors to see that the ordinance is rigidly enforced.

"There is only one hope for the industry, and that is in establishing a high repute for the quality of the output, while the whole tendency of the past season has been to destroy any such reputation."

True as preachin' every word—not only of melons but of other products as well.

EUCALYPTUS TREES

LARGE ORDERS SOLICITED

We can make you enticing prices, if order is placed now.

Our process of balling trees into the boxes insures a large percentage of live trees when planted in the field.

Orange County Nursery & Land Co.

Fullerton, California

The Ornamental Garden

HOW TREES ARE MADE SYMMETRICAL.

The correction of the forked or defective crotch that is found to a great extent in our soft maples and elms and to a less degree in almost all our landscape trees forms a large part of the "tree surgeon's" work, says Cement Age, New York. This form of crotch usually has its origin in the destruction of the original head or leader. In a case of this kind a double head is formed by the forcing out of two lateral buds. As these shoot up, forming the new top, the old stump at their base gradually decays, allowing water to penetrate into the crotch. Nature tries desperately to heal this wound, but the imperfect joint is constantly forced open by the wind and prevented from uniting by the old stump, until finally, weakened by decay, the tree splits. Many of our finest trees are ruined every year by the splitting of these defective crotches.

These cases are often exceedingly difficult to treat. The decayed matter must first be removed with great care and thoroughness—in fact, the dentist is not more conscientious in removing decay from a tooth than is the "tree surgeon" in cleaning out the cavities. The opening is then packed tightly with eement or a preparation of oakum, tar and paint. Cutting watersheds in these crotches often takes all the workman's ingenuity and patience, for, working in the narrow limits of the fork, as he is compelled to do, it is exceedingly difficult to use his tools. But here most of all a perfect watershed is required, as the water running down the limbs and trunk would otherwise find lodgment behind the filling. In the case of a large tree the additional precaution is taken of putting a bolt directly through the crotch, while a chain is placed some twelve or fifteen feet up.

The old method of placing an iron band around a tree to prevent splitting often caused death, or at least deformity, for as the trunk or branch grew in circumference the strieture cut off the flow of sap, depriving the top of nourishment. The improved method consists in placing bolts directly through the limbs and securing them on one end by washers and nuts, while on the other a hook is formed, over which a chain is placed. This serves as a stay, enough play being given in the chain to allow the crown sufficient swing or way.

Fully half the cases of decay of the limbs or trunk were originally caused by improper pruning. Eight out of ten men in cutting off limbs will leave a stump projecting five or six inches. The bark along the circular edge deprived of nourishment dies back, leaving the face of the cut exposed. The unprotected cells eannot resist exposure, and decaying, leave the heart of the tree exposed to myriad enemies. In many trees the cavity caused by the decay of the heartwood is large enough for a man to stand upright in, the entire trouble having been originally caused by a cut of not over eight inches.

Every cut should be made as close as possible, in order that the sap rising through the cambium layer may cover the wound with new bark. Where large branches are to be removed the first cut should be made from below, so that as the branches fall there will be no tearing down of the sapwood or bark. The second cut is then made from above. In order to protect the exposed cells they are painted with a preparation of coal, tar and paint. Where the cut is soft or of unusual size a cap of zinc is fitted to the exact size of the cut just inside the bark and nailed tightly down to prevent moisture from reaching the exposed wood. The new layer of bark will eventually completely cover the zinc, leaving little or no sear.

The Calladium.

About a year ago the Cultivator printed the following, which was written for its columns by Josiah Forest Kennedy of Los Angeles. It was reprinted in several other papers and one, the Florida Agriculturist, remarked: "We have read of 'sermons in stones,' but we have seldom seen anything finer than the following." We believe it worth repeating:

What a teacher Nature is! Her students find songs and sermons and lessons on every page of her great open book. Did you ever get the lesson suggested by the calladium—that great elephant-eared-like plant so common on our lawns? Just watch its development. Each germ of its bulb or tuber sends up a single shoot or stem which soon after leaving the ground develops into a leaf, though small and insignificant as compared with other leaves developed later and in succession from this first one. Folded in this leaf-stock born soon after this first leaf has fully expanded. is a second which has an ambition to be larger and more perfect than its parent, an ambition that is fully realized, if it lives. Its leaf-stock in turn furnishes another leaf, larger and better in every way than its parent, and thus there is a progressive development until the last leaf is many times larger and more beautiful in form and shading than its original.

Should there not be a similar development in human life and character? Ought not the son and daughter with the added opportunities that come to each successive generation be stronger and greater intellectually, morally and physically than their parents—whether these parents are poor or rich, low or high, unlearned or learned, vicious or virtuous, sick or well?

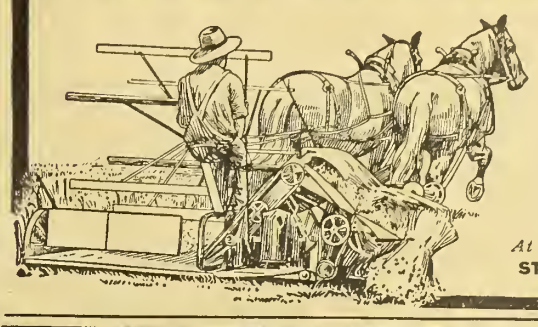
If every boy and girl, in every home in every land should imitate the calladium in growth and development, if they should put forth every effort to be better in every way than father and mother, this old world would soon be a veritable Paradise, with precious little use for constables or sheriffs, for prisons, poor-houses or police. Nor would there be nearly so much use for lawyers, doctors or even preachers.

Let us be calladium-like—let us be progressive.

SAVING FARM MACHINERY

Few things are of more vital need around the farm than a first-class, heavy machine oil. It makes machinery last longer, lessens friction, helping the horses do more work and better work.

RUDDY HARVESTER OIL



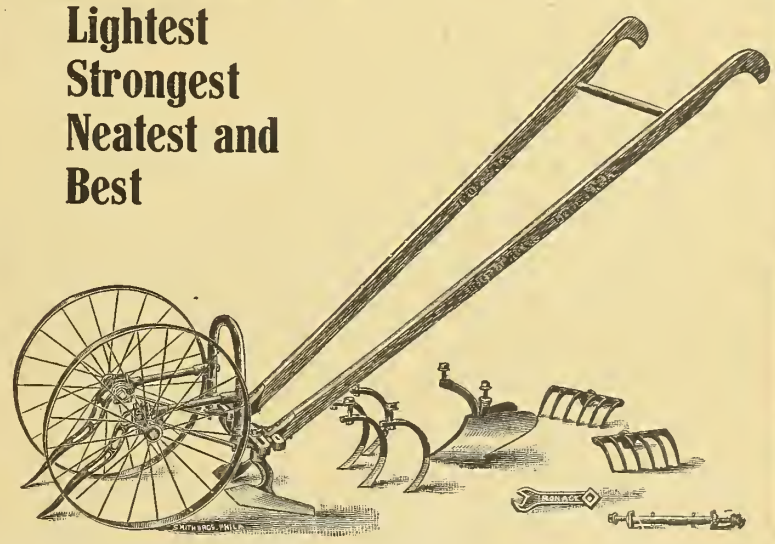
has plenty of body, is the ideal oil for farm use, and as it goes farther it is more economical. Try it on Harvesters, Tedders, Feed Cutters, or Mowing Machines. You will find that it never gums or grows rancid, never corrodes, and works freely under all conditions. It is an oil that "stays put," reduces friction to a minimum, and is unequaled by any Harvester Oil on the market. Comes in oue and five gallon cans, half-barrels and barrels.

At all dealers in Farm Machinery.

STANDARD OIL COMPANY,
(Incorporated)

Garden Tools

Lightest
Strongest
Neatest and
Best



The Most Accurate Seeders and the Simplest and Most Easily Adjusted Seeders are possessed by

Iron Age Garden Tools

Send for Profusely Illustrated Booklet

Newell Mathews Co.

200 North Los Angeles Street
Los Angeles, California

Dutch and Japanese
BULBS

Now ready. Send for our new Illustrated Fall ***Catalogue,*** now ready to mail. Remember, we are headquarters for

PLANTS SEEDS TREES

We are headquarters on the Pacific Coast for

EUCALYPTUS SEED and YOUNG TREES

Write Us for Special Quotations

Retail Store: 125 Market Street, San Francisco

In Writing, Address

C. C. Morse & Co., 41 Jackson St. San Francisco

Queries and Replies

Questions to be answered in this department should be received at this office one week before reply is expected. Write plainly on one side of the paper and sign full name and address. Unsigned communications receive no attention.—Ed.

Grape Juice.

I have read with much interest your answers regarding putting up of grape juice. I put up some last year, using the boiling process, but used no sugar. If one should wish to put up on a larger scale where could he write to secure prices on small press, and could you tell me where, near this city, it is put up for the public?—Mrs. C. F., San Bernardino.

Toulouse & Debrioux of San Francisco can probably supply you with a press for this purpose. Louise Cary Smith of Pomona is producing an exceedingly fine quality of grape juice and she is, so far as we know, the nearest to you of anyone engaged in that work.

* * *

Dried Fruit Wanted.

I write to the Cultivator to ask if it can get me in touch with people who have dried fruit, beans, nuts, etc. I mean people who will sell to us at wholesale prices as quoted in the Cultivator, or the same as the producer receives from the regular buyer, and yet sell in small lots to us who consume? I believe there are many readers who would be glad to buy direct and thus save wholesalers' profits.—S. T. Merrill, Yuma.

The writer of the above expects rather too much to ask the producer to put up in small packages, say 50 or 100 pounds, and haul to the freight depot for the same price for which he would haul by the ton and deliver in bulk to the buyer. There is, however, a suggestion in this letter which may be of value to producers of dried fruits, nuts and beans. There is a company located at Colton, we believe, which makes a business of delivering anywhere in the United States products as mentioned by the above inquirer at very reasonable prices.

* * *

Grafting Pecans.

Can pecans be grafted successfully on the black walnut?—Subscriber, Princeton.

The pecan belongs to the same family as the Hickory, Carya, or, according to some botanists, Hicoria; these two being sometimes united by grafting . While allied to the walnut (Juglans), botanically, it could not be recommended to use the black walnut as a stock for the pecan, except in an experimental way.—Leonard Coates

* * *

Washington Grapes.

In this upper country our grape vines start growing the first of April and are invariably killed back to the ground in the latter part of April by the late frost. Please tell me if there is any system of pruning by which I can remedy this evil. Also please describe powdery mildew. Is there any difference between the Black Prince and the Rose of Peru? At what age does the Emperor come into bearing? What is meant by trimming before pruning? Will you kindly advise me as to the best and most prolific bearing blackberry to plant for early market. Is there any of the so-called California vine disease in Fresno county?—L. S., Kennewick, Wash.

Prune your vines late in March, which will cause them to bleed severely. This will cause them to start late.

Powdery mildew gets its name from the appearance of the gray dust that is the spore dust of the fungus. It comes on the leaves and fruit.

Black Prince and Rose of Peru are synonyms.

Emperor comes into bearing at three years when grown in a warm climate. It will perhaps bear a few grapes the second year, but not in paying quantities.

Trimming the vines is cutting off the ends of the long canes during the growing season.

Crandall's early blackberry is perhaps the best early blackberry grown. The Garden Dewberry is earlier and more prolific and is taking the place of some of the early blackberries in some sections.

I do not know what you mean by the "California vine disease." If you mean phyloxera, it is present in certain sections of Fresno county, and some of the bay counties also. If you mean the Anaheim disease, it is found from one end of the state to the other.

* * *

Fungous Disease of Leaves.

What is the matter with my peach tree? The leaves are all falling off and the tree looks as if it is going to die. This has been going on for about three weeks. When it first started the peaches were about the size of a walnut. They have not grown any since nor have they shriveled up.—L. B., Oakley.

You no doubt have a fungous disease of the leaves. Send specimen leaves.

* * *

Plums.

We have a plum, very small pit, perfectly round, is large and deep red from surface to pit; more juicy and not so acid as the Satsuma. Is there a plum answering the above description of the Chabot plum.—E. B., Santa Ana.

We cannot name your plum unless it is a Prunus Pisardi. That variety has red foliage. Chabot, greenish purple, very large and firm; tree vigorous and a good bearer. Wickson. It is a Japanese plum.—J. W. M.

* * *

Drying Figs.

Please give information through the Cultivator about drying of figs for the market.—Subscriber, Corning.

If figs are allowed to become perfectly ripe and sweet, they make a delicious product if simply placed on trays and in the sun until sufficiently dried. They should be turned occasionally during the drying to prevent moulding; some often turn twice a day. The tray is the same as that used for drying raisins or any other which may be be convenient. Sulphuring before placing out to dry is practiced by some and it is claimed accelerates the drying and prevents souring. They should be covered on a foggy or damp night to prevent discoloration. After drying they are sweated by placing in the sweat boxes for the purpose of equalizing the moisture, then before packing are run through a steam bath or dipped for a minute in boiling salt solution.

* * *

Bottle-Neck Melons.

What is the cause of watermelons growing bottle-necked? Some of my watermelons get yellow on top side, look like they had been sunburned. Is it the heat or anything else that is the cause?—A subscriber.

I have never seen watermelons grow bottle-necked. If yours did it was undoubtedly due to crossing with some of the squash or gourd family.

The other trouble is sunburn due to intense heat with sparse foliage. Melons that are kept growing vigorously so that the foliage is abundant seldom sunburn.—Q. A. L.

* * *

Dry Pasture.

I would like information in regard to the kind of grass which would do well on dry, red, poor soil, and make good pasture which would not have to be reseeded each year.—Subscriber, Cottonwood.

A grass such as Subscriber asks about would indeed be a valuable one for California. Government experts and experiment stations hope sometime to produce such a grass, but it has not yet been given to the farmer. Burnett has been suggested as one of these. Paspalum has been recommended and at the Tulare experiment station has done fairly well under extremely dry conditions, but it is very difficult to induce seed to grow without plenty of warmth and moisture. Once thoroughly rooted it does well.

* * *

English Walnuts—Pear.

Can you tell me, through your valued columns, if English walnuts can be grown in the country surrounding Willits, Little Lake Valley and Round Valley? Have seen the California black walnut trees that were 35 feet high, 2½ feet in diameter and full of nuts. Is that any sign that English walnuts will grow? Also where can I get Comice pear trees for planting?—A Subscriber, Greenfield.

English walnuts should do well in your section of Mendocino county They should do well any place within the influence of the coast. We would try grafting a few on the native walnuts.

Try some of the nurserymen who advertise in this paper for Comice pear.—J. W. M.

(We note Fancher Creek Nursery Co., Fresno Cal., catalogue. Doyenne do Comice, a French pear of much promise. Ed.)

* * *

Freak Chrysanthemums.

I have a bed of chrysanthemums coming on early and are now beginning to bud. They have made a very rank growth and the crown bud (the one I have always left on, years before) is a freak, consisting of nothing but green petals. How shall I bud them and what causes this?—E. M. G., Watsonville.

I have never had this trouble with the chrysanthemum, but have with roses. It would seem to be a case of over-feeding—although I had come to believe that was hardly possible. For many years I grew the chrysanthemum for exhibition but do not remember of a single instance of the trouble referred to. As to treatment, I should cut off all the freak blossoms, but if you have freely disbudded over the remainder of the plant the chance for blooms is small. Q. H. L.

* * *

Horticultural Commission.

Will you kindly state in the columns of your paper what is done, and how, in the citrus counties north of San Diego county, for the enforcement of the state laws concerning the destruction of citrus pests, red spider, silver mite and the various kinds of scale. A statement of what is done by the county officials, and how, in one or two of the counties most alive to the welfare of the citrus industry, will be sufficient.—A Subscriber, Lemon Grove.

We do not fully understand what the subscriber desires and to give the full outline of work of the Horticultural Commission would occupy vastly more space than is at the command of this department. But in a word the first step is the appointment of the Horticultural Commission under the state law. This must consist of three commissioners and be, we believe, chosen from different sections of the county. The expense of this commission has been such as to deter some of the smaller counties from complying with this law and none has been appointed. In some other counties the full commission has been appointed with the understanding that but one member shall be active and under salary, the other two honorary and advisory. This commission often recommends to the County Supervisors ordinances which are passed and enforced, this in addition to the state law. The Commission also appoints district inspectors whose duty is to inspect importations of fruit, nursery stock, and orchards all over their district. If the orchard is found infested, notice is served on the owner to clean up, which, if he fails to do, is done by the commissioners, the cost of which becomes a lien upon the property. The success of this commission in eradicating a dangerous pest from the fruit district of any county rests more upon the earnestness and intelligence with which the inspectors act rather than upon the laws. Copies of the special ordinances of the various counties can probably be had by addressing the secretary of any of the horticultural commissions at the county seat.

* * *

Curing Olives.

Please give through your valuable paper information as to when olives are ripe enough for pickling, also how it should be done.—J.

Olives are not necessarily ripe when the pickling is done though many prefer the ripe fruit. If not desired perfectly ripe they may be gathered when beginning to show the tinge of purple. That is, we refer to the Mission variety. If desired perfectly ripe, then of course they become almost perfectly black or at least a very dark purple. Regarding curing, see article on another page of this issue.

* * *

Bleaching Walnuts.

Will you please inform me through the Cultivator as to up-to-date formula for bleaching walnuts?

The above came to this office as appears above, without signature of so much as an initial and without the location from which it was sent being given; other than the blurred postmark showing Nipomo to be the postoffice from which it was sent. We do not see why so simple and innocent a query as that should call for the sending of an anonymous letter. We do not care to talk to a person who would refuse to show his face and continually stand behind

Write for Samples and Booklet of REX FLINTKOTE ROOFING and see for yourself
J. A. & W. BIRD & CO., 89 India Street, Boston, Mass.
PACIFIC COAST AGENTS: W. P. Fuller & Co., San Francisco, Sacramento, Oakland, Stockton, Los Angeles, San Diego, Portland Seattle, Tacoma, Spokane.

Anthrax Cure, Milk Fever Outfits. See O. J. Weber Co., 555-557 S. Los Angeles street, Los Angeles.

For Mehring Foot-Power Milking Machines see O. J. Weber Co., 555-557 S. Los Angeles St., Los Angeles, Cal.

a blanket; neither will we answer more queries which come from persons who neglect to sign their names.

There is no necessity whatever for putting the name in the paper should the party so wish, for had the above letter come with the letter X or any other letter signed to the query, then below, the full name of the writer could have been given and never been published in the paper.

* * *

Cracked Hoof.

Please tell me through the Cultivator what to do for my horse's front hoofs. They are cracking badly which causes him to limp. The cracks extend from top to bottom and have been so for over a year. Is it a serious trouble? Also wish to know if the roots of black eyed peas are dangerous cow feed.—C. E. M., Iomosa.

Regarding the serious cracking of the hoofs we refer the reader to article on "Sand-Crack" on Live Stock page of this issue. We do not think the roots of black eye or other peas would be objectionable at all if fed to any stock.

* * *

Budded Loquats.

I would like to ask through the query column if the growth of budded loquats is the same as that of the seedling. Also which is the best for this climate, Advance or Triumph? I am also interested in the producing of the alligator pear and would like to try one here. Where may I obtain one?—Subscriber, Santa Rosa.

The question regarding the best variety of loquat for the Santa Rosa section has been referred to Mr. C. P. Taft of Orange who is thoroughly posted as to varieties in question There is no difference in the growth of the budded loquat and the seedling, excepting that the budded, of course, like the budded or grafted fruit of any kind does not vary and the bearing quality and grade of fruit is known in advance, while the seedling may be of the poorest or of the best quality. We think also that plants of the alligator pear may be had from Mr. Taft.

* * *

Gumming of Orange Trees.

I am sending you a small limb from an orange tree that I cut back this spring which had been badly gophered. I will be glad if you can give me any advice what to do and also please tell me if it is very serious. There is a small ant which seems to be fond of these trees.—J E. L., Highland.

The above was referred to R. E. Smith of the Pathological Laboratory at Whittier who answers as follows:

The gumming is an effect of injury from heavy pruning rather than from the effect of gophering. Cutting the tree back would bring about such a gumming. If this specimen is typical, that is, if the gum encircles the limb wherever it occurs, no remedy should be recommended. If not, simply give the tree good cultural care. If the tree is badly gophered the best thing to do is to take it out.

* * *

Alfalfa Grinder.

Please tell me if there is a small machine on the market for grinding alfalfa into meal. We have 150 pullets and the ordinary alfalfa meal is rather expensive.—L., Turlock.

We know of no machine similar to the one asked for, but know of several poultry yards where a good feed cutter has produced an article almost equal to the ground alfalfa by being set so as to cut the alfalfa very short. These short clippings were then steamed, or at least sometimes are, and eaten with relish by the poultry. One poultryman we have seen considers this method of feeding alfalfa superior to the finely ground product.

* * *

Ticks.

Will poultry ticks kill chickens? If so, how may we rid houses of them? Our houses were bought second-hand and thoroughly fumigated with sulphur and we are careful to keep houses clean.

Also would like to ask, is it necessary to feed chickens grit where they have a run of nearly three acres of gravelly land?—H., Riverside.

Ticks are one of the most troublesome pests, when they are once established, of any that the poultryman has to deal with. Spraying with distillate or with some of the other strong lice killers, or fumigating with burning sulphur are perhaps the best remedies. Insect powder and greasing of the poultry is the best immediate treatment.

According to some authorities feeding of grit is entirely unnecessary. Be that as it may, in the case you mention where the poultry is on gravelly land, we do not think anything will be gained by feeding any additional grit.

* * *

Harvesting Beans.

I have ten acres of dry beans of the vining variety, which have been irrigated in open ditches. What is the best method of harvesting and can they be threshed in the ordinary grain thresher?—Subscriber, Princeton.

We do not know what is meant exactly by "vining" variety, but the method of cutting Limas is to cut with tool similar to weed cutter which passes under surface and cuts off roots. Then they are raked into small bunches then in time threshed. The ordinary grain thresher will answer for the small varieties, providing part of the teeth are taken from cylinder. For Limas the bean thresher is necessary.

* * *

Douglass Mixture.

Will you let me know where I can obtain some Douglass mixture?—H. F. E., Santa Barbara.

It consists of half a pound of sulphate of iron and one ounce of sulphuric acid dissolved in two gallons of water; and is to be added in the proportion of two tablespoonfuls to each pint of water in the fountain. Whilst the fowls are molting, the above mixture, or a little sulphate of iron, should always be used; it will assist them greatly through this, the most critical period of the whole year; as also does a good pinch of powdered brimstone to each bird (mixed in the soft food) every other day, till the new plumage is nearly complete. With this aid, and a little pepper on their food, with perhaps a little extra meat, there will rarely be any lost at this time. With hardy kinds and good shelter such precautions are scarcely necessary; but they cost little, and have their effect also on the early re-commencemont of laying.

* * *

Itch or Lice.

Have a two-year-old thoroughbred pony slightly affected with itch. Is there any cure? If not, what is a good remedy to keep it from showing?—O. A. D.

Are you sure this is not chicken lice. They are often very bad at this season. If it is chicken lice wash the horse with kerosene emulsion, using three finger widths of kitchen soap dissolved in half gallon of water. Put the can on the stove and boil it until dissolved and whip into it one quart of kerosene until it is a creamy mass. Then add ten times as much warm water and wash the horse all over with it. Be sure the oil is all taken up or the horse will be blistered. Spray the surroundings or whitewash them. Now, if it is regular itch it is hard to be certain what form. Try the use of lard rubbed into the spots and then follow up with flowers of sulphur well rubbed in. Kitchen salty grease with flowers of sulphur is also good. Stop feeding grain and give green stuff if possible.—M. E. S.

* * *

Various Questions.

I wish to ask for: 1—A recipe for curing ripe olives. 2—A recipe for making wine out of green rhubarb or pieplant. 3—Where can I get a good book on bee culture? Is the bee book advertised in the Cultivator the best to be had? 4—Can I sow alfalfa seed this month? I can get the ground in good shape. It was plowed last spring and has lain fallow all summer. 5—Would you advise me to put some nitrate of soda on winter lettuce, turnips and beets? If so, how much per acre?—W. R. G., Auburn.

See page 297 of this issue for the formula on olives.

An agreeable and healthful wine is made from the expressed juice of the garden rhubarb. To each gallon of juice add one gallon of soft water in which seven pounds of brown sugar have been dissolved; fill a keg or barrel with this proportion, leaving the bung out, and keep it filled with sweetened water, as it works over until clear; then bung down or bottle, as you may desire. These stalks will furnish about three-fourths of their weight in juice, or from 1600 to 2000 gallons of wine to each acre of well cultivated plants. Fill the barrels and let them stand until spring, and bottle, as any wine will be better in glass or stone. Another: For every four pounds of the stalks cut fine, pour on one gallons of boiling water, adding four pounds of brown sugar; let stand covered twenty-four hours, having also added a little cinnamon, allspice, cloves and nutmeg, bruised as may be desired for flavoring; then strain and let work a few days and bottle.

The A, B, C and X, Y, Z of Bee Culture is as complete as any.

You can sow alfalfa this month or next.

Mr. Lobinger will answer other question.

* * *

Chicken Fleas.

Chicken fleas bother us to death. What shall we do?—H. S., Burbank.

Fleas or lice are most common in the nests and on the sitting hen, from which they may infest a brood of chickens. When either abound nest

Continued on page 311.

Notice "Shop Talk" this week. For $5.00 for five new subscribers we will mail Campbell's Dry Farming Manual free of charge.

Classified Liners

Rates 1½ cents per word per issue. No ad accepted for less than 25 cents. Our classified columns are the clearing house for the readers of the Cultivator. Here you can insert an ad for the small sum of 1½ cents per word per issue, and be sure that it will be read by thousands.

MACHINERY.

WE CARRY A GENERAL LINE OF MAchinery, gas engines, air compressors, boilers, engines and pumps. 40 car loads of screw pipe and casing can be cut to lengths, also all kinds and sizes of fittings. Several hundred iron fence posts. R. KELLY MACHINERY CO., corner of Mission road and Macy street, Los Angeles Cal.

FOR SALE—ALL SIZES NEW UNION engines also a large stock of secondhand as well as all other standard makes; gasoline engines from 3 to 80 HP. See us before buying. BAILIE & BRANDT CO. 943 N. MAIN St., Los Angeles.

FOR SALE—ELECTRIC MOTORS COMplete stock new; also from 5 to 50 HP. secondhand, both A. C. and D. C. Also generators. Baille & Brandt, 943 N. MAIN St., Los Angeles.

FOR SALE—MEHRING MILKING MAchine with extra parts and covered pail, all in good order. WM. H. BIRD. Box 6, Compton, Cal.

FOR SALE—A LARGE LINE OF NEW AND secondhand centrifugal pumps vertical and horizontal. BAILIE & BRANDT CO., 943 N MAIN St., Los Angeles.

FOR SALE—PUMPING PLANT COMPLETE, including casing and fittings. Worth investigating. 117 BRUNO St., Los Angeles.

FARM LANDS FOR SALE.

DAIRY AND RANCH—ONE-HALF INTEREST in thirty acres within one mile of courthouse, set to alfalfa; well flows fifty inches; necessary buildings; twelve cows; milk wagon; route paying $200 per month. $2000 buys my equity. Am compelled to sell on account sickness. This is one of the best buys around San Bernardino, and any one looking for a home as well as an investment should not miss looking up this place. Address GEO. S. BURROWS, CARDIFF AVE., San Bernardino, Calif.

RANCH FOR SALE—105 ACRES AT $40 AN acre; 85 acres in cultivation; nearly all of remainder can easily be put in cultivation; 45 acres level land; 800 full bearing apricot trees; 5-room dwelling; good large barn; fruit drying plant; 5 miles north west from Moorpark; half mile of school; land suited to beans, hay and corn. For further information apply to WM. ROBINSON, Moorpark, Ventura county, California.

FOR SALE—1 TO 10-ACRE TRACTS ON CAR line, between Riverside and new cement works; good for chicken ranches, alfalfa or gardening; will sell on easy terms; plenty of water on each tract. C. C. POND & N. R. BELL, Riverside, Cal.

FARM TO LEASE.

FOR RENT IN IMPERIAL VALLEY—AN up-to-date dairy ranch to an up-to-date dairyman, 200 acres alfalfa; barn; stanchions; milking machines; hydrant water, etc. Adress J. M. H., 1725 W. ADAMS St., Los Angeles, Cal. Phone Home 72523.

POULTRY

SPECIAL SALE—TO MAKE ROOM FOR my young growing pullets I offer at common stock price all my this year's breeding pens, including many prize winners. This is a rare opportunity to get first class breeders cheap. At the last L.A.C.P.A. show my birds won all specials, all first prizes, and all seconds but one, that were offered on Barred Rocks. CHAS. E. SMITH. Gardena, Cal. San Pedro car via Gardena to Smith's Crossing.

FOR SALE—STOCK OF THE FOLLOWING standard bred varieties of poultry, Black and White Orpingtons, Brown and White Leghorns; won fourteen first and second prizes on fifteen entries, State Fair, 1908. J. J. VERKOUTEREN, Route 3, Hanford, Cal.

BUFF ORPINGTONS—WOULD YOU LIKE the very best at the price of common stock? Sullivan's COMMONWEALTH STRAIN you may have at HALF PRICE FOR THE BALANCE OF THE SEASON. Write us and learn the reason; get record and illustrated catalogue FREE.—MR. & MRS. W. S. SULLIVAN, Agnew, Santa Clara Co., Cal.

BLACK BEAUTY POULTRY YARDS—Black Minorcas exclusively, bred for eggs and size, unsurpassed as layers or table birds. Eggs $6.00 per 100, single settings $1.50. Incub. chicks $12.00 per 100. cockerels $2.50 each. Mrs. A. F. Frese, Box 19, Dixon, Cal.

WANTED—MALE HELP.

NINETEEN JOBS GOING AT PRESENT—Electricity, plumbing, bricklaying taught in few months; tuition back after two months; advanced students paid wages. Free catalogue. UNION TRADE SCHOOL & CONTRACTING CO., 120-126 E 9th St., Los Angeles, Cal.

DOGS.

SABLE AND WHITE COLLIE PUPPIES—Sires, Brandane Wishaw Squire and Glen Fana Bounder, litter brother to Aufield Model. Dams, Ormskirk Gloriana and Presidio Nellie. $10 to $25; 2 to 8 months. GLENALPINE KENNELS. Grandville, Cal.

TREES.

FOR SALE—1,500 EUREKA LEMON TREES and 1,000 Washington navel orange trees, true to name. Also street and ornamental trees. Clean, healthy stock only offered. GEO. B. WARNER, SANTA ANA, CAL.

PIGEONS.

HOMERS FOR SQUAB BREEDING—ARE prolific breeders and are banded. Price $2.50 per pair. WM. CULP, Escondido, Cal.

PIGEONS—FANCY RUNT PIGEONS, LARGE prize birds. Mail Address R. F. D. 6, BOX 190. Los Angeles, Calif.

SHOPPING BY MAIL.

SAVE MONEY AND GET A BETTER choice by shopping in a large city. We will do your shopping for you. Send for our free book. It tells you how. LOS ANGELES PURCHASING CO., 506 Bradbury Bldg., Los Angeles, Cal.

HOGS.

REGISERED BERKSHIRE AND POLAND China hogs, both sexes. C. A. STOWE, Stockton, Calif.

What MORE Could You Desire In A Savings Bank?

20,000 Depositors
Strong Directorate
Capital and Surplus Over
$900,000
Resources
$10,000,000

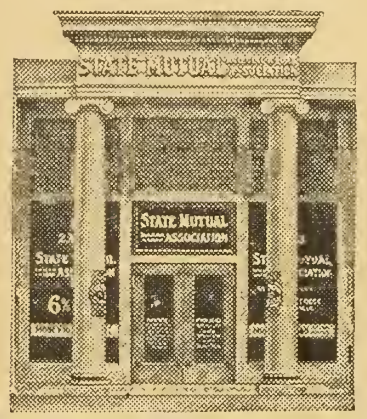
GERMAN AMERICAN SAVINGS BANK

Tallest Building in Los Angeles

SPRING & FOURTH STS.

Heart of the Business Center

Model Banking Facilities



6% INTEREST PAID
STATE MUTUAL
BUILDING & LOAN ASSN.
223 S. SPRING ST., LOS ANGELES, CAL.

ESTABLISHED 1889
Largest Association in California
Assets [Jan 1, 1908] $2,002,111
No Admission or Withdrawal Fee
Only 30 Days' Withdrawal Notice
Money to Loan for Building

OFFICERS AND DIRECTORS

DR. W. G. COCHRAN, President
A. E. POMEROY, Vice President
J. M. ELLIOTT, Vice President
W. D. WOOLWINE, Vice President
C. J. WADE, Secretary

D. M. CUTHBERT, Loan Inspector.
Send for Booklet and Statement
Mention This Paper

Your Eastern Trip

SOUTHERN PACIFIC

May be arranged so that you may travel by way of

New Orleans and the Sunset Route

San Francisco and the Ogden Route

Portland and the Shasta Route

Enjoying the balmy air of the South or the cool and bracing air of the North.

Personally conducted excursions every day from Los Angeles via all routes without change to principal eastern points.

Southern Pacific

Household Department

"MAKE GOOD."

If you start to do a thing
Make good;
If it be to dance or sing,
Make good;
If to write a famous book
Or to be a noted crook,
Do your best, by hook or crook,
Make good.

If you have a goal in view,
Make good;
It is simply up to you,
Make good;
Talk is cheap, so cut it out,
If you win the victor's shout
You must watch what you're about,
Make good.

If you make a little bluff,
Make good;
Ante up the promised stuff,
Make good;
Failure everywhere is rife,
Be a live one in the strife,
Do the best you can in life,
Make good.

—Southern Merchant.

"BR'ER RABBIT" AT "UNCLE REMUS."

"BR'ER Rabbit" has taken up his abode at the home of "Uncle Remus," not in spirit, but in the living flesh.

And there lies a remarkable coincidence following the recent death of Joel Chandler Harris.

Just a week to the day had passed, following the last tribute paid the noted author who personified the animals and made the shy but shrewd rabbit stand out in fame among all the rest, when a real live rabbit came to "The Sign of the Wren's Nest," and adopted it as his home.

Where he came from nobody knows; where he was going he decided for himself, for he concluded that the "Snap Bean Farm" was good enough for him. And there he is apparently to stay.

One Sunday morning the butler caught a glimpse of him, and thinking him one of the denizens of the wood who had lost his way and strayed unwittingly into civilization, was about to throw a stone at him. Mrs. Harris saw him in the nick of time and prevented the attack.

And then the children, grandsons and granddaughters of the late "Uncle Remus" resolved they would try to make a pet of him. Cautiously they approached him, food in hand, expecting every minute he would turn and run to escape them, but not so Nearer and nearer they went, but Br'er Rabbit did not stir until the proffered food was placed beneath his nose and then—he ate it.

It was a tame rabbit; there was no doubt of that. But whose? and where did he come from? Diligent inquiry has failed to establish any ownership, and in the meanwhile the unexpected but not unwelcomed visitor has found a congenial abode in the coal shed with a coal pile for his bed. There he goes nightly as he has done since his arrival, venturing forth by day to nibble dainty bits of green, play with the children or chase the cat—a favorite pastime.

Strangely enough, considering Mr. Harris' fondness for the animal tribe, and the rabbit in particular, never before has there been one that claimed a home upon the Snap Bean Farm.

A coincidence is his coming now, but may it not be Br'er Rabbit's tribute from his kind to the memory of a universal friend?—Atlanta Constitution.

RECIPES.

Salads.

What, in your estimation, is the most tempting and appetizing dish for a summer meal? A salad, to be sure. When a hot meal seems impossible, both for the one who must prepare it, and the one who must eat it, a salad is a very God-send, for it may be made with little or no cooking, and its freshness and coolness would tempt the most sluggish appetite.

A good mayonnaise is necessary for a good salad. Below we give a receipe for one of the very best.

Mayonnaise.

Put the yolks of two eggs in a clean, dry soup plate or bowl; stir lightly with a fork; add a quarter of a teaspoon of salt, and then begin to add, almost drop by drop, the salad oil. Time will be saved and the danger of curdling removed if the oil is also made cold. After you have added a gill of oil, begin to add now and then a drop or two of vinegar; in this way, by alternating the oil and vinegar, allowing two tablespoons of vinegar to each pint of oil, the dressing will be smooth and not oily or jelly-like. In jelly like condition it is apt to separate after standing. You may add more or less oil, acording to the quantity of dressing desired. Do not add any great amount of seasoning to the dressing; it is by far better to season the salad, as frequently the addition of more acid or other materials will spoil the consistency of the dressing.

After you have added a pint of oil in the preceding receipe, you may stir in carefully a half pint of cream whipped to a stiff froth. This adds greatly to the bulk of the dressing, and softens down the oil for those who are not fond of the flavor. The cream must be added at the very last moment, just as you are mixing the materials with the dressing.

This is the simplest receipe for mayonnaise. Much stirring is necessary; do not try to make it in a hurry, for then failure is certain. Stir it gently all the time you are adding the oil.

Apple Salad.

This salad is really composed of sliced apples, any nut meats chopped fine and celery, but if you have no celery, the celery salt can be used and serve it on lettuce leaves. At the last minute pour in the mayonnaise and toss lightly with a fork. The oil in the dressing causes the celery or lettuce to wilt.

A Novelty.

Tomatoes hollowed out may be filled with dice of cucumbers, or vice versa, the scooped-out cucumbers filled with dice of tomatoes. An inventive mind can easily find many ways of using these same and other vegetables.

Potato Salad Additions.

To make more attractive the ever useful potato salad, try a different style in dressing. Take a dash of salt and of pepper, one tablespoonful finely cut parsley, one teaspoon grated onion, with two tablespoons olive oil or butter. Mix all with four tablespoons vinegar. Slice one quart of boiled potatoes, not too thick, pour over them the mixture, and let stand an hour. Instead of the onion some like celery, diced or celery seed—a sprinkle. Add sliced cucumbers or hard boiled eggs. All these add va-

Oldest and Largest in the Southwest

SECURITY SAVINGS BANK

Los Angeles, California

CAPITAL AND RESERVE $1,200,000.00
TOTAL RESOURCES OVER $20,000,000.00

We Pay Interest

4% on Term Savings and on Six Months Certificates of Deposit

3% on Ordinary Deposits

By special arrangement 'Ordinary' accounts may be checked against without presentation of a pass book, and 3 per cent. interest will be paid on the minimum monthly balances.

STUDY AT HOME

READ—THINK—ACT

We are teaching over 3000 students at their homes, in Collegiate, Commercial and Normal subjects.
No interruption of regular work.
To study with us is a pleasure.
Lessons carefully examined and corrected, and promptly returned.
Send for complete catalogue.
We want local representatives throughout California.
Help yourself by helping us.

Modern School of Business and Correspondence, San Jose, Cal.

WRITE TODAY DEPT. D

Wanted, Farmers

to write for my Portable Billiard and Pool Table Catalog. Do it today and be convinced that you can't afford to miss the worlds of pleasure there is in one of these. All sizes, all prices.

C. Ridderhof, Laughlin Bldg., Los Angeles

PIANOS Slightly used Steinways; 1909 Model Lyon & Healys, and other remarkable Bargains. Lyon & Healy, 80 Adams St., Chicago.
World's Largest Music House
Our Great Re-Building Sale is Now in Progress!

EDISON PHONOGRAPHS, VICTORS, ZONOPHONES

Records and Supplies, delivered at your nearest railroad station upon receipt of full retail price. Write for particulars and ask for catalogue. Peter Bacigalupi & Sons, 1113-15 Fillmore St. San Francisco

FARMERS' BOOKS

Order Through the Cultivator

FEEDS AND FEEDING.—By Prof. W. A. Henry. Is a thorough, accurate and reliable handbook for students and stockman, giving most practical and useful knowledge on plant growth and animal nutrition, feeding stuffs, feeding animals and every detail pertaining to this important subject, indispensable to every owner of live stock. 658 pages. 6x9 inches.
Cloth $2.00

AMERICAN GRAPE GROWING AND WINE MAKING.—By George Hussmann of California. With contributions from well known grape growers, giving wide range of experience. The author of this book is a recognized authority on the subject. Illustrated. 269 pages. 5x7 inches.
Cloth $1.50

STANDARD OF PERFECTION.—By the American Poultry Association and used as the standard for judging all shows. The thing for dealers in fancy stock.
Cloth $1.50

PERFECTED POULTRY OF AMERICA.—This is the most recent publication, and is one of the finest poultry books ever issued. It contains full page illustrations of all breeds and varieties of poultry, turkeys and water-fowl. On many of its pages are represented the feathers from each section of the fowl. Gives the information necessary for the selecting of the best specimen in your flock.
Cloth $2.50

A. B. C. AND X. Y. Z. OF BEE CULTURE.—By A. J. and E. R. Root, the leading authority on Bee Culture Its reputation is known to all Beekeepers. 536 pages.
Cloth $1.50

CAMPBELL'S SOIL CULTURE MANUAL.—By H. W. Campbell. The originator of the "Campbell System of Dry Farming." A complete guide to scientific agriculture as adapted to the semi-arid regions. Of great value to all Western ranches. 320 pages.
..... $2.50

THE NEW AGRICULTURE.—By F. Byard Collins. A new and authoritative work dealing with the changing agricultural conditions. Why "Back to the Soil" is calling millions from the cities to the farm. The debt which agriculture owes to science. Irrigation, fertilization, machinery, etc.
Illustrated, 374 pages, cloth.....$2.00

Cultivator Publishing Company

riety. Pieces of lemon garnish it well.

Another.

Boil some new potatoes and cut them into small dice till you have two cupfuls; boil some eggs hard, four or more, and cut these up also; sprinkle freely with salt, pepper, oil and vinegar and stand away on ice for an hour without stirring. Then add a cupful of broken English walnut meats, and two dozen stoned—and slightly chopped—olives and a cupful of stiff mayonnaise; do not crush the ingredients in mixing; mask the top with additional mayonnaise and a few olives.

CURING THE BORROWING HABIT.

In a prosperous village in the northwest, a village that had not yet arisen to the dignity of a public baker, there lives a housewife noted for her industry and energy. Her mother was a great bread maker and she (the young housewife) had always, from her girlhood, been accustomed to high-grade homemade bread.

Her mother said there was one great secret to bread baking, knead, knead, knead! The lazy, shiftless, slovenly woman, who threw her mix together any old way and trusted to good luck for the yeast to work through, never made good bread. It was beyond her.

So when this daughter of her mother took to herself a husband and, in turn, bossed her own kitchen, she made bread as mother used to make it. She got the best flour, and there is only one best flour, it wouldn't be best if there were more than one, and the best of everything else and she made bread. The advice of her mother took deep root in her and as far as bread was concerned, she did not propose to sit at her end of the table and listen to her husband prate about bread as mother (his mother) used to bake.

So she kneaded and kneaded and kneaded, and, exercising due care also in other directions, she always took from her oven a batch of light, full-volumed, nut-brown, sweet bread. Women win or lose reputations, and she won a reputation as a bread-maker. And the neighbors began to borrow. The borrowing habit became confirmed and our good and industrious housewife found that, instead of having one baking day, she must bake twice a week to insure bread being in the house.

Of course, the neighbors returned their loves of bread, and such bread! Kneaded with a spoon or stirred in a pail with a poker, but no elbow grease used as shortening. As a rule it was coarse and abominable bread, streaky and lumpy. She wouldn't put such bread on her table, so sitting down she put on her thinking cap.

As Mrs. Jones returned her loan, she would write on a slip of paper, "Mrs. Jones, Her bread," and the loaf would go into the bread tin and there remain one, two or three weeks, until Mrs. Jones got bread-hungry again for a really good slice of homemade and around would come Mrs. Jones' little girl for the loan of a loaf of bread.

So going to the pantry our industrious and intelligent housewife would take Mrs. Jones' own loaf of bread, beautifully stale by this time, and soberly hand same to the observing and somewhat astonished child, and she (the messenger) took back home a loaf of her mother's own bread.

And the borrowers one and all in due course each got back a loaf of their own "stale," and, as a result, the borrowing habit ceased in the neighborhood. The industrious bread-making woman bakes now but once a week, as of yore, and when people come to tea they all praise her beautiful, white, sweet bread and eat bountifully of it, ask for her formula, but never attempt to borrow. The story had traveled around.—Bakers' Review.

TEACH THE CHILD.

To fill the lungs, breathing deeply through the nose, holding the breath an instant and expelling it slowly.

To stand erect with his head well against the collar, and the chest out.

To keep the hands clean

To keep the finger nails clean.

Never to put whistles or toys in their mouths without first washing them.

Never to moisten the finger or thumb when turning papers, handling papers or money.

Never to eat things that are dirty.

Never to eat fruit or candy picked up in the street.

To wash the cup used by others before drinking from it.

To gargle the throat with salt and water before being exposed to disease (One-fourth of a teaspoon of salt to a tumbler of water.)

Never to kiss a sick friend

When coughing, always to turn the head away from a person and hold a handkerchief over the mouth

To clean the teeth morning and night.

To eat slowly.

To chew the food well.

To be cheerful.

To stay in the sunshine and fresh air.

To sleep with the mouth closed.

GET THE RIGHT ONE.

"Sir, I want your daughter's hand."

"You may have it with the greatest pleasure, dear boy, if you'll take the one that's always in my pocket."—Baltimore Sun.

The Oldest Savings Bank in California

FOUNDED IN 1857

The Savings and Loan Society

101 Montgomery St., Cor. Sutter St., San Francisco

CAPITAL FULLY PAID $1,000,000.00

Exclusively a Savings Bank whose policy is for ***Conservatism*** and ***Safety,*** the result of ***50 years experience.***

Deposits may be made and withdrawn by mail.

San Francisco Savings Union

Founded June 18, 1862 Northwest Cor. California and Montgomery Sts., San Francisco

Conducts a Savings Bank Business Exclusively

Capital Paid Up, $1,000,000.00. Surplus, $1,183,632.66.

Total Assets, $27,508,850.00.

E. B. POND, President.

W. C. B. de FREMERY AND C. O. G. MILLER, ... Vice-Presidents.

LOVELL WHITE, Cashier. . . . . R. M. WELCH, Asst. Cashier.

DIRECTORS: John F. Merrill, Wm. A. Magee, W. C. B. de Fremery, H. C. Breeden, Jacob Barth, Fred H. Beaver, Wakefield Baker, C. O. G. Miller, E. B. Pond.

Every facility afforded for opening accounts and making deposits and withdrawals by mail. Correspondence invited.

Mr. Farmer

Your Boy or Girl on the threshold of life needs a thorough business training to be successful. ***It Is Your Duty*** to offer him or her an opportunity to acquire a knowledge of the subjects which are demanded by business men.

Entrust Your Son or Daughter to Us

We have prepared hundreds of young people to be successful men and women. This is a complete school where every business requirement is met. ***Personal Instruction, Careful Guidance and Faithful Attention*** are given to each student.

Don't Delay---The Opportunity Is Now

Our course includes the following subjects :

Bookkeeping, Commercial Arithmetic, Penmanship, Spelling, Grammar, Correspondence, Shorthand, Typewriting, and Give Actual Business Practice in Our Modern Offices

They Are Essential to Success. Ask for our complete catalogue and special information. We will also send a beautiful brass edge ruler for your child. ***Both Free.*** Get in touch with us today.

Pacific Coast Business College

SAN JOSE, CALIFORNIA

Home Made Ice Cream and Candy

Appeals to Everyone in the Family

Has been going since the very day of publication. Full of all that is known about Home Made Ice Cream and Candy. Nearly Three Hundred Formulas.

Make 60 cent Chocolates for 15 cents

Taffies Nut Candies Butterscotch Everything

A 50c Book **You Get It Free With the Cultivator** For 1 Year's Subscription

Paid in advance. For old or new names who pay for the coming year. Enclose a $1.00 bill and ask for the "Candy Book." But remember, you will not receive the book unless the remittance pays for at least a whole year from this date. Address

Cultivator Pub. Co., Los Angeles, Cal.

A Goat for the Baby

BY MISS B. A. R. STOCKER OF ARROYO GRANDE.

PROBABLY there is nothing that would lessen the mortality among bottle-fed babies quicker than a more general keeping of milch goats.

These kindly little friends of the infant, the sick and the poor deserve better at our hands than to be made the subject of empty laughter. Isn't it paying too dearly for our joke when because of it the cradle is empty and the light is gone out?

In Switzerland when help is needed to raise a baby one of the family goats is assigned as its foster mother. She readily adopts the infant, will fight in its defense and run to it when it cries.

Even in California a neighbor tells me she has seen a Portuguese goat nursing a baby, or a Portuguese baby nursing a goat, I forget which she said. Take your choice!

Trouble is often experienced in buying milk from one particular cow for a baby; and the manufactured article cannot possibly be as good as the natural. When was ever any canned stuff quite equal to the original? Thousands of families who cannot keep a cow could easily keep a couple of goats and solve the problem. It is a surprise to find how much easier a feeding bottle is kept clean and sweet when goats' milk only is used. In cool weather the milk will keep a week without souring. The cream rises very slowly, thus preserving the milk much longer in its perfect or fresh state. This makes it much more digestible. Also there are seven parts cream in goats' milk as against four in cows' milk.

Finally, it comes cheaper to keep a few goats than to buy milk, and it is incomparably better.

Neglected, half-starved goats may be scavengers, and some of the things repeated against them may be true. But a good goat, properly cared for, is very clean and particular. She will detect a taint where we notice nothing, and will refuse any food that is stale or soiled. Goats' milk will not transmit disease to a child as cows' milk too often does.

Recently I was trying to raise a kid whose mother was dead. My other goat was not giving enough for him and me both, so I bought a little cow's milk, and we divided up. I watched to see if it seemed to disagree with him in any way, but saw no sign. The week before he gained six pounds in seven days. The week after we began the cow's milk he only gained three. Then for three days he gained nothing, and the fourth day he was dead. When opened the little stomach was found packed with old hard curd, layer behind layer. I suppose he never got away with the cow's milk from the very first.

How many a human infant not more robust than he suffers in a similar way. And the end is very swift and totally unnecessary!

The Produce Markets

Los Angeles Markets

LOS ANGELES Sept. 23 1908.

Butter.

Butter has advanced another 2½ cents this week. Sales of extra are very light however at this time and the market is very quiet. The principal demand at this time seems to be for cooking.

Quotations as follows with actual selling prices to trade 2½ cents advance on extras.

Creamery ex per roll................65
Firsts............. 60
Dairy........ 25
Eastern Extra.... 30
Ladless........ 23
Cooking.......... 23
"Butterine"....... .... 16@20

Cheese.

Southern California...... .... 14@15
Northern fresh........ .. ..14@14¼
Longhorn...... ....17@18
Eastern singles.... ....14@16
Cheddars.......... 19
Imported Swiss.......... ....27@28
Swiss........ ....15½@16
Oregon.......... 16
Limburger...... ...., ...15@16

Eggs and Poultry.

Eggs advanced slightly the last of last week and on Tuesday sagged again to exactly last week's quotations. It is thought another advance will be made soon.

Eggs local candled........ 38
Eggs case count buying price........34
Firsts fresh...... 35
Storage selected...... ....26@27
Storage...... ....26½
Storage, short time.......... ....28@30

Wholesale prices:

Hens per pound...... ....13½@14
Young roosters per lb...............17
Fryers.......... 18
Broilers per lb........ ....18@19
Roasters...... 18
Old rooster...... 7
Turkeys.... ....16@19
Geese........ 10
Ducks................ 11
Squabs........ ....1.25@1.75

Live Stock.

The following quotations are f. o. b., Los Angeles, on all stock.

Hogs from 175 to 200 pounds........6¼
Prime steers..... ....4¼
Heifers... ....3½@3¾
Calves per lb............ ....4½@5
Sheep ewes per head........3.75@4.00
Lambs per head...... ....2.75@3.25
Wethers.. .... .4.00@4.50

Potatoes.

Wholesale prices are:

Sweets per ctl...... ....1.40@1.50
Sweets red...... ....1.15
Burbanks choice........ .... ..1.05@1.25
Northern Burbanks fy........... 1.25
Local Burbanks...... ....1.50
Highland fancy........ ....1.35
Coast...... .... .1.30

Onions.

Wholesale quotations are:

Silverskin new........ 90
Northern Red........ ....90@1.00
Australian Browns.... ....90@1.00
Danvers........ 85
Garlic...... ....9@10

Vegetables.

Asparagus per doz.... 75
Artichokes per doz Northern........70
Artichokes local per box...........40
Beets per doz................. 30
Bell peppers per lb large..........3@4
Bell peppers box...... ....25@30
Beans limas per lb.......... 3
Beans string.... ....4@4½
Brussels sprouts per lb............9@10
Cabbage sack.... ....1.25
Cabbage red per lb..................2
Celery per crate.... ....1.75
Celery ex fy...... ....3.00@3.50
Corn per box........ ....39@40
Chicory per bunch.......... 10
Chili peppers per lb................6@8
Cucumbers per box........ ....25@40
Cauliflower per doz ....1.25@1.40
Carrots per doz...... 30
Egg plant per box..............20@25
Green onions doz bunches......20@30
Horseradish...... ....12½
Lettuce per crate........ ......75@1.00
Okra.......... 8
Peas sugar per lb..................5@6
Parsley. 30
Parsnips...... ....35@40
Rhubarb per box...... ....1.25
Radishes per doz.......... ......15@20
Summer squash per box.............50
Spinach per doz.. ....15@17
Turnips dozen bunches........ ....25@30
Tomatoes lug box.......... ......15@25
Tomatoes yellow.......... .. ....50@65

Citrus Fruits.

Valencias...... .... 2.30@2.50
Grapefruit seedless....... ....3.00
Grapefruit seedlings...... .. 1.75@2.00
Lemons fy........ ....3.00
Lemons choice...... ....1.50

Fresh Fruits.

Wholesale prices on the market are:

Red Astrachans new.................75
Astrachans packed box........1.35@1.50
Bellefleurs.... ....1.00
Alexandria 4-tier...... ...... 1.00@1.10
Gravenstein 4-tier.... .. ....1.15@1.25
Skinners 4-tier.... ....1.15@1.25
California Jonathans.... ....1.20
Crab apples........ ....1.50
Apricots cold storage........ 50
Cantaloupe locals large crate......1.50
Casaba crate...... ....2.00
Figs per fig box...............60@1.00
Christmas melons per doz....1.00@1.20
Figs blk per fig box............60@70
Guavas per lb.... ....4@6
Grapes seedless Sultanas............50
Muscats per lug box............50@75
Grapes Malaga...... ....50@75
Grapes Thompson seedless.... ..35@40
Grapes Concord per lug box....1.00@1.25
Grapes Tokay.... ....75@1.00
Grapes Red Emperors........ 90
Cornichons...... ....1.00
Rose of Peru...... ....35@50
Grapes Black Hamburgs ....35@50
Nectarines..... ....1.25
Pears per box........ ....1.60
Pears lug box........ ....1.00
Pears Winter Nellis per box........75
Plums Sonoma.... ....50@60
Plums Kelsey........ ....1.50
French prunes.. ....60@75
Hungarian prunes...... 85
Peaches per lug box............50@75
Peaches clings.... 50
Pineapples per lb 7
Quinces...... ....65@75
Raspberries per box........ 12
Strawberries per box...... ....4@5
Extra fancy........ 10
Blackberries per box.... ....7@8
Huckleberries........ 4
Watermelons per lb.............. ....¾

Dried Fruits.

Wholesale prices are:

Apricots........ ....7@8
Evap. apples fy per lb...........7½@8
Figs loose white...... 6
Figs blk......... 4
Peaches ....8@9
Pears.......... ....9@10
Nectarines........ ... .9@10
Prunes... ....4@4½

Beans Dried.

Wholesale prices:

Limas per ctl.... ....5.00@5.25
Lima, new crop.......... ....4.50@5.00
Pink No. 1........ ....3.50
Lady Washington.... ....4.00
Small white.... ....4.15
Black eyes.......... ....4.50
Garvanzas... ....4.80@5.00
Lentils... ....9@10
Bayou.... ....3.80

Nuts.

Walnut prices as established last Tuesday are as below:

Almonds IXL per lb...............14
Almonds choice...... .. ..10@12½
Pecans polished.... 14
Peanuts Virginia...... 8
Peanuts California........ 7
Walnuts No 1 SS..................12½
Walnuts No 1 HS...................12
Walnuts No 2 both hard and SS..8½
Walnuts all less1½ per cent to trade

Honey.

Wholesale quotations:

Extracted Water White..... ..7½@8½
Extracted Amber... ....6@6½
Comb W W................... 15
Comb white......... ... .14
Beeswax...... ....28@29

Hay.

Prices paid to producers f. o. b. Los Angeles are as follows:

Barley No 1........ ....13.00@15.00
Barley No 2.......... ....10.00@13.00
Alfalfa northern per ton....11.00@12.50
Alfalfa local...... ....12.50@14.00
Plain oat No 1..............15.00@17.00
Wheat No 1............ ......13.00@16.00
Wheat No 2........... ......12.00@14.50

Grains.

Wholesale selling price f. o. b., Los Angeles.

Wheat new per ctl..................1.85
Wheat in 100-lb sacks...... ......1.90
Kaffir corn...... ....1.80
Corn Eastern sacked...... ....2.00
White oats.. .. ..1.90

Feed Stuff.

Selling price F. O. B. Los Angeles as follows:

Cracked corn........ ....2.05
Shorts........ ....1.80
Bran........... ....1.65
Oil cake meal............ ....2.50
Feed meal...... ....2.10
Rolled barley 1.50

Hops at Portland, Oregon, are now being quoted at 7 cents per pound.

San Francisco Markets

SAN FRANCISCO, Sept. 22, 1908.

Butter.

Butter took a decided slump after last week's quotations were made, dropping to 29 cents for extras which later recovered a half a cent a day till it now stands at 30½ or ½ cent lower than last week. It is now selling freely.

California extras per lb............30½
California firsts...... ....27½
California seconds........ 22
California thirds...... 20
Eastern extras.... 27
Fresh packing stock...... 22
Packing stock No 2.................20

Cheese.

California young American fy....12½
Firsts....... 12
California Flats fy.................12
Firsts............ ....10½
Young America fy 14½
Eastern fy........ 16
Oregon fy...... 13

Eggs and Poultry.

Eggs also sagged a cent a dozen and again recovered to exactly last week's quotations. At present the market is firm and sales readily made.

Official quotations of the S. F. Wholesale Dairy & Produce Ex. are:

Fresh ranch extras........ 40
Eggs firsts per doz................32½
Eggs seconds.... .. ..26½
Eastern selected........ 22
Eastern firsts 25
Eastern seconds.... 23
Storage.......... 29

Hens per doz.......... ....4.00@5.50
Hens extra........ ....7.00@8.00
Young roosters.... .... 6.00@7.00
Old roosters...... ....3.50@4.50
Fryers per doz.......... ......5.00@6.00
Broilers per doz........ ......3.00@4.50
Geese per pair........ ....1.75@2.00
Goslings per pair...... ......1.75@@2.00
Ducks young...... ....5.00@6.00
Hen turkeys per lb................20@22
Gobblers live.......... ....20@22
Spring turkeys......... ....22@24
Pigeons young........ ....1.50@2.00

Live Stock.

San Francisco prices gross weight:

Steers No 1...... ....3¾@4
Do second quality...... ......3¼@3½
No 1 cows and heifers...............3
Second quality...... ....2¾
Hogs 100 to 150.........................6
Hogs 150 to 250..................6¼@6⅜
Rough heavy......... ....4¾@5¼
Calves per lb.......... ....3½@4½
Lambs spring...... ....4½
Wethers No 1........ 4
Ewes No 1...... ....3½

Potatoes.

Wholesale market quotations:

River whites fy ....85@90
River whites poor.......... ......50@70
do per box.......... ....1.00@1.15
Early Rose new........ ....75@85
Salinas Burbanks.. ....1.20@1.65
Sweets crates...... ....1.55@1.65

Vegetables.

Wholesale quotations:

Asparagus per lb....... ....7@8
Asparagus No 2..... ....4@5
Bell peppers per box..............30@40
Celery per doz...... ....35@50
Cucumbers per box.... ....30@50
Cucumbers pickle.... ....95@1.25
Cucumbers, pickle No 2..........60@75
Chili peppers per box..............25@40
Corn per sack.......... ....1.00@2.00
Egg plant per box..............35@40
Green peas per lb...... ....2@5
Lima beans........ ....2@3
Squash per box...... ....35@50
Onions green per box...........70@75
Okra per box...... ....30@50
Rhubarb per box....... ....50@65
Tomato River large box..........15@50
String beans........ ....1@4½
Wax beans........ ....2@3
Garlic new........ ....4@5

Onions.

Onions yellow per sack..........50@55

Citrus Fruits.

Valencias fy........ ....2.00@3.50
Grapefruit seedless........ ..2.00@3.50
Lemons ch..... ....2.00@2.50
Lemons fy............ ....3.00@3.50
Limes...... ....4.00@5.00

Fresh Fruits.

Apples green per box............25@50
Apples fy Gravenstines.. ....1.00@1.25
Apples Astrachans........ ......50@75
Crabapples........ ....50@60
Blackberries per chest.... ....2.00@4.50
Figs per crate one layer........40@65
Grapes seedless.... ....40@60
Grapes sweetwater... ....25@35
Grapes Muscats.... ....40@60
Grapes Rose of Peru.............30@50
Grapes Tokays...... ....40@65
Grapes Isabellas crate.... ......40@60
Huckleberries per lb........ ....11@12½
Loganberries........ ... .4.00@6.00
Cantaloupes River nutmegs.... ..15@40
Muskmelons.... ....50@1.00
Nectarines red..... ... .75@1.00
Nectarines white... ....50@60
Pears Bartlett per box..........15@50
Pears other varieties...... ....75@1.50
Pears per ton...... ....15.00@20.00
Prunes lug box.... ....1.00@1.50
Peaches lug box........ ....40@75
Peaches carrier box........ ......55@80
Peaches Mountain....... ....30@60
Aligator pears per doz.......7.00@9.00
Quinces per box........ ....60@75
Raspberries per chest.... ....5.00@7.00
Strawberries per chest...... ..5.00@7.00
Longworths per chest.........6.00@8.00
Watermelons per doz...... ..1.00@1.50

Dried Fruits.

Prunes 4-size basis.. ....3½@3¾
Santa Clara...... ....3½@4
1908s contracted for.... ....4@4½

New crop contracts, 25-lb. lots—Apricots per lb.: Choice, 6@8; fancy 9@10.

PEACHES—Choice 5@6; fancy 6-7

Apples evaporated.... ....4@6
Pears...... ....5@5½

RAISINS—1907 crop f. o. b.; Clusters and layers. 30-lb bxs—Imperial Clusters, 6-crown, $2; Dehesa Clusters, 5-crown, $1.75; Fancy Clusters, 4-crown, $1.40; London Layers, 3-crown, $1.10, do, 2-crown, $1.05. Seeded, 25-lb bxs—Fancy bulk per lb, 6½@7c; Choice bulk, 6ë@7c. Loose Muscatels, 50-lb bxs— Standard, 4-crown, 5½c; do, 3-crown. 4¾c; do, 2-crown, 3¾c; Seedless, 4¾c. Seedless Sultanas— Unbleached, 4¾@5c. Thompson Seedless—Unbleached, 5½@6¼c. Dried Grapes, 4c.

New Crop Raisins—Preliminary prices are named as follows: Cluster—Imperial 6-crown, $2@3; Dehesa, 5-crown $2.50; London Layers, 2-crown, $1.25; 3-crown, $1.35; 4-crown, $2. Thompson's Seedless, 5¾c. Loose Muscatels, 5¾c. for 4-crown, 5c for 3-crown, 4½c for 2-crown and 4¾c for seedless.

Nuts.

Walnuts S S No 1 new crop...12½@13
Walnuts No 2......... ....10@10½
Almonds nonp.... ....11@12
Almonds IXL.... ....10@10½
Ne Plus Ultra........ 10

Beans Dried.

Limas...... ....4.50@4.65
Pink........ ....2.80@2.90
Small white........ ....4.30@4.40
Large white...... ....3.40@3.50
Lady Washington...... ......3.45@3.50
Black eyes...... ....3.00@3.25
Red kidneys...... ....3.00@3.25
Garvanzas.... ....1.75@2.00
Bayo........ ....2.80@2.90
Horse beans.. ....2.00

Hops.

Hops new crop......... ....9@13
Hops old stock.... ....3@6

Honey.

Clear white comb.. ....15½@16
Amber.... ....12@14
Extracted w c.......... ....7@8
Extract light amber...... ......6½@7
Beeswax No 1 per lb...... ......28@30
Beeswax No 2 per lb...... ......25@27

Hay.

In spite of bearish reports hay has advanced in price, at least some of choicer grades have.

Somers & Co. say:

In spite of the holiday season which disturbed operations throughout the country early in the week, shipments of hay during the week ending today have increased somewhat over the arrivals of the past week, the total showing 3820 tons in comparison with 3680. The market presents no new or interesting features, for with the exception of alfalfa and straw, which are dragging a bit, prices on all lines seem to be well maintained. Fancy grades of wheat hay are in rather light supply comparatively speaking, so the high range on this particular kind of hay can be moved up a trifle. Medium grades show no strength, however, and taken as a whole the situation is rather weak than otherwise.

Choice wheat hay.... ......17.00@18.00
Good wheat hay.... ......14.00@16.50
Other grades same........ ..11.00@14.00
Wheat and oat........ ......11.00@16.00
Tame oat........ ....11.00@16.00
Wild oat........ ....10.00@14.00
Stock hay..... ....8.50@10.00
Alfalfa........ ....9.50@13.50
Straw, per bale.. ....45@75

Grains.

Wheat No 1............ ....1.67½@1.70
Barley new........ ....1.30@1.35
Corn large yellow..............1.80@1.85
Oats white...... ....1.45@1.55
Oats gray.... ....1.40@1.55
—Rye new crop........ ....1.45@1.52½

Feed Stuff.

Bran per ton................29.50@31.00
Feed cornmeal per ton.......37.00@38.00

Cracked corn per ton.....38.00@39.00
Rolled barley per ton.....29.00@30.00
Oil cake meal per ton.....36.75@38.25
Cocoanut cake per ton.....25.00@26.50
Middlings..... ....32.50@35.00

Citrus Market

LOS ANGELES, Sept. 23, 1908.

The condition of the orange market is more satisfactory—no great advance in prices but a much firmer tone and quicker sales. About 125 cars remain of the Valencias and these will all be cleaned up before Nov. 1.

Lemons are going forward at about the rate of ten cars per day and at good prices. In fact prices are considerably better than last week.

Shipments.

Shipments of Citrus fruits since Nov. 1 1907 aggregate 28,778 of which 4534 were lemons. To same date last season, 27191 of which 3293 were lemons.

NEW YORK, Sept. 21.—Eight cars of Valencias and three mixed cars sold. There is a good demand for good quality Valencias, but the market is dull and lower on ordinary stock. Grapefruit is very strong. Weather warm and cloudy.

VALENCIAS— Avg.
Bunker Hill fy Cal Cit Union.....2.85
Aurora fy or run E Peycke Co.....3.10
Climax ex ch or run E Peycke Co..2.65
Golden Orchard Ind Ft Co.....2.90
Citrus Belle ex ch Ind Ft Co.....2.40
Cerrito fy L V W Brown.....4.50
Swastika ch L V W Brown.....3.25
Blue Globe Riv Ft Ex.....3.45
Red Globe Riv Ft Ex.....2.50
California Orange Riv Ft Ex.....2.05
Red C Covina Ft Ex.....3.35
Quail OK Ft Ex.....3.25
Old Mission fy C C Chapman.....4.95
Old Mission ch C C Chapman.....4.35
Golden Eagle std C C Chapman...3.35
Lady Rowena..... ....2.45
San Rafael fy N W Bailey.....3.30
San Pasqual ch N W Bailey.....2.75
Premium ch Benchley Ft Co.....3.20
Pickaninny ch Fullerton..... ..2.65
Orchard or run National O Co.....3.65
Standard std National Orange Co..2.95
GRAPEFRUIT—(Halves.)
Blue Globe seedless Riv Ft Ex....4.35
Cerrito fy L V W Brown.....4.80
LEMONS—
Columbia..... ....2.20

PITTSBURG, Sept. 21.—Three cars sold. Ten on track. The market is unchanged on Valencias, steady on lemons. Weather fair.

VALENCIAS—
Big Find..... ....2.90
Quail OK Ft Ex 3.15
Coyote OK Ft Ex.....2.30
Blue Jay OK Ft Ex.....2.15
LEMONS—
Las Fuentes CrockerSperry sumld' 2.05
Montecito Crker' Sperry sumld'....2.05

CLEVELAND, Sept 21.—Market is weak. Weather warm. Two cars sold, two on track.

VALENCIAS—
Picnic Semi-Tropic Ft Ex Whittier 1.30
LEMONS—
Pet San Antonio Ft Ex San Dimas 2.80
GreyhoundSan A. Ft Ex SanDimas 2.80
Duck San A Ft Ex SanDimas....1.35

PHILADELPHIA, Sept 21.—Three cars Valencias and one car lemons sold. Eight cars on track. Market fair. Weather cool, cloudy.

VALENCIAS—
Ex ch or run Semi-T Ft Ex N'hoff 3.27
Puritan, SB Ft Ex Rialto.....3.44
Tallyho SB Ft Ex Rialto.....3.18
Lighthouse std Cal Cit Union.....2.19
LEMONS—
Selected fy N W Blanchard.....2.70
Loma ch Limoniera Ft Co.....2.44

CINCINNATI, Sept. 21.—Weather warm. Market is steady. One car sold. Two cars on track.

VALENCIAS—
Greyhound San A Ft Ex NPomona 2.90

BOSTON, Sept. 21.—Three cars sold. Sixteen on track. The weather is cool. Market is unchanged.

VALENCIAS—
Parrot San A Ft Ex Pomona.....3.30
Sweetheart Highgrove Ft Ex HG...3.50
LEMONS—
Selected fy N W Blanchard.....2.05

ST. LOUIS Sept. 21.— Weather warm. Prices are low on Valencias on account of the quality of the fruit being offered. Market steady on lemons. Two cars sold. Four on track. One car of Mexican oranges were offered but withdrawn.

VALENCIAS—
Pico Semi-Tropic Ft Ex Whittier..3.00
Picnic Semi-Tropic Ft Ex Whittier 3.00
LEMONS—
Las Fuentes Crker'-Sperry Co Sld' 2.85
Montecito Crke'-Sperry Co Smld.'..2.60

NEW YORK, Sept. 22.—Five cars Valencias sold. The market is unchanged. Weather cloudy, threatening.

VALENCIAS— Avg.
Gypsy Queen M && Greene.....3.00
Tropical Queen M & Greene.....2.80
Sombrero 3.20
Golden Orchard Ind Ft Co.....3.10
Blue Seal ACG Ft Ex.....4.15
Red Shield ACG Ft Ex.....2.95
Green Crown ACG Ft Ex.....2.60
Planet SS Ft Ex.....3.25

BOSTON, Sept. 22.—Four cars sold. Fourteen on track. Weather favorable. The market is firm on good stock.

VALENCIAS—
Setter AH Ft Ex Prenda.....3.35
Stag ACG Ft Ex Azusa.....4.10
Pointer ACG Ft Ex Azusa.....3.80
Bunker Hill Cal Cit Union.....3.25
LEMONS—
Mission ST Ft Ex Santa Barbara..1.75
Festival ST Ft Ex Santa Barbara..1.30

Ticks—Fleas.

Continued from page 307.

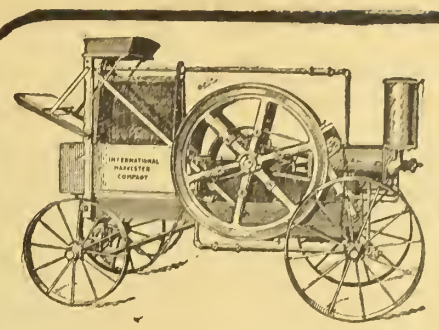
material should be frequently changed, and wild ferns or bracken, if it can be obtained, will be found much less infested by them than straw. The birds themselves should be treated individually, a mixture of two parts buhack (or powder bearing any other name,) and one part powdered sulphur, being well rubbed into the plumage. The heads should be touched with carbolized oil, or oil with a little kerosene in it, which can be slightly applied under the wings. A French paper states that these pests may be kept away from nests by blowing out an egg through holes in the two ends, and placing therein some eucalyptus oil. This is done by cutting a few long narrow strips of sponge, moistening them with water, and then rolling them tightly and closely with twine from end to end. When dry, the twine is unwound, the sponge retains its shape, and can be passed endwise through the hole into the shell. Eucalyptus oil is then dropped in to saturate the sponge, the holes are sealed up with wax, and the oil exhales through the shell.

The house should be thoroughly sprayed with distillate or a very strong distillate emulsion. Later whitewash.

California Cultivator:

There are still people left who think it is wicked to play billiards or pool, because there is gambling done in many Billiard Halls. But they are fast dying out or being converted; for the wrong of gambling is in the gambler and not in the game. It isn't a sin to have red hair just because a couple of men bet on the number of red-haired girls they will meet, is it; and who would throw out his piano because it is an instrument used in disreputable houses?

As a matter of fact there are no games on earth that are cleaner, more innocent than Billiards and Pool. They are truly games of skill; there is not a particle of chance in them, which cannot be said of the parlor games sunday-school children play.



Are solving the hired help problem for hundreds of farmers.

Vertical Engines made in 2 and 3-Horse Power.
Horizontal Engines (Portable and Stationary) made in 4, 6, 8, 10, 12, 15 and 20-Horse Power.
Air Cooled Engines, 1-Horse Power.
Traction Engines, 10, 12, 15 and 20-Horse Power.
Also sawing, spraying and pumping outfits.

I·H·C GASOLINE ENGINES

YOU offer high wages, and still find it difficult to get hired men. Why not do as other progressive farmers are doing—let one of the dependable and ever ready I. H. C. gasoline engines be your hired man?

Suppose you want to grind feed, pump water, operate the churn, grindstone, fanning mill, separator, bone cutter, or saw wood. With an I. H. C. engine you will need no extra help. You can run the engine and attend to the machine yourself.

In the same way it can be used too for irrigating—pumping from wells, lakes, ponds and running streams. The operator can handle the head of water in the field and also attend to the engine.

The engine will work for you indoors or out, in wet or dry, hot or cold weather. You will have no difficulty in operating or controlling it.

Only a few cents per hour is required for fuel. All I. H. C. engines use either gas, gasoline or denatured alcohol.

Please notice in the above list of styles and sizes that there is an I. H. C. gasoline engine adapted to practically every farm requirement.

You can have a small engine which you can easily move from place to place, as your work requires, or you can have a larger engine for stationary use. The efficiency of all I. H. C. engines is well known. You cannot possibly have any better guarantee of a dependable engine than one of these engines affords.

Call on the International local agent for catalogs, and inspect these engines. Write nearest branch house for colored hanger and booklet on "Development of Power."

WESTERN GENERAL AGENCIES: Denver, Colo., Portland, Ore., Salt Lake City, Utah, Helena, Mont., Spokane, Wash., San Francisco, Cal.

INTERNATIONAL HARVESTER COMPANY OF AMERICA, Chicago, U.S.A.
(Incorporated)

Nothing is better for man or woman, boy or girl; it combines a gentle physical exercise with the exercise of the highest skill, developing a steady hand and a trained eye like nothing else can. A home with a Billard Table is more of a home than it would otherwise be, and nothing is more productive of good morals, family happiness, success in life than to have the home life as attractive as possible.

Secretary of the Treasury Leslie M. Shaw undoubtedly had this in mind when he said "Install the boy in your home and keep him home as much as possible. Has he a penchant for Billiards? Get him a table, even if it be a miniature one. The more hours each day your son spends at home the more and sooner he develops a clean, healthy, social temperament."

Of course the regulation Table, which weighs a ton, costs a fortune and needs a special room is out of the question except in the houses of the very rich. That is why my portable Tables are selling so rapidly, for they may be used in any room, and are made in so great a variety of styles, sizes and prices that they are within the reach of all.—C. Ridderhof, Laughlin Bldg., Los Angeles Cal.

I saw a woman in a street car open a satchel and take out a purse, take out a dime and close the purse, open the satchel and put in the purse and close the satchel. Then she gave the dime to the conductor and took a nickle in exchange. Then she opened the satchel and took out the purse, closed the satchel and opened the purse, put in the nickle and closed the purse, opened the satchel and put in the purse, closed the satchel and fastened both ends. Then she felt to see if her hair was right and she was all right. This was a woman.—Green's Fruit Grower.

A WORD FROM JOSH WISE.

"Men sneer at women's shoppin', but when women shop they don't have ter eat cloves to disguise what they've been buyin'."—McAlester Daily Capital.

A fruit grower of Benton county, Oregon, having a 19 acre ranch in the famous Willamette valley was recently offered $15,000 for 19 acres. This is said to be the highest offer for fruit land yet made in Oregon.

A 10 YEAR ROOFING GUARANTEE.

In the advertising columns of this paper the United Roofing and Manufacturing Co. are offering to every purchaser of 3-ply Congo Roofing a National Surety Co. guarantee bond, which covers a period of 10 years. This Company is one of the largest Surety Companies in the world, (capital and assets of about $2,000,000) and when they back a proposition there must be a great deal in it or they would not have risked their reputation on something about which there could be any question.

The Congo people are desirous of making this roofing the most used in the world, and with their usual foresight hit upon this excellent plan of giving the buyer satisfaction as well as increasing their sales. The bond is a plain statement of what they can and will do, and offers such protection that no prospective buyer can afford to overlook. This bond means protection to you.

It isn't necessary to buy the roofing to learn the contents of the bond—which is another pleasant feature. By writing to the United Roofing & Manufacturing Co., Philadelphia, Pa., they will be glad to send you information regarding same and sample free.

WHAT THE GROUND CONTAINS

is a question which many farmers have tried to answer. Its treasures of minerals and of pure water should be revealed by the use of "American" Drilling Machinery. Every neighborhood should organize a company and by working together and sharing the prifits and advantages wherever found, great additions to wealth of the community as well as the individuals would result. Any of our readers who are interested in this question should write for the new illustrated drilling catalog of the American Well Works, Aurora, Ill.

IT'S PENNY WISE

Policy to set out a good tree, costing good money, and then let the sun burn the bark or the rabbits gnaw it, when for $1 an acre you can get Yucca Tree Protectors that are practically indestructible. Write for free sample of the wrap. Yucca Manufacturing Company, 1380 Willow street, Los Angeles.

Campbell's Dry Farming Manual free.
See "Shop Talk" on editorial page.

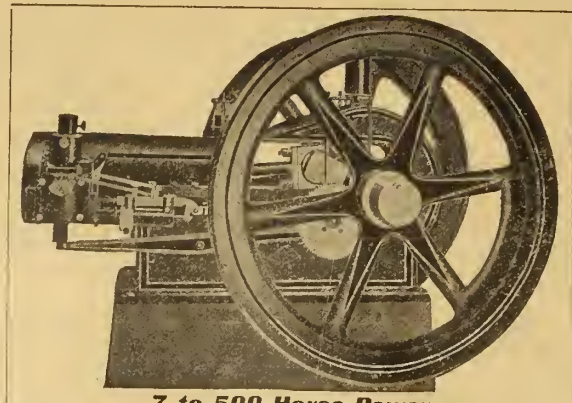
The Popular

Western

Built In the West Best For the West

FACTORY AT YOUR DOOR

LONGEST LIFE LEAST FUEL FEWEST PARTS ALWAYS GOES



7 to 500 Horse Power

Irrigation Plants Designed Constructed Installed

U. S. GOVERNMENT TEST

35 H. P. Western Engine Been Run 2 Years

RAN 87 DAYS DAY AND NIGHT

With One 20-Minute Stop to Lace a Belt

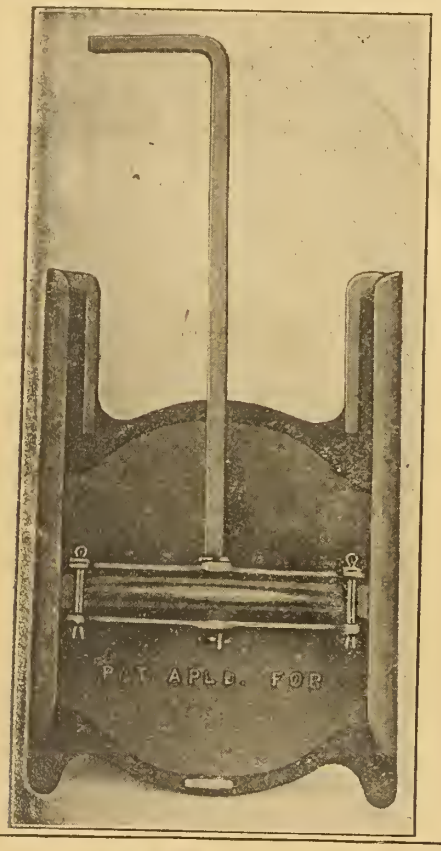
Send for the Copy of Test

Western Gas Engine Co.

Works and Office:

908 to 932 No. Main St. Los Angeles, Cal.

Send for Catalogue.



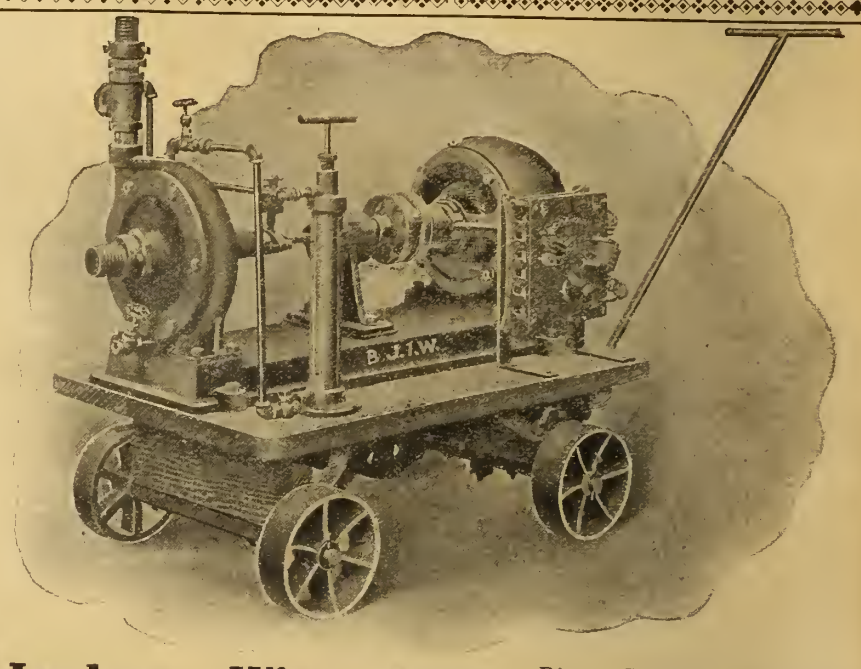
Pomona Pressure Gates

A Great Aid in Irrigation

These gates are made similar to the ordinary slide gates except that there is a locking device interposed to lock the cover in any desired position or to press the two faces together to make a WATER TIGHT joint, from either direction when closed. The parts are very simple, only a tapering screw with a split tapering nut socket. By turning the handle to the right tightens, and to the left loosens the cover or it may be removed entirely.

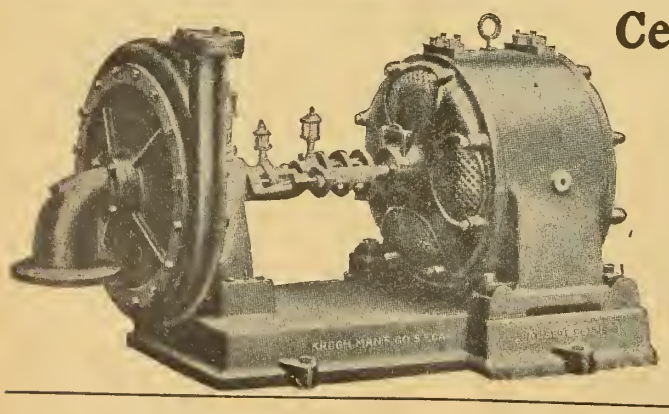
Pomona Mfg. Co.

Pomona, Cal.



Jackson Wine Pump Direct Coupled to Motor and Mounted on Truck. Write for Bulletin 25.

Works: Carlton Station West Berkeley **Byron Jackson Iron Works** Branches: San Francisco Los Angeles Portland



Centrifugal Pumps

For high or low heads

Direct Connected or Belt Driven

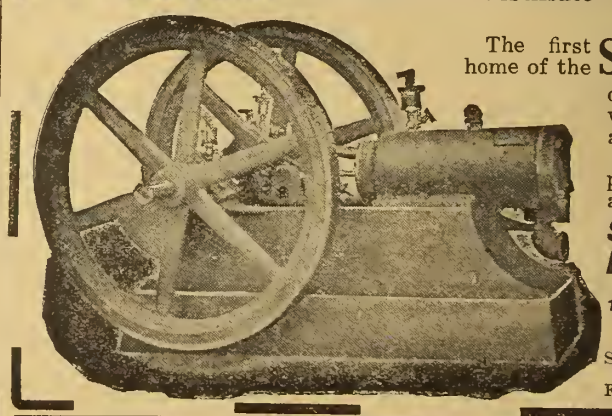
Highest obtainable efficiency

Krogh Man'f'g. Co.

127 to 123 Beal Street SAN FRANCISCO, CAL.

Send for New Catalogue No. 50 just issued.

Samson Gasoline and Distillate **Engines**



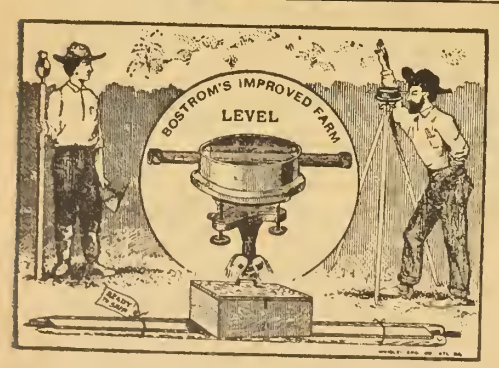
The first home of the **SAMSON** engine is a large one. It's second home, which is everlasting, is a happy one.

They may be compared with the sea—always ready to roll.

Samson Iron Works

Office and Factory: 1100 to 1198 Aurora St. Stockton, Cal.

BRANCHES: San Francisco, Cor. Market and First Sts. Fresno, 920 J St.

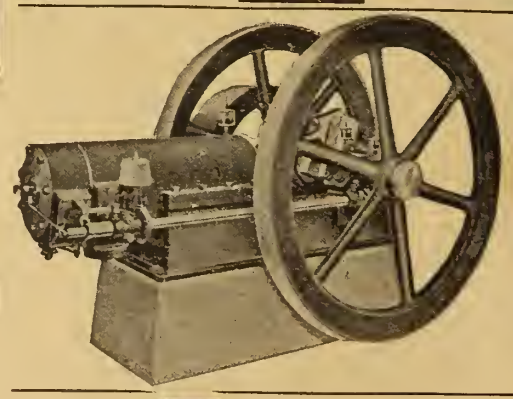


BOSTROM'S IMPROVED FARM LEVEL

Used for irrigation and drainage work. Cheapest and best level yet invented for farm use. Has the latest patented improvements in simplicity and usefulness. Can be operated by any one. Price including telescope tripod and target rod $15.00.

PALACE HARDWARE COMPANY 581 Market Street, San Francisco.

Coast Agents. Send for Circular.



HERCULES DISTILLATE ENGINE

Heavy, Strong and Simple in Construction

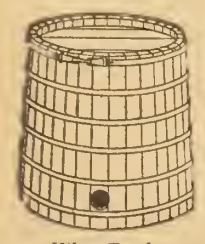
The Right Engine at the Right Price

Horizontal and Vertical; All Sizes. Buy direct from the manufacturer and save agent's commission. Send for our new Catalogue C.

The Hercules Gas Engine Works

351 Market St., San Francisco

Telephone Douglas 3630



Wine Tank

Tanks Tanks

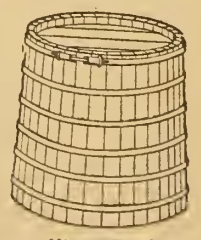
WINDELER'S PLANING MILL AND COOPERAGE

GEO. WINDELER, Prop

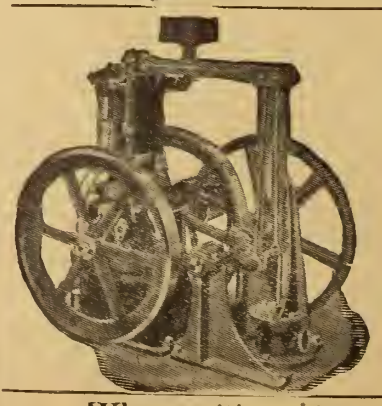
Water Tanks, Wine Tanks made from carefully selected stock by careful and experienced workmen. "Tanks that are well made last a long time." It will pay you to get my prices before buying.

Geo. Windeler

144-154 Berry St. San Francisco, Cal.



Water Tank



A Handy Little Engine

Just the thing to run the feed cutter, the pump, the churn, the grinder, or anything on the ranch. It's well named

The Little Wonder

Write or call on

Wm. Gregory

602 No. Main St. Los Angeles, Cal.

ARNOTT HARNESS $10.00 to $80.00

Everything guaranteed. Money back if not satisfactory. Factory in Los Angeles. California leather for all uses. Send for No. 10, eighty page FREE Catalogue.

ARNOTT & COMPANY 112–118 So. Los Angeles St. Los Angeles, Calif.

UNIVERSITY of ILLINOIS

California Cultivator

Published Weekly — One Dollar a Year

Los Angeles — October 1, 1908 — San Francisco

The Automobile in Farm Life

More and More the Chug Wagon is Entering Into Rural Communities. It Is a Horse Saver, It Is Quicker, and With Intelligent Handling Is Not So Expensive as Many Imagine. It Is Also Given a More Extended Usefulness in Duties To Do, Which Make It a Convenient Farm Factor

WOOD PIPE

Made from California Redwood or Selected Washington Douglas Fir

NATIONAL WOOD PIPE CO.

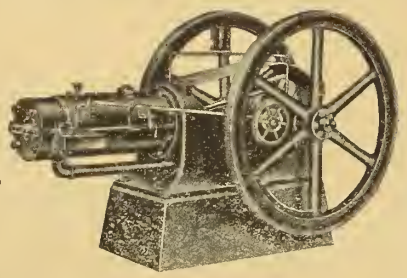
Stave Pipe 2 inches to 10 feet Diameter up to 400 feet Head

SAN FRANCISCO OFFICE. 318 MARKET ST.
LOS ANGELES OFFICE, 404 EQUITABLE BANK BUILDING
OLYMPIA, WASH. SALT LAKE CITY, UTAH

Prices, specifications, hydraulic data, and general information furnished upon request,

Commercial Gas Engines

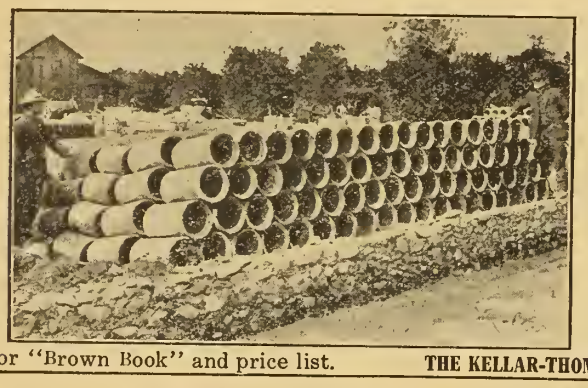
Are what all engines should be:
Simply Perfect and Perfectly Simple



Modern in every detail. An inspection will convince you. Write for Bulletin No. 12

Commercial Engine Co.

953-955 N. Main St. Los Angeles, Cal.



From photograph showing amount of

Ten-Inch Pipe

made by four men from 10 bbls. of cement in 9 hours — 280 two-foot joints, or 560 feet. This pipe was made with the

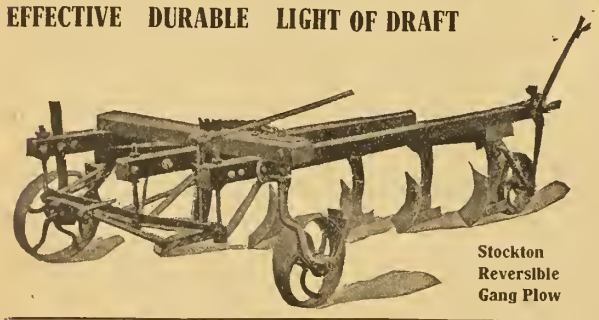
"K T" Moulds

An equal amount can not be made with any other tools in the same period of time. Write for "Brown Book" and price list.

THE KELLAR-THOMASON MFG. CO., Covina, Cal.

The Cheapest Way

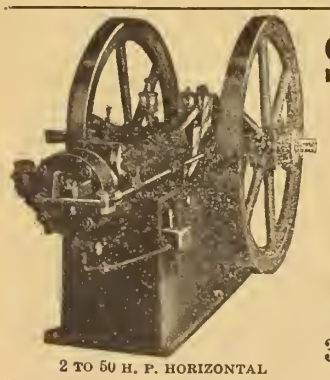
EFFECTIVE DURABLE LIGHT OF DRAFT



Stockton Reversible Gang Plow

This is our regular Plow with Land Shifter and Rear Lever. Land Shifter simple and durable. It is in easy reach of operator and there is no danger of wheel running over foot.

Houser & Haines Mfg. Co Stockton, Cal.



2 TO 50 H. P. HORIZONTAL

STOVER GAS ENGINES

The simplest and the best. We have had long experience installing pumping plants. We know our business. See us before you buy. 2 to 50 H. P.

LIVINGSTON & LEE

352 So. Los Angeles St., Los Angeles, Cal.

PLOWS AND SEEDERS

Ranchers, don't forget that we are headquarters for the **Fosmir Plow** and extras for same and also the **Shaw Stockton** and **Madison & Williams Stockton.** All the extras in stock for above plows. Also **Pacific Seeders.** A postal card will get you any of the above articles at the right prices.

Los Angeles Vehicle and Implement Co. 110 and 112 North Los Angeles Street Los Angeles, California

When writing advertisers, mention Cultivator.

Do You Want a Good Incubator?

WE WANT A GOOD LIVE AGENT

In every locality in the U. S. Send today for free illustrated catalogue, it contains useful information, poultry lectures, prices, description, etc. We positively can sell you a better Incubutor for less money than any other concern. Prices prove it. Investigate, that is all we ask. Success Incubators are used by Pioneer Hatchery Co., Los Angeles, the largest chick dealers in the world. Write to day for catalogue anyway.

E. E. McClanahan, 108-10-12 E. 8th Street, Los Angeles, Cal.

14000 Owners will Testify

TO THE

Reliability and Low cost of..... UPKEEP

—OF—

Rambler

Cars and whether for business or pleasure it will prove to be

—THE—

Car of Steady Service

Thomas B. Jeffrey & Company

117-125 Valencia St.

HOME OFFICE KENOSHA, WIS.

SAN FRANCISCO, CAL.

GOPHER DOPE

Gophers destroy annually a large per cent of the crops, trees, lawns, etc., and they are a great nuisance to land owners all over the country.

The Gopher drives burrows or tunnels of very great extent and wherever it gains admission into a garden it works much damage to the roots of the plants. Every root that crosses the tunnel the Gopher will eat and not only herbs and flowers but even fruit trees of many years' growth have been killed by this destructive animal. In such cases the extremity of the tunnel is always to be found among the roots of some tree, which acts at the same time as a defense and a larder, for the Gopher hides itself under their protection and eats away their tender shoots.

A great many things have been devised to exterminate this pest with some success. Gopher Dope works on a different plan. It is in a powdered form and about one-quarter ounce placed well down in each hole and also in the run ways will soon rid the place of gophers. It gets in their eyes and pouches and on their feet. They track it through their tunnels. They will not stay where it is used. It will not harm domestic animals or fowls. It must be used thoroughly and systematically, the Gopher given time to work in it and any new holes thoroughly treated. If this is done you will soon find the place free from them.

Do not irrigate for one week after the dope is used.

Gopher Dope is sold in 50c, $1.00 and $4.00 tin cans, and is for sale at grocery, drug and hardware stores, also at feed yards, and is absolutely guaranteed or money refunded.

Free on board cars at Los Angeles. Live agents wanted in every county.

Yours very truly,

B. & G. Disinfecting Co., 415-417 Laughlin Bldg., Los Angeles, Cal.

Home Phone A 9089

Cultivator Order Blank

_____ 1908

CULTIVATOR PUBLISHING CO.,
115½ No. Broadway, Los Angeles, Cal.

Gentlemen—Enclosed find $_____ for which please send the **Cultivator** for one year to the following, or credit on my account from _____ 190— to _____ 190—

NAME	P. O. ADDRESS	STATE

Are you an old or new subscriber? _____

SIGNED _____

ADDRESS _____

California Cultivator

Vol. XXXI.—No. 14 Los Angeles, California, Thursday, October 1, 1908 Subscription $1 a Year

Protecting Fruits from Damage by Frost

Suggestions From a Weather Bureau Bulletin Which May Be of Value to Fruit Growers During the Next Few Months

THE PROBLEM of protection from frost may be considered under four sections, as follows:

1. The issuance of adequate frost warnings.

2. A discussion of the physical processes operative in the formation and dissipation of frost.

3. The construction of devices and apparatus based upon the principles enumerated in No. 2.

4. The intelligent use of these devices so that a maximum efficiency may be obtained at the critical hour.

In California frosts are found to occur under certain pressure conditions. A period of strong north winds followed by clear skies is a period of danger. Frost is essentially a problem in air drainage and some knowledge of the movement of the air over the ground, or in other words, the local air circulation, is essential for successful frost forecasting. The chief cause of cooling is undoubtedly radiation, and this is controlled to a large degree by the relative purity and stillness of the air. When, therefore, the lower air strata are quiet and dust free, also vapor free, conditions are favorable for intense radiation; and consequently rapid cooling of both vegetable fibre and the soil. All fruit growers should carefully study the weather conditions preceding frost in their localities. The district forecaster at San Francisco and observers at any Weather Bureau station will gladly receive suggestions in the matter of local air drainage and frost formation and will, so far as their time permits, investigate and report upon local features.

Under the second heading, discussion of the physical processes involved in frost formation, we would call attention to the following ways of preventing the fall in temperature:

1. Adding heat.
2. Adding water vapor.
3. Adding both heat and water vapor.
4. Ventilation, or mixing of the air.
5. Irrigation, or use of water.
6. Use of heated water.
7. Use of screens or covers, preventing loss of heat by radiation.
8. Spraying.

All of the above processes can be found explained in detail in publications of the Weather Bureau. The action of water in any of its forms; whether solid, as ice or frost; fluid, as water; or gaseous, as water vapor, is protective. Large amounts of heat are given off in the change from vapor and from liquid to solid. Theoretically, it is possible by the application of sufficient water to prevent injury by frost. As the plant cools, owing to radiation and an indraft of cold air, the vapor present condenses, giving free a large quantity of heat, something like 600 calories; and if the water turns to frost, more heat is set free, about 800 calories. If, for example, in an ordinary rain gaage enough frost has formed to weigh, when melted, about an ounce, then the latent heat of condensation is approximately 908 times 680, or 617,440 calories, enough to raise the temperature of the air at freezing 4 degrees over a space of 10 feet square and to a considerable height.

Note also that the water plays an important part when the sun rises and the warming of the vegetable fibre begins. Here the water retards the heating, and is thus very beneficial. Chilled plants sprayed with cold water about sunrise are less liable to injury. The latent heat of evaporation and fusion now comes into action in an opposite direction, the heat being utilized in changing the frost into water or the water into vapor. This, in the writer's opinion, is the critical period, and he believes that more injury results from the too rapid warming of plant fibre after it has been chilled than from the chilling itself. He has known of cases where delicate flowers have been incased in ice and yet no injury resulted, largely because the thawing out was gradual. In examing many orchards it has been ascertained that the portion most exposed to the sun's heat in the morning is, other things being equal, the portion of greatest injury. Up to the present time the chief effort in frost protection has been to prevent loss of heat by radiation from the ground; and protective methods have been rightly based upon the possible saving and storage of heat. But it may be none the less profitable to study the problem from a later stage, namely, the period of the chilled fibre. While it is not definitely known what action during frost causes the death of the cell tissues, whether it be a rupture of cell walls or a separation and withdrawal of water content, it would seem that we could not err in guarding the plant fibre from any strain due to rapid and unequal heating when in a chilled condition. Beginning before sunrise, some screen or covering should be intersposed between the fruit and the sun's rays. For the reasons given above it is also advisable to apply water. It may interest fruit growers to point out to them that the actual temperature of the air is probably of less importance in frost formation than the cooling of the plant surface due to radiation. Nearly all fruit growers now understand that after sunset, if there be no clouds present and but little motion of the air (though it is well to test this by watching the flow of smoke near the ground) the plant surface emits heat rapidly into space. The under surface of the foliage, of course, intercepts heat from the ground, and so we seldom find frost forming under a tree. The convective currents of the air are generally sluggish and there is, as a rule, little mixing of the air strata, or no thorough circulation at such times. Helmholtz has shown that layers of air of different temperatures may lie close to one another without mixing, and indeed this is known to be the case not only near the ground but even in free air. Doubtless herein lies the explanation of the streakiness of frost. We have examined orchards which were apparently level; and yet upon close inspection it was found that although there was no noticeable slope of the ground, there were certain channels of air motion and certain stagnant zones. The frost streaks were found to coincide with the stagnant areas. Much, however, depends upon the nature of the radiating surface.

The warming or the chilling of the ground has not much effect upon the air at a distance of 10 or 12 feet. That is to say, the rate of heat conduction from one layer to another is very slow. Therefore, it is not unusual on frosty nights to obtain readings of 32 degrees F. at the ground, while at 6 to 10 feet above the ground the temperature may be 36 degrees or 38 degrees F.

Under the third head, viz., the construction of devices and appratus for use in orchards, vineyards, gardens, etc., we believe that each local forecaster can contribute materially to successful work by examing in situ any device brought to his notice. It is suggested that he read up the history of the wire coal baskets, first used by Edward Copely at Riverside, California; the use of oil by Everett at Arlington; the application of hot water, first used by Meacham; the smudge machines of Hall, Hammond and others; the oil pots; and the small, cheap, sheetiron stoves in which briquettes are burned and which are now on the market. The methods of protection by covering, whether cloth or lath, should be looked into. The question of expense will determine the availability of the method. In California the diversity of interest is so great that no general recommendation can be given, and in each locality the local forecaster should fit the method to the fruit. In the Riversire, Redlands, Colton section the orange naturally claims first attention; at San Diego, both lemons and oranges; in the foothills of the San Joaquin, oranges; in the valleys, the raisin vines in the spring; in the Sacramento valley, the garden truck; in the Bay valleys, the almonds against the late spring frosts; and in Northern California, the deciduous fruits. In all directions there is room for improvement. And not only in the construction of apparatus, but in the manner of application. Particularly valuable are cases where apparently effective devices fail to accomplish the desired protection. Such cases should be studied and the reason for the failure ascertained. This constitutes progress.

Under the fourth heading—the use of our knowledge so that a maximum good may result—much of what has been said above is applicable. As an illustration, we may instance the case of a large number of fruit growers in a certain section working together. The result was success, where individual effort previously had not been altogether successful. Study your community, as well as the physical problem or the efficiency of the machine.

"Irrigation and drainage, the one putting water where it is needed, the other removing it from where it is superfluous, will add great wealth to the country as time passes. Five million acres of land, provided with water, will be ready for settlement in 1908. The settlers on this land, many of whom will have no knowledge of irrigation forming, may make mistakes at first, but their ultimate success is beyond doubt. If all of this new area came under cultivation at once the crops, plus those now produced on irrigated land, would be worth at present prices $250,000,000. It is believed that even in the East irrigation as a kind of crop insurance will be valuable, and better knowledge of its possibilities will no doubt lead to an extension of the practice throughout some regions where the rainfall is sufficient under usual conditions."—[James Wilson, Secretary of Agriculture.

A parcel can now be mailed from any post office in the United States to any post office in Bolivia, a distance of 4000 miles, for twelve cents a pound. The domestic parcels rate in this country is sixteen cents a pound. Congress ought to explain why foreigners are allowed this advantage in the mails. It has become a glaring case of neglected home interests.

EVERYTHING FOR THE FARMER

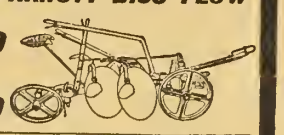
ARNOTT ORCHARD CULTIVATOR

Acknowledged the BEST Five feet wide. Spring teeth if wanted. Horizontal lift. No neck weight.

Steel and Malleable Iron. Dust proof wheels..... $45.00

SANDERS-ARNOTT DISC PLOW

SINGLE $60.00



DOUBLE $80.00

COLUMBUS WAGONS

Three inch Skein. Four inch Tire. Brake and Pole. $80.00

PACIFIC ORCHARD TRUCK

3¼x10 Skeins. 28x30 in. wheels..$32.50

LEATHER TRIMMED

Guaranteed Twelve Months $65.00

MONITOR WINDMILL

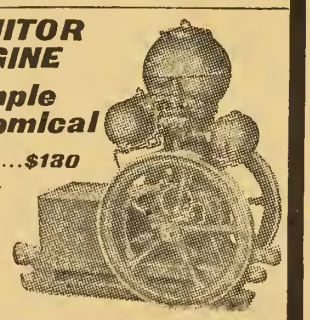
8 ft.....$30.00
10 ft..... $45.00

The New 8 and 10 Foot MONITOR

MONITOR ENGINE

Simple Economical

2 H. P....$130
4 H. P. $250
6 H. P. $350



Catalogue No. 9 Sent Free on Application
Address Department G.
ARNOTT & COMPANY Inc.
112-118 South Los Angeles Street — ARNOTT QUALITY GUARANTEED — Los Angeles California.

When writing advertisers, mention Cultivator.

Notice to Orchardists

Now is the time to plant your cover crops. Plant Vetch, Blue peas and White peas in sandy soils or where there is slight alkali. Plant Burr Clover or Foenugreck on heavy soil. Write us for prices and for any particular information you may wish.

Johnson & Musser Seed Co.
113 N. Main St., Los Angeles, Cal.

Wanted, Farmers

to write for my Portable Billiard and Pool Table Catalog Do it today and be convinced that you can't afford to miss the worlds of pleasure there is in one of these. All sizes, all prices.

C. Ridderhof, Laughlin Bldg., Los Angeles

When writing advertisers, mention Cultivator.

Device for Covering Fumigation Generators

By R. S. Woglum and Frederick Maskew of the Bureau of Entomology of U. S. Dep't. of Agriculture.

FOR several months the force in charge of this investigation has been at work on a device by means of which to interrupt the direct rise of hydrocyanic acid gas from the open style of fumigation generator. The result of these efforts is given herewith.

The device itself consists of a copper cover of such size as to make it available for use with any of the regular pattern of generators now employed by the fumigators of Southern California. Stamped in a concave form from a sheet of copper, with corrugations to permit the escape of gas, the natural lines not only conform to the size of the opening of the generators of different capacities but also direct the course of the escaping gas downward and distribute uniformly throughout the lower part of the tent. Attached by hinges of stout copper wire which are secured by a key-bolt passing through the handle it is self-contained, no parts to lose

Raised by a slight pressure of the

thumb on a projection which is curved in such a manner as to insure the cover remaining in an upright position when so required and swinging clear by its own weight when the generator is emptied of its contents, its use has shown it to be simple, strong and durable. A glance at the illustration will satisfy the practical fumigator that it is adapted to all the requirements of rapid work in the dark.

Advantages of Such a Generator Cover.

When heavy dosages or fine cyanide are used a common resulting effect is the burning and ultimate dropping of many leaves or fruit if present, directly above the generator and which happened to be in the pathway of the rapidly rising concentrated stream of gaseous matter. This result is usually spoken of as "chimney" effect. The generator cover elimates this "chimney" burning.

Saves the Tent.

A second and highly important point is the effect of these open generations on the tent. The outer part, or skirts as they are sometimes called, of fumigating tents are constantly being perforated with small holes, even with the most careful of workers. We have noticed this effect to some extent in our own outfit, than which we believe no fumigation outfit could be more carefully handled . These holes from their nature are known to be acid burns. A few simple tests which we have tried have demonstrated to us conclusively that many of these acid holes are due to acid carried along with the generations of gas and which reaches that part of the tent nearest the generator. We have found acid drops to be carried as much as five feet above the ground in open generations.

In field work the generators are frequently placed as close as two feet to the edge of the tent. This new device so deflects the gas and incidentally such acid as is carried with it, that the drops of material are thrown to the ground, thus saving the tents. The decreased cost in mending of tents will doubtless pay for the cost of such a cover-device several times over in a season of fumigation

Better Distributions.

A third point which we have not as yet demonstrated but which we have reason to believe might result from experimentation is a better distribution of gas through the tent. At present the most difficult part of the tree in which to destroy insects is the lower part. This is also the part of the tree in which purple scale is largely to be found. With the open generation the gas rises straight up in a narrow column for several feet, being broken up and distributed through the top of the tree first. As the gas is lighter than air we would not expect that it would almost immediately become uniformly distributed through the bottom of the tent, even if at any time it becomes as concentrated here as at the top, The greater burning effect, and better killing effect in the top of the tree would tend to substantiate this assumption.

Field observations in fumigating large trees show that the gas is of no great strength at the lower part of the tent for several moments after the charge is set off. With this new style cover the gas is broken up and distributed through the bottom of the tent first. By the time it reaches the top it is pretty generally distributed throughout the tent. As the bottom of the tree is among the first to receive the full benefit of the gas we would be led to expect as complete a killing of scale at the bottom, if not better than in an open generation.

HISTORY OF FERTILIZING.

IT WOULD be impossible to say who first observed the difference between the growth of wheat in places where the cattle had rested and other parts of the field, but we may safely say that whoever it was, he knew not the reason why.

Aristoteles, 300 B.C., advanced a soil theory in which he compared plants with animals, calling the soil the digestive organ of the plants. This theory was not seriously disputed until 1600 A.D., when Von Helmont advanced his water theory. He dried a certain amount of earth and weighed it, after which he weighed a cutting of willow and planted it in a tub in the weighed soil. He watered the soil every day for five years and the willow grew and became a large tree. He then weighed the tree and again weighed the soil and found that while the tree had greatly increased in weight the soil had lost but very little. From which he concluded that the willow had derived its food from the water.

Those were the times of alchemists, and very few were thinking of anything so insignificant as plants, when seemingly the making of gold was just within their grasp. It was not until 1774 that the first step was taken in the right direction. At that date Priestley discovered the first chemical element, oxygen, and in some experiments with plants under glass he found that plants could live in air which was poisonous to animals. He did not know that the cause was carbon dioxide, but he thought that whatever it was it must be a plant food.

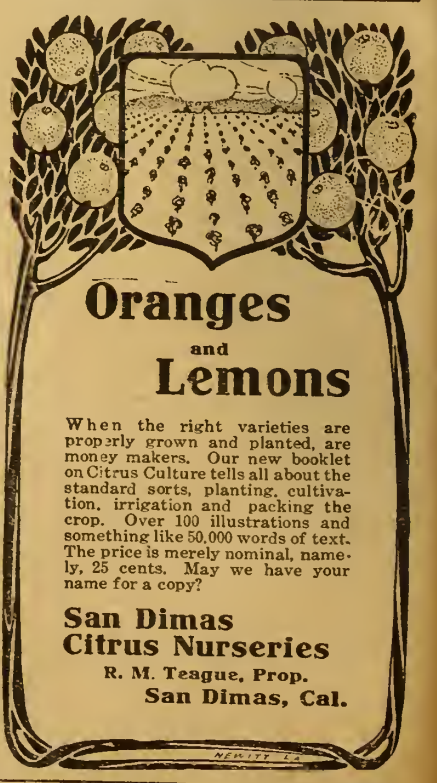
We see that the theories ran the whole gamut through soil, water and

SAMSON WIND MILLS

Have double gears, removable bearings and center lift, which double the life of the mill. They will last longer, pump more water and give better satisfaction than any other WIND MILL.

This is an up-to-date Sub-structure, Tank and Wind Mill outfit complete; substantial, economical and attractive. We build all kinds. Write us or our general agents for full information and prices, description &c., before purchasing.

The STOVER MFG. CO.
FREEPORT - ILLINOIS
30 California Avenue
CRANE CO., LOS ANGELES and SAN FRANCISCO
General Agents for California



Oranges and Lemons

When the right varieties are properly grown and planted, are money makers. Our new booklet on Citrus Culture tells all about the standard sorts, planting, cultivation, irrigation and packing the crop. Over 100 illustrations and something like 50,000 words of text. The price is merely nominal, namely, 25 cents. May we have your name for a copy?

San Dimas Citrus Nurseries
R. M. Teague, Prop.
San Dimas, Cal.

Wanted To correspond with parties or nurserymen who have olive trees for sale. Address
BOX 242, LINDSAY, CALIFORNIA

air, which last theory was further developed by other investigators, but it was not fully described until 1840, when De Saussure published the results of his investigations. About that time the humus theory started, viz.: that plants live on organic materials and water. It was soon found that the theory was not tenable because of the inorganic salts in the ashes left after burning the plants. This, however, was explained by the disciples of the humus theory, who said that the ash was merely a by-product from the splitting up of organic materials and was caused by some force which they called "vital power."

From this humus theory came the "nature philosophic humus theory" and the "improved humus theory," both of which, although they were disproved, greatly helped to develop the general knowledge of the subject.

The works of Boussingault, commencing about 1830, brought out the next great step in plant nutrition. He demonstrated that certain plants could utilize the nitrogen of the air and that certain other plants could not. This was also demonstrated by Laws and Gilbert, whose works are rather better known in America. There were, of course, many other investigators in the first half of the nineteenth century, and a great deal was written which had more or less direct bearing on plant nutrition, but the subject was in more or less of a chaos until Justus Von Liebig published the results of his investigations and conclusions drawn from investigations of others.

After the discovery of oxygen, other elements were discovered and it became possible to analyze the air, the water and the soil, as well as the plant, and as all the investigators were chemists, the question of plant nutrition was naturally studied from a chemical standpoint. It was found by analysis that plants contained oxygen, hydrogen, nitrogen, potassium, carbon, silicon, sulphur, phosphorus, chlorine, sodium, calcium, magnesium, aluminum and iron, together with a small amount of many other elements not directly necessary for the majority of cultivated plants. The air was found to contain oxygen, hydrogen and carbon, which could be utilized by all plants, and nitrogen which could be utilized by plants of the bean and pea family. Soils were analyzed, and by comparing plant and soil analysis it was soon found that all soil contained enough silicon, sulphur, chlorine, sodium, aluminum and iron, and most soils enough magnesium and calcium, for normal development of the average cultivated plant. Many old cultivated soils were found to be deficient in potassium, phosphorus and nitrogen, while some were apparently inexhaustible. Water was found to contain oxygen and hydrogen, which could be utilized by the plant, besides water being a necessary solvent for all other nutrients.

After a time it became apparent that questions other than chemistry were involved. The chemical analysis showed that certain elements were present in the plant, but it did not explain the process by which those elements were transformed from an inorganic to an organic form, much less the process by which these inorganic, inanimate elements could form a live plant.

It is true that some of the investigators were physiologists as well as chemists, but plant physiology proper is of a comparatively recent date, and more recently we have the physiological chemist, who covers the field still more thoroughly.

Although it can now be explained in a fairly comprehensible manner how plants feed, there are still many questions unsolved. We know that plants absorb through the roots, mineral substances held in solution by water, and through the leaves, carbon dioxide from the air. The process of building up plant tissue from these substances we explain to be, in short, a decomposition of water and carbon dioxide by which the inorganic salts are changed into organic compounds. We know that the process is not a purely chemical one and we know that light is necessary and we therefore explain that the process is by virtue of energy derived from light. After all, not much of an advancement from "vital force" of the humus theory. Nevertheless we know a great deal more than those who advanced the humus theory, and the practical farmer cannot afford to call the scientist a crank because he cannot explain it all.

There are other factors connected with the question which, although they are outside the plant, are of no less importance than those just discussed.

We know that we can grow a plant in pure sand or glass powder provided we supply foods and water and expose the plant to suitable temperature and light, but while this is possible it is not practicable. It is true that the soil is a matrix for storing plant food and for the formation of plant roots, but it is more than this. A soil without humus and without soil bacteria is unprofitable from an agricultural standpoint and such soil must be built up.

Soil building has been one of the great economic questions in Europe for the last forty to fifty years. In the latter period of the humus theory and until recently, the earth worm was described as a factor in soil building. The soil might be dry and poor and physically unfit for plant growth, and even earth worms could not live in it. After plowing under a crop of grass or some other plant and cultivating it a few times, making it hold moisture better, the earth worm would start work, carrying plant material down into the soil and thereby mixing and aërating it. After a time the soil, whether sand or clay, would have changed into loam and the earth worm was given the credit. There is no question but that the earth worm does this work and of course it needs no argument to prove that it is beneficial, but we now know that soil bacteria are the real beneficial agents. A dry uncultivated soil, poor in humus, is dead, agriculturally speaking, but with some humus, moisture and air the various bacteria start work and we term the soil as having "life in it." Of the various basteria, the ones connected with nitrogen assimilation are best known, and most farmers know that the leguminous plants are able to utilize the nitrogen of the air through the aid of a bacterium. The one which transforms ammonia into nitrogen is of no less importance in this discussion, and as we know of bacteria that act on sulphur and iron compounds, we may expect to find some that act on other minerals also, and it is not improbable that bacteriology will be as much of a factor in plant nutrition as chemistry and physiology.

To sum up the matter, we find that the only chemical elements entering into the question of plant nutrition, as far as the farmer is concerned, are nitrogen, potassium and phosphorus.

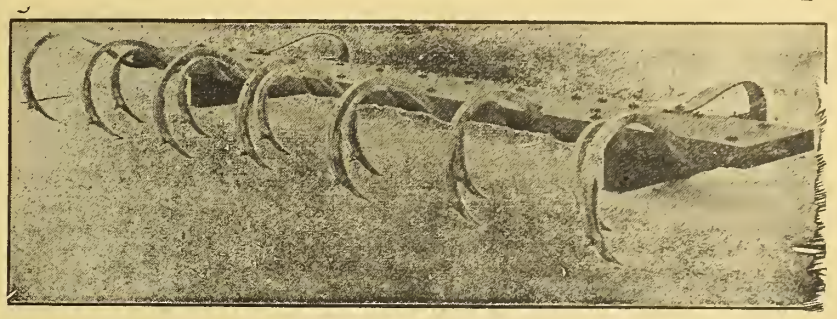
We also find that we have physical factors to deal with involving air, light, moisture, etc., as well as bacteriological, embracing questions of soil and tillage which are of vital interest to all agriculturists.—[Porto Rico Horticultural News.

"LEST WE FORGET."

Editor California Cultivator:

I heartily endorse the remarks of S. A. Connor in the Cultivator of September 17th, condemning the foul attack upon the memory of the late B. M. Lelong. He may have had his faults—who has not?—but the fruit growers of California do not forget his abounding energy and the enthusiasm he always inspired in whatever pertained to the welfare of California horticulture. Nor do we forget the work that was accomplished from year to year, under B. M. Lelong's secretaryship with the Hon. Ellwood Cooper as president. Look up the reports and bulletins that were published over a period of thirty years or more, and form some idea then of what has been done. Those of us who have been associated with the Horticultural Commission during all those years—not officially—repudiate with indignation the aspersions cast not only upon the memory of one who has gone, but upon the work of the Commission and its honored president. —Leonard Coates, Morganhill, Sept. 19th., 1908.

WILLIAMS' GOOSE-NECK CULTIVATOR



Especially adapted for citrus orchards. Sizes 8 to 14 feet. Lightest draft. Free trial to responsible parties. No agents. You pay only one profit. Write today

WILLIAMS & SON, Manufacturers
Orange, California

TENTS

Fumigating and Lemon Curing Tents our Specialties

Irrigating Hose, all sizes. Prices and Samples quoted upon application. Write your wants
Wagon Covers, Hay Covers, and Canvas Covers of Every Description.

Mellus Bros. & Co

Phones—Home, F 4871; S. S, Main 3500
250 East Fifth St., Los Angeles, Cal.

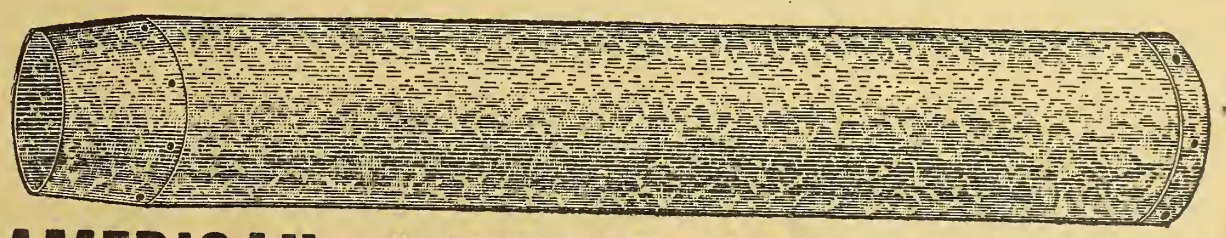
Become an EXPERT BOOKKEEPER

H. E. COX, Pres. Pacific Coast Business College

Market and Post
San Jose Cal.

ARNOTT HARNESS $10.00 to $80.00

Everything guaranteed. Money back if not satisfactory. Factory in Los Angeles.
California leather for all uses. Send for No. 10, eighty page FREE Catalogue.
ARNOTT & COMPANY 112–118 So. Los Angeles St. Los Angeles, Calif.



AMERICAN SURFACE IRRIGATION PIPE

SAVES WATER, GRADING AND TIME

The **only** way to **Irrigate Alfalfa. Cheaper** than **Flumes.** This is only **one** of our **specialties.** We make **Riveted Water Pipe** in lengths of **ten feet** from **single sheets.** Let us **prove** to you that we make **Pipe** and **Tanks right.** WRITE FOR CATALOGUE.

AMERICAN STEEL PIPE & TANK COMPANY
FORMERLY TALLERDAY MANUFACTURING COMPANY
636-7 Pacific Electric Building Los Angeles, Cal

DON'T BUY GASOLINE ENGINES UNTIL YOU INVESTIGATE "THE MASTER WORKMAN," a two-cylinder gasoline, kerosene or alcohol engine, superior to any one-cylinder engine; revolutionizing power. Its weight and bulk are half that of single cylinder engines, with greater durability. Costs Less to Buy—Less to Run. Quickly, easily started. Vibration practically overcome. Cheaply mounted on any wagon. It is a combination portable, stationary or traction engine. SEND FOR CATALOGUE. THE TEMPLE PUMP CO., Mfrs., Meagher and 15th Sts., Chicago. THIS IS OUR FIFTY-FIFTH YEAR.

TREES

Season 1908-9

Order Now for Future Delivery

If your trees are purchased from the Fancher Creek Nurseries they will be true to name well developed, with good roots.

FOR 25 YEARS we have been engaged in growing reliable nursery stock. Our thorough knowledge of every branch of the business makes it possible for us to raise and deliver stock that meets the demands of this country, and gives satisfaction to growers.

Last year we did the largest business in our history. This year our stock of

Deciduous, Citrus and Ornamental Trees, Grape Vines and Rose Bushes

is more complete and better than ever.

We are sole propagators and disseminators of

Luther Burbank's New Creations

Valuable Burbank Booklet illustrated in colors mailed for 25c.

SALESMEN WANTED

PAID-UP CAPITAL $ 200,000.00

FANCHER CREEK NURSERIES INC.

Geo. C. Roeding Pres. & Mgr.

Box 12 Fresno, California, USA

Do you want a

Ranch Superintendent?

A first class man with 18 years practical experience in California horticultural work, capable of taking charge of a large Citrus or Deciduous Orchard, a Nursery or Nursery Work, well acquainted with all the details of irrigation, fertilization, cultivation, budding and pruning of trees, etc., wishes a position as superintendent of some large fruit ranch. First class references. Would go in partnership with some one with means in establishing such a ranch in Southern California or Old Mexico. Address, "Superintendent," care Cultivator Office, Los Angeles, California.

An apple grower of Dayton, Washington, will secure $50,000 worth of apples from 100 acres.

Deciduous Fruit Culture

OIL EMULSIONS.

COUNTY Entomologist Earl Morris of Santa Clara county recently read the following at the County Entomologists, meeting at Watsonville.

"The work of oil emulsions in the Santa Clara Valley has not been carried to completion, therefore the statements made now may be somewhat modified later. Our conditions are rather simple because all our fruit trees of economic importance are deciduous and for all the purposes for which we have so far wished to use the oil the application is best made in the winter while the trees are dormant. There is, therefore, no possibility of injury to foliage and little danger of bud injury. We have not found it necessary to make fine distinctions among the grades of oil. There is considerable margin between the amount of oil which will injure the buds and the amount necessary to kill the insects which gives plenty of room to work for cheap effective non-injurious oil emulsions.

Common Distillate.

We have use for both distillate and crude oil. The ordinary 28 per cent Beaume stove distillate is cheaper than the so-called tree distillate and so far as we have been able to determine just as effective as an insecticide. It is very effective against brown apricot and black scale. An 8 per cent solution, that is 8 gallons of oil, not counting the emulsifier, to 100 gallons of spraying material, will kill practically 100 per cent of either the brown apricot or black scale without any apparent injury to the buds. If the application is delayed until spring just before the buds open there is no more danger than in the winter, possibly not as much, since the internal pressure on the cell walls is increasing and may resist the penetrating power of the oil. Thoroughness of application is very essential to insure success as every insect must be wet by the spray.

If the orchardist knows the scale when he sees them and knows by actual observation the parts of the tree to which they are attached it will do more to enable him to apply the spray properly than would the reading of forty printed pages of instructions

PACKING CHERRIES IN SAN JOAQUIN VALLEY.

The insects are very small during the winter and are very different looking creatures from the adults of early summer. They are generally found on the underside of the tips of the limbs, that is, on the growth of the previous season. No other parts of the tree are harder to reach by the spray than these, especially toward the top, but with a little care we get excellent results.

Italian Pear Scale.

We use crude oil emulsions for the Italian pear scale (Epidiaspis piricola). This insect has the habit of concealing itself under the lichen or moss which is abundant on our trees. It is necessary for successful control either to penetrate the moss with the spray or to kill the moss wait until it falls or is removed from the tree and then make another application. In fact we do not know of any material which will at one application penetrate thick, heavy moss and kill the scale satisfactorily The writer has succeeded in making one application do the work under such conditions, but he is confident that the degree of thoroughness of application required would not be practical on a large scale.

Crude oil kills the lichen and penetrates it very satisfactorily, at the same time forming a thick, heavy coating which may serve to smother the scale. Be that as it may, the scale die and we are well satisfied with the results.

The lime-sulphur sprays also give good results with this insect but do not exceed in efficiency the crude oil and are more expensive. The distillate has not given satisfaction so far. Experiments seem to indicate that the crude oil will be effective also against the brown apricot and black scale. It will probably never take the place of distillate for these scale alone, because it is new, unpleasant to handle, but when they are with the Italian pear scale it gives promise of usefulness.

It has been suggested that crude oil may be injurious if applied too often. Our orchards must answer this. We have prune orchards which have been sprayed for five or six consecutive years with crude oil. They were badly infested with the Italian pear scale when the spraying began and now they are practically free from scale and in good growing condition.

Essential Thing.

For making oil emulsions the essential thing is a good emulsifier—a good soap we may call it—to make the oil mix with water. Given a power sprayer and machinery for vigorous agitation distillate may be mixed with water without the use of soap, but crude oil is too heavy. There are many ways of making emulsifiers and we usuallly get as many different emulsions as we have emulsifiers. Some of these emulsions are satisfactory and some are decidedly unsatisfactory. It is annoying in the extreme to find that we have put oil on some of our trees and water on others. The best emulsifier we have found may be prepared in the field as follows:

Place in an iron kettle 2 parts crude carbolic acid, 2½ parts fish oil, one pound caustic soda to every gallon of liquid. Have the caustic rather finely pulverized. Heat the mixture to 300 degrees F. Then add 3½ parts of kerosene and after it has cooled enough not to generate too much steam add 5½ parts of water. Do this in the open away from buildings, as there is some danger of fire. This preparation does not require prolonged heating, is quickly and easily made and does not have to be reheated when used. It costs less than 20 cents the gallon. One gallon will emulsify 10 or 12 gallons of crude oil or 5 or 6 gallons of distillate. One hundred

Continued on Page 335.

Placer Nurseries

We have now growing for next season's delivery a large stock of all leading varieties of trees and vines. We propagate only the best commercial sorts. Our trees and vines are the best that good care can produce and in their selection, propagation and growing we spare no labor or expense; and they are true to name That is what you want.

Contract now the trees and vines you will want for next season's planting.

Write us.

Silva & Bergtholdt Company

Newcastle, California

California Horticulturally

ACTION AGAINST PEAR THRIPS.

THE pear thrips, which by the way is not confined to pears by any means, but which is at the present time one of the worst of our peach, prune and plum pests, has done infinite injury in the Santa Clara valley and other sections in which it has a foothold. It seems to be spreading rapidly, as it is reported from new sections every season. This pest does its destructive work on the blossoms of the fruit, destroying the vital parts, or so badly injuring them that the fruit is deformed and worthless. The Department of Agriculture, through Dr. L. O. Howard, Chief of the Entomological Bureau, has undertaken a thorough investigation into the work of this pest with a view to discovering some means of checking it. Dr. Howard has been in the State for some days past giving the work his personal supervision, and he assures us that no effort on the part of his bureau will be spared to give our growers relief. California owes much to the Department of Agriculture, for it has ever been willing to extend us aid in all lines whenever it has been called upon.

COLONIZING THE NORTHERN COUNTIES.

Attention is now being directed to sections of Central and Northern California as points for settlement. There is a steady stream of population setting toward California, and this has been increasing as the years have passed, and there is yet no abatement to it, and very many sections which have lain unnoticed are now coming into prominence. Among other big schemes is one for colonizing 5000 acres near Delano in Kern county. This is under the direction of John Hayes Hammond, the world known engineer and is already well under way. Several sections of this tract are being set out in experimental orchards to illustrate what the land is capable of, and it is to be sold out in small orchards which will be cultivated under contract for the purchasers, until they may be ready to occupy their individual holdings. Another large scheme along similar lines is being carried on in Butte Valley in Siskiyou county. This section is well up in the mountains, and only the more hardy vegetation will do well here. It is being extensively advertised in the east and colonies are being formed there to settle it.

IS THE CODLING MOTH DISAPPEARING?

For the past three years there seems to have been a gradual lessening of the quantity of codling moths in the apple sections and a great reduction in the damage done by them. We have received letters from apple growers whose orchards were infested by this pest a few years ago and who now state that it is hard to find a single wormy apple. In many sections the percentage of wormy fruit is reported as much smaller than usual, while in some it is reported bad as ever. On the whole, however, there appears to be a great reduction in the damage done by this pest and we are justified in hoping that some natural cause is lessening its numbers. Last year it was thought that climatic conditions had something to do with it, but these conditions have been different this year and yet it is said to be decreasing. It is often the case that pests will be overtaken by their natural checks, as the San Jose scale in our State has been, and it is sincerely to be hoped that this worst of our apple pests has been over taken by its Nemesis at last.

GROWING TABLE GRAPES BY WHOLESALE.

The very large profits made from the Tokay grape in the past few years has turned great attention to this fruit and there has been a considerable sized boom developed in that part of the State where it does best. Probably the largest single body of table grapes in the world is to be found in Sacramento county, where an eastern company has 1100 acres which was started in 1905 and is now practically all under cultivation. During the present season there were shipped from this vineyard 15,000 crates which each brought on an average $2.50 per crate in the eastern market. The whole of this great vineyard is irrigated by water pumped from wells.

PEACHES ARE STILL POPULAR.

We are informed by several of our leading nurserymen that the demand for peach stock for winter planting promises to be as heavy this season as it has been each season for four or five years past. The spread and destruction wrought by the San Jose scale in the east has very materially checked planting there, while numbers of the old orchards have been killed out by this pest. Conditions in California are much better, for peach growing, and the demand for our fruit is not likely to decrease. The principal varieties called for are the canning kinds, and it is largely the demand of the canneries which keep up the peach boom. As there will in all probability be a steady demand for California canned peaches there is not likely to be any let-up in planting for some time.

CALIFORNIA PROSPEROUS.

There was a financial stringency in the east a year ago but California hardly realized it, while this year may be accounted by farmers of our State, as among the most prosperous in our history. Crops, as a rule, have been good, the demand for our products excellent and prices satisfactory. Our agricultural population on the whole have done well, and the country banks are well supplied with money from the deposits of the farmers, while the purchasing power of this important class is greater than ever. It is a fact, that when the farmer is prosperous everbody is prosperous, so we may consider the present a prosperous year for the whole State. It is probably a fact that the farmers of California are better off as a class than are those of any other State in the Union. We may mark up the present as another prosperous year for California and begin to make preparations for a better one next year.

SPRAY FOR PEACH BLIGHT.

Owing, probably, to the very dry weather of last spring, there was comparatively little peach blight reported this season, but it will not do for growers to assume that, because it was checked this year, it has disappeared. In all those sections where it is prevalent, it will appear again in force as soon as conditions are again favorable for it, and it will be well to take precautionary measures against it. A thorough and early spraying of the trees with the Bordeaux mixture, winter strength, is to be recommended. This should be attended to as early in the season as possible, as the longer this work is left the less effective it is.

Made of Trinidad Lake Asphalt—

Genasco Ready Roofing

Does what roofing ought to do—gives you absolute weather-protection all the year 'round. Outlives every other ready roofing. Doesn't dry-out, rot, crack, or break.

Keeps out heat and cold. Resists fire. Is proof against lightning. Can be laid on any surface; and by any handy man. Cement and nails in every roll.

Ask your dealer for Genasco. Mineral and smooth surface. Look for the hemisphere trade-mark. Write for Book 35 and samples, free.

THE BARBER ASPHALT PAVING COMPANY

Largest producers of asphalt and largest manufacturers of ready roofing in the world.

PHILADELPHIA

New York San Francisco Chicago

WISS ORANGE CLIPPERS

Will Not Bruise the Fruit

Indorsed by the United States Government Experts and by the leading citrus growers.
Recognized as the most practical clipper.
Made of the very finest material by expert workmen.
The blades are perfectly tempered and specially curved.
Handles are correctly shaped and will not tire the hand.
Every pair absolutely guaranteed.

WISS Solid Steel Pruning Shears will snip a Broom Handle and cut the most delicate tendrils. All parts interchangeable. Any broken part can be readily replaced. 9-inch size, $2.25.

For Sale by all first class Dealers

J. WISS & SONS CO., Littleton Ave., Newark, N. J.

TREE TANGLEFOOT

A Sticky Preparation Applied Directly to the Bark of the Trees

Will not injure trees. A band 5 inches wide and 1-16-inch thick cannot be crossed by any climbing insect pest. Remains sticky five to ten times as long as any other known substance. You can test it at slight expense, as no apparatus is required. Used by the carload in New England against the Gypsy and Brown-Tail Moths. In California it preserves prune orchards from the Canker Worm Wherever the Gypsy or Brown-tail Moths, Tussock Moths fall or Spring Canker Worm or Web Worm appear TREE TANGLEFOOT is of great value, and should be used when the caterpillars begin to crawl while they are very young.

Price 25c per lb. Liberal discount on quantities. The only safe and effective banding preparation. Send for testimonials.

THE O. & W. THUM COMPANY

Manufacturers of Tanglefoot Fly Paper Grand Rapids, Michigan

Crimson Winter Rhubarb and Berry Plants Our Specialty

1000 choice Navel Oranges, together with a few other Citrus Trees. April and May are best months to plant Rhubarb for heavy Crops next winter. It has never been equalled as a money maker. $1.50 per dozen, $6 per 100, $40 per 1000. Pedigreed plants.

J. B Wagner

The Berry and Rhubarb Specialist Pasadena, California

SECOND HAND PIPE

We will sell you pipe that can be used for any purpose. ***Satisfaction guaranteed*** or money returned. We handle all sizes of standard pipe and casing. Shipments made on same day as order is received. Price of pipe is low now. Write for our prices.

Pacific Pipe Company

S. W. Corner Howard and Main Streets, San Francisco, California

When writing advertisers, mention Cultivator.

Burr Clover

Recleaned, Hulled
Burr Clover Seed

Quotations for Any Quantity Upon Application.

Canada Field Peas

E. L. Koethen Riverside Cal.

9 CORDS IN 10 HOURS

BY ONE MAN, with the FOLDING SAWING MACHINE. It saws down trees. Folds like a pocket knife. Saws any kind of timber on any kind of ground. One man can saw more timber with it than 2 men in any other way, and do it easier. Send for FREE illustrated catalog, showing latest IMPROVEMENTS and testimonials from thousands. First order secures agency. Address
FOLDING SAWING MACHINE CO.,
168-164 E. Harrison Street, Chicago, Illinois.

The Knot That Holds

"Jubilee Year" of Page Fence

Page Fence is woven just the same today as 25 years ago. A real triple knot — not a simple twist! Page Fence is made of High Carbon Steel of double the tensile strength and elasticity of common fence wire.
Page Catalog—"Jubilee Edition"—SENT FREE!
Page Woven Wire Fence Co. Box 114X. Adrian, Michigan

JUST RECEIVED NEW CROP SEED

Alfalfa, Vetch, Field Peas, Eucalyptus seed from Australia. Bermuda Onion, Garden Peas, New York Lettuce. Now is the time to plant them.

Johnson & Musser Seed Co.
113 No. Main St., Los Angeles, Cal.

SEED GRAIN

Black and Red Oats, Wheat, Barley, Bean Screenings, Etc.
constantly on hand and for sale at lowest market rates
Bray Brothers Buyers of Grain and Beans Members Merchants Exc.
220 Clay St., San Francisco, Cal.
Established in 1855. Correspondence Invited.

JAMES R. TOWNSEND
Solicitor of American and Foreign **Patents** Copyrights, Trademarks and Labels Registered. Rooms 428-433 Bradbury Blk. Los Angeles, Cal. Phones: Home, A4619; Sunset, Main 347

When writing advertisers, mention Cultivator.

General Agriculture

CURING ALFALFA.

AT a farmers' institute in Wisconsin, Ex-Gov Hoard talked on alfalfa most of which applies to humid regions. But as there are points in it which may be of value to Californians, we reprint a report of the speech. One point in particular regarding added value if cured in shade looks reasonable. It is probable that California farmers will not buy caps because they are not absolutely required by the weather conditions. Gov. Hoard said:

"A number of years ago I was led to question very seriously in my own mind whether I, as a farmer or a student of farming, and whether farmers in general, had the right idea about curing hay. The more I thought about it, the more I observed, the more I studied. I made up my mind that they did not have it and that I did not have it, and that people called hay cured when it was only dried, but it was not cured, and it was injured, really injured, in its feeding value by the actinic effect of the sun's rays upon it.

"This was the first thing that set me to thinking—and I was not looking for this at all, I was hunting for something else. I had a Jersey cow that would make a pound and a half of butter on pasture a day. I wanted to know how many pounds of grass a cow would graze in twenty-four hours. Nobody had ever found out; it was all guess work and conjecture. I said to myself, if I take a lawn mower and cut two-inch clippings and feed to that cow all she will eat and she holds up to a pound and a half of butter a day, I have given her then just as much as she would take grazing. I will shut her up and give her all the water she will take, but if the results are the same, it must be that I have given her as much, because she couldn't make a pound and a half of butter from any less.

"So I took this cow and shut her up and took the lawn mower and cut these lawn clippings and weighed them and gave them to her and found she would eat eighty pounds a day. She held up and made a pound and a half of butter. I weighed everything she ate and weighed what was left, and so I felt that I got at this judgment pretty closely.

"I then dried eighty pounds a day of the lawn-mower clippings in the hot sun, and I found I got eighteen pounds. Then I turned around and fed the cow eighteen pounds of that dry grass and she went down to a pound of butter a day.

"Now, what went out of that grass besides water? Something. And that set me to thinking. I said to myself, there is something in the process of the hot sun in evaporating the water, the juice, etc., out of that grass, that has taken something else with it, for that eighteen pounds of dried grass cannot make what the eighty pounds of green, juicy, succulent grass did make. And then I began to question the effect of the sunlight on the hay.

"Then, when I commenced growing alfalfa, the first cutting of alfalfa was right in a showery period, that time of year, and I wanted something to prevent its being wet, and I started in with the use of hay caps.

"Then I found the value of curing alfalfa in the shade. We take a lot of green alfalfa wilted, enough so it will handle fairly on the horserake, not too much, and cock it up and put into the shade. Then cover it with this hay cap and you retard the curing, making it cure slowly and you check the rapid evaporation, and you cause it to heat and it produces fermentation. Editor Wallace, of Wallace's Farmer, dropped a hint to me that I found was true, according to the physiology of the plant, that is, if you dry alfalfa in the hot sun you crisp the leaves up at once, and the water cannot get out of the stalk except through the leaves; the water exudes from the stalk through the leaf. If you crisp the leaf, you have checked the evaporation from the stalk, and you have very likely lost your leaf, and there you are. He asked me: 'I wonder if you know about that biological law?' Well, I didn't know, as well as he knew.

Gen. Burchard: I bet your mother always cured her herb crops in the shade.

Ex-Gov. Hoard: Well, women know things by intuition that men don't guess at. Yes, mother always cured her herbs in the shade. You go up into the old-fashioned Yankee garret and you will find the rafters all hanging full of catnip, and this, that and the other.

Mr. Everett: Don't forget the boneset.

Ex-Gov. Hoard: There isn't one of us old Yankee boys that can't remember the boneset.

"Then I made some experiments with the feeding value of hay cured under caps and hay cured in the sun, and I came to the conclusion solidly that hay cured in the sun loses an important part of its nutritive value as compared with hay cured in the shade.

"Now, then, you see what led me up to thinking and reading on this question. I am dealing with forces all the while, and I must work down to where those forces are dominant.

"Farmers, as a rule, do too much with their eyes shut. They see some of the forces lying at their feet; they know a few things by being familiar with them. But a man must get at the reason of things.

"And then I found that the hay cap is a wonderfully valuable thing. What does it do? It knocks you out of economical labor—you can't load the hay from the windrow with your hay loader; you can't have some of these labor-saving things and use them with alfalfa, and because you can't, men say 'I don't want it.'

"I want to say to you that the slushy reasoning of some men on this alfalfa question is amazing. Why, I was talking with an old German the other day, and he says: 'I want none of that alfalfa.' 'Why?' 'I don't want a thing to come when I want to cultivate my corn.' I said: 'God bless your brave heart, you have got more dollars' worth of alfalfa on the same ground than you would have of corn.' 'No.' 'Why, yes, you have. You never raised $50 worth of corn to the acre in your life, you know you never did.' 'Sure not, sure not. You got no $50 an acre on that alfalfa.' 'Yes,, I have; I have got more than that.' He stopped and scratched his old head. 'Is that so?' 'Sure,' I said; 'if you didn't have any corn at all and you had your alfalfa, you could buy your corn twice over. If you grow your alfalfa you could buy your corn. Just think of that.'

"And another man said: 'It is too much labor.' I asked him if it would be too much labor to save that amount of bran. 'Supposing you had five tons of bran out there to the acre, would you be saying it was too much labor to save that bran?' The old fellow said: 'To the devil with your talk. Who ever knew bran to grow like that?' And so you run up against these men. They put a 5-cent preju-

EUCALYPTUS TREES

LARGE ORDERS SOLICITED

We can make you enticing prices, if order is placed now.

Our process of balling trees into the boxes insures a large percentage of live trees when planted in the field.

Orange County Nursery & Land Co.

Fullerton, California

EUCALYPTUS SEED

Eucalyptus rostrata, the Red Gum
E. corynocalyx, the Sugar Gum
E. tereticornis, the Forest Red Gum
E. globulus, the Blue Gum
E. citriodora, Lemon-Scented Gum
E. cornuta, the Yate Tree
E. polyanthema, the Red Box
E. leucoxylon, Victorian Iron Bark
and Many Other Valuable Sorts

I shall be pleased to correspond with prospective buyers and give particulars as to prices on the seeds I am offering. Trial packets of any variety 15c each, 2 for 25c, or twelve for $1.25. Also young trees of many varieties for sale. Send for circular and cultural directions.

THEODORE PAYNE
NURSERYMAN AND SEEDSMAN
Home Phone A2480
345 S. MAIN ST., LOS ANGELES

Eucalyptus

We have made a specialty of eucalyptus for the past ten years. We are no mushroom concern. We are prepared to accept contracts for raising eucalyptus for next season's planting. Take advantage of our **Low Prices on Contracts. Do It Now.** Twenty of the leading varieties to be seen at our nursery.

Saint & Warner
Sycamore Grove Nurseries
4584 PASADENA AVE., LOS ANGELES

Eucalyptus Expert Returned

Mr. R. S. Webb has just returned from Australia with an abundant supply of seeds of the various Eucalypts, together with practical information from the forests, the mills, and the manufacturies of Australia. He is now in charge of the Eucalyptus nurseries of

Johnson & Musser Seed Co.
113 N. Main St. Los Angeles, Cal.

GERMAIN SEED CO.

326-330 So. Main St.
Los Angeles, Cal.

Headquarters for Eucalyptus, all varieties, both in seed and plants. Write for catalogue and cultural directions. They are FREE.

For the Season of 1908-09
We Shall Have to Offer
Pedigreed Fruit Trees
SEVERAL NEW FRUITS AND NUTS OF IMMENSE VALUE TO CALIFORNIA
Eucalyptus Trees
BY THE 1000 OR 100,000
NO BETTER STOCK GROWN
Please send us your name and address, and you will get all particulars.
Leonard Coates Nursery Co. Inc.
Morganhill, Santa Clara Co., Cal.

Eucalyptus Rostrata

Seed for sale $2.50 a pound, delivered
Fresh Choice Seed.
Encenitas Floral & Produce Co.
Encenitas, California

When writing advertisers, mention Cultivator.

dice against a 50-cent piece of silver, and that is a losing business.

"Now, a man that undertakes to grow alfalfa must at the beginning make up his mind that he is going to do everything that is possible to make it profitable.

"Let me tell you what that hay cap did for me last fall. I had at least $500 or $600 worth of alfalfa out at the last cutting. I just barely had weather sufficient to get it into the cock, to rush things and cap it, when there came on three weeks of tremendous storms, three big rains, and three weeks that alfalfa stood out there, and I couldn't get it into the barn. Now, that hay was covered with those hay caps; most everybody believed that it would be absolutely worthless. We had to go about every two or three days and move those hay cocks onto fresh ground to keep them from smothering the alfalfa underneath, and finally there came a spell of dry weather and I got it into the barn, and I was offered $15 a ton, and I wouldn't take it for that hay.

"Now, to show what the storm did, there were certain cocks—six, I think—where the wind blew the caps off and after they got soaked by the rain, they were completely spoiled. Now, measure the whole of that crop by those six cocks that were spoiled; where would I have been if it had not been for those hay caps? You see, I got $500 or $600 worth of hay, and the hay caps saved it all, and they cost about 15 cents apiece. Of course, the farmer must take care of them; he must not let them lie on the ground to get mildewed; he must put them up in the shed, hang them over a pole, and they will last from three to five years. You can see that is a very important point in the economy of the thing.

"Another point in curing: Just as soon as that alfalfa has gone through a little sweating in the hay cock, open it out to the sun for an hour or two and get it into the barn as soon as you can. But be mighty careful about putting alfalfa into the barn without going through that sweating. It is that first fermentation, the first heating, that is the dangerous one. My associate editor, Gen. Burchard here, lost a large barn last year through spontaneous combustion from alfalfa. Mr. Wilcox, of Oakland, lost a barn a few years ago from spontaneous combustion of red clover. There was a big explosion in the barn and you could hear it a hundred rods, and it threw the whole side of the mow out, and the minute it got to the air, flames burst out.

"If the principle I have spoken of had been in the minds of these men, they would have first cocked up their alfalfa or clover and let it go through that first heating; then the second heat that you get in the mow is very light; it just warms up so that it doesn't hurt.

"Now, these are a few thoughts on that line, and the sooner this alfalfa can be got into the mow after going through that first heating, the better it is for the quality of the hay."—Hoard's Dairyman.

Soils poorly drained, and so long holding stagnant water, often in this way damage and finally destroy roots, thus causing the plants to perish. Plants suffer for want of oxygen when the air can not get to their roots.

The grain dealers of Tacoma and Seattle report greater receipt of smutty wheat this season than ever before.

Cotton in Imperial Valley

SNCE we have developed the fact that we can raise more cantaloupes in this valley than the markets of the country will take at a profit, we that live in the valley are looking for some crop which can be grown that will not be so perishable as cantaloupes, and that does not take so long to give financial returns as does alfalfa and stock. In fact, we must have something which does not take too much hard labor during the heat of the summer. It must be something which may be grown in summer and gathered in the fall and winter months, which is the most delightful time of the year in which to work in the Imperial Valley.

After considerable observation of experiments which have been tried, I think cotton will come as near filling these conditions as any dry climate plant, and make as sure returns as any crop. We have cotton growing on Mr. Aten's ranch north of El Centro. The California Development Company planted some as an experiment at Calexico when the office was first established there. Both of these plantings have been good and convincing evidence that cotton will grow successfully and that cotton growing, entered into by men who have grown cotton before, and who will vary their methods to meet Imperial conditions, need fear no failure. If there is any doubting Thomas or any Missourian who wishes "to be shown," let him go to Mr. Aten's ranch, two miles north of El Centro, and see for himself. Experienced cotton growers who have visited the valley think that without question the production here would be at least one bale and some feel sure that two bales per acre might be expected as the output. Cotton can be grown on that hard adobe soil which does not have sufficient water for raising barley. It does not require the amount of water which barley does.

The cotton begins to ripen about September 1st to the 10th and picking may be continued until December or even January. The picking is usually done by the hundred pounds, so that the pickers may use their own pleasure in long or short hours, or in the time of picking. This will give opportunity for fruit pickers, hop pickers or other laborers to come to the valley and work in the cotton field at a season when other work is light.

Interest is being created in this industry by Mr. Allen of Brawley, also by Mr. Aten of El Centro.—Arthur S Fell, El Centro.

IRRIGATION FOR HAWAII.

Frederick Hayes Newell, director of U. S. Reclamation Service, recently sailed for Honolulu to investigate the prospects of bringing irrigation to the dry sides of the islands and using that section for future home seekers who will live on small holdings. All the large tracts on the wet side of the islands are occupied by sugar plantations owned in big tracts.

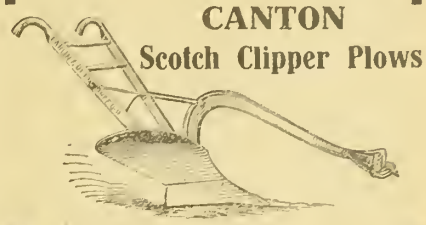
Director Newell is the author of four books on irrigation and kindred subjects; he is secretary of the National Geographical Society, a member of the American Forestry Association and of the American Society of Civil Engineers and of the Institute of Mining Engineers.

He says that reclamation work has now progressed to a point where it is beginning to yield a profit in certain sections. Upward of $50,000,000 has been expended by the government on twenty-six different irrigation projects. One million two hundred and fifty thousand acres have been irrigated.

Most of the hop fields report that the green hops picked this year yield less than in former years. Some claim that the total yield will not exceed two-thirds that of last year.

The Right Kind

CANTON
Scotch Clipper Plows



CAN ALWAYS BE FOUND IN THE CELEBRATED

Canton Clipper Line

Wood and Steel Beam Walking Plows
Sulky and Gang Plows
Subsoil and Road and Grading Plows
Orchard and Vineyard Plows

ALL SIZES AND PATTERNS FOR ALL KINDS OF WORK
Send for Catalogue
Pacific Implement Co.
133-153 Kansas St. San Francisco, Cal.
General Agents
B. HAYMAN, Agent, Los Angeles, Cal.

Pioneer **Rubber Sanded** ROOFING

The Roof that "proves," sun-proof and rain-proof; needs no paint or repairs. Following are a few "Wont's" about Rubber Sanded Roofing:

Won't chip. Won't warp.
Won't tear. Won't crack.
Won't rust. Won't decay.
Won't shrink.
Won't crumble.
Won't need repairing.
Won't absorb moisture.
Won't attract electricity.
Won't need any paint to preserve it.
Won't be affected by any climatic changes or conditions.
Won't cost as much, in the long run, as other roofing.

What Rubber Sanded WILL do is told of in our booklet "ROOF TALK," which will be sent free upon request, together with samples of the Roofing itself.

Pioneer Roll Paper Co
Makers of Rubber Sanded Roofing and Refiners of Asphaltum
Department 11, Los Angeles, Cal

PLUMBING

Plumbing Materials

WATER SEWER PIPE

ALL PLUMBING REPAIRS

We contract to furnish all the materials and do the work or furnish the materials only.

GET OUR PRICES

JAMES H. HELLMAN
Hardware, Stoves, Etc.
157-161 NORTH SPRING STREET
LOS ANGELES, CAL.

Creamery Supplies

Cream Separators — Milk Cans
Combined Churns — Milk Bottles
Babcock Testers — Brushes
Butter Moulds — Wrappers
Engines and Boilers — Milk Coolers
PASTEURIZERS
MILKING MACHINES
Creamery and Dairy Supplies and Machinery of all Styles and Sizes
Send List of Goods Wanted and we will Quote Prices
O. J. WEBER CO.
555-57 S. Los Angeles St.
LOS ANGELES, . CALIFORNIA

CUTTER'S
Anthrax and Blackleg
VACCINES
Are given the preference by 80% of California stockmen because they give better results than others do.
Write for prices, testimonials and our NEW booklet on Anthrax and Blackleg
The Cutter Laboratory
Berkeley, California

SECOND HAND PIPE
Just bought cheap ten carloads of water pipe, sizes ½-in. to 6-in., which we offer cheap for cash: ½-in. 1½c. a ft., ¾-in. 2½c a ft., etc. Get the benefit of our close buying. All pipe guaranteed good as new and dipped in asphaltum. Write for complete price list.
WEISSBAUM PIPE WORKS
133 Eleventh St., San Francisco

PASPALUM DILATATUM
King of dairying and fattening grasses. The great Australian drouth resister. Primest heavy seed direct from the grower, 4 lbs. (ample for trial) post free, $2.00. Full information.
C. F. JULIUS
Central Bucca, Coffs Harbor, New South Wales

Live Oaks Farm
Frank A. Meacham, Proprietor.
Importer and breeder of RED POLLED CATTLE, SHROPSHIRE SHEEP, RAMBOUILLET SHEEP, HORNLESS AMERICAN MERINO SHEEP. Both sexes for sale. Take electric car at Petaluma or Santa Rosa for LIVE OAKS STATION. Address all mail to
Petaluma, Sonoma Co., Cal.

HOLSTEINS
We Have For Sale a Number of Registered Young Bulls and Heifers $100
All our stock comes from the celebrated herd formerly owned by the Pierce Land and Stock Co., the premium herd of Holstein Friesians in California. Oakwoods Stock Farm Co., Lathrop, Cal

VENADERA HERD
OF REGISTERED JERSEYS
I have for sale a number of richly bred young bulls, some of them from cows that have high official yearly records.
GUY H. MILLER,
Route 3, Modesto, Cal.

Berkshires--Shorthorns
My Berkshires took 9 First, 6 Second and 4 Third Prizes and both Gold Medals. 50 Head For Sale.
G. A. MURPHY, PERKINS, CAL.

THIRTY THOROUGHBRED
Poland China Hogs and Pigs
FOR SALE
W. R. McCaslin, R.F.D. No. 1, Roosevelt Ave, Sacramento

John Lynch Breeder of Registered **Shorthorns**
MILK STRAIN
Box 321 Petaluma, Cal.

PURE BRED BERKSHIRES
Young Stock For Sale
Wm. H. Bird Box 6, Compton Cal.

The Whiting Jersey Stock Farm Company
is making the very best strains of blood fresh from the island of Jersey a specialty.
Whiting Jersey Stock Farm Co. Heber, Imperial Co., Cal

Live Stock and Dairy

SILO AND SILAGE.

HOW delightfully boyish men are! Indeed, we all should be grown up children ready to play whenever the chance offers. The neighbors fortunately are not very near to be disturbed when the engineer turns loose his whistle, and the eight men of the silage crew stand round smiling like boys ready to begin work. The colts hitched to the low corn wagons jump and plunge at the engine's shrill screeching. This trick of whistling in a new job is a little romance in the engineer's mind. The engine to him is alive and must express its joy at once more starting into activity. The men stand at attention the colts find their legs and stand squarely waiting for some new surprise. The cutter starts to move slowly as the engineer gives the engine steam and again the colts stand on as few legs as a horse possibly can until the racket settles down into smooth running. The corn is on the travelling table and soon it is streaming down in little bits into the silo, some falling sharply down, other pieces floating lightly down until the corn comes down like rain around the men inside

the silo. Another year's corn crop is on its way to making cow ambrosia, or nectar, or whaever food of the gods appeals to the cow appetite.

Filling.

The large silo is 36 feet high and 26 in diameter; this is an immense maw to fill. Ten feet put in and tramped as solid as possible tomorrow morning will have sunk down to six; and so day after day, a quarter or more will sink down. This may seem like slow filling, ten feet a day, but it is the way to make sweet ensilage. Well ripened corn, with plenty of water and slow filling will make sweeter ensilage than rushing in the feed in a couple of days. It heats more slowly and settles best. The settling in layers is more uniform and the same silo will hold two weeks more feed than can be tramped into it when filled in a couple of days. The density makes the silo hold more and it also preserves the silage better from mold. There can be none of those spots of bitter white mold through out the mass.

Corn and Sorghum.

The cutter is now working on Indian corn but after a week will be running on the sorghum. Changes in cows, feeds must be gradual or else the cows may be made ill. If one form of corn is run in and then another form, the changes would be very abrupt. We avoid this by mixing the last day's run. When the corn is within one day's run of the end, then sorghum is added one load to two of corn, then two of sorghum to one of corn.

When sorghum is nearly run out, alfalfa is run in with it at the same rate. If green alfalfa is not available the poorer hay or foxtail and alfalfa is used, the last six inches being entirely of the hay. The last of the hay is piled on the plates of the silo. When fed out, the cows are worked gradually up to a food and then receive it in full amounts, and are gradually sloped off it on to the next kind of feed. As soon as the silage is in the silo it is ready to feed out; there need be no waiting for it to ripen. I do not like to lose the top inches with mold, so feed it off at once.

Repairing.

The only expense about maintaining a silo is the new lining about every ten years. The round silo is still perfect; the two square silos need lining again. Next year I am going to have three inch stuff ripped diagonally at the mill. When this is tacked around the silo every two inches, with the narrow side next to the wall and about three inches apart, cement is mixed about four to one of sharp sand, and the inside plastered smoothly. Two thin coats of cement and water finish it off on the surface. With a wooden silo the inside should be coated with coal tar every year to keep the acids from eating into the wood.

Size.

The size of a silo must be in proportion to the size of the herd. A herd of thirty cows can be maintained for six months on the silage that fills a silo 15 feet in diameter and 30 feet in height. Anyone building a silo today would naturally consider the concrete or brick silo first, the prices of lumber make this form of building the cheapest we can put up in the interior, where the long railroad haul raises the price of lumber greatly.

In feeding giving the cows about 40 pounds of corn silage with 10 of alfalfa hay to each animal will give satisfactory results. There is no cheaper feeding for dairy cows than this combination, and the milk produced is not at the expense of the cows' vitality.

Alfalfa.

There can be found no cheaper source of protein than alfalfa hay There is no cheaper hay than alfalfa to make under California sunshine. We do not need hay or night caps for the cocks. We can depend on the fickle weather being very sure not to rain during the three or four middle cuttings of alfalfa. The silo is a good place for the first crop with the foxtail and for the last crop. While we have plenty of corn land, we plant corn and use it for silage in preference to alfalfa, for with corn silage, we need the alfalfa for hay and long stuff.

Alfalfa King.

That great fortunes are made out of alfalfa we realize, even Henry Miler and Tevis alfalfa fields shrink to smallness when we read of those of Argentine. There alfalfa is measured by leagues and not by acres, one owner having leagues enough to make 192,000 acres! Poor man! Do you know I feel sorry for any one owning that much land! The joy of owning a ranch is in knowing every nook and corner of it. Every tree is known, in sunshine or under a cloudy sky. To know them when the early dawn throws the first light in misty softness on their still drooping sleeping leaves, or to see them outlined in yellow stillness of the sunset glow. That is the joy of owning a farm! It is owning a bit of beauty far more satisfying than the electric lighted streets of the city.—M. E. Sherman.

PROTEIN CONTENT OF DIFFRENT KINDS OF FEED.

While the protein content of different kinds of feeding stuffs, forage included, does not comprehend the entire feeding value, by any means, yet it affords a very good guide as a comparable view in this direction. As such the following table may be considered with interest:

Name of Feed	Lbs. Digestible Protein In one ton.
Corn silage	18
Alfalfa hay	220
Oat hay	86
Red Clover	136
Bran	244
Corn meal	158
Oil meal	586
Wet beet pulp	12
Ground barley	174
Ground oats	180
Middlings	256
Sugar beets	22
Mangles	22
Hominy Feed	150
Oat straw	24
Corn and cob meal	98
Cotton seed meal	744
Wheat	204
Timothy hay	56
Peavine hay	216
Peavine straw	86
Bermuda hay	136
Corn stover	36
Green alfalfa	78
Wheat straw	8
Green Kaffir corn	156
Dried brewers grains	314
Malt sprouts	372

—Hoard's Dairyman.

Try the "Feel"
of the Handle of a SHARPLES TUBULAR SEPARATOR

Turn it a few minutes.
Then try the handle of another separator.

Less weight, fewer parts, one bearing—a ball bearing—and suspended bowl in the Tubular.
More weight, more parts, more than one bearing, a top-heavy, supported bowl in other separators.
Of course the "feel" is different—as different as the separators.
And the grip of your hand on the handle is a good guide to a fair judgment of the difference between the Tubular and "bucket bowls."
Our Catalogue No 260 tells the scientific and mechanical reasons how the Tubular is different and why it is better than other separators—better in clean skimming, easier running, less repair bills, more economical oiling. Free for the asking. Write today for it.
THE SHARPLES SEPARATOR CO.,
West Chester, Penna.
Toronto, Can. San Francisco, Calif. Chicago, Ill.

Tuttle's Elixir
Greatest maker of sound horses in the world. Tested many years, never fails if cure be possible. $100 reward if it does. For lameness, curb, splint, spavin, ringbone, swellings, etc.

Tuttle's Family Elixir
liniment for household use. Ask for Tuttle's American Worm and Condition Powders and Hoof Ointment. "Veterinary Experience," perfect horseman's guide free. Symptoms and treatment for all common ailments. Write for it. Postage 2c.
TUTTLE'S ELIXIR CO., 117 Beverly St., Boston, Mass.
Los Angeles, W. A. Shaw, Mgr., 1921 New England Av.
Beware of all blisters; only temporary relief, if any.

Geo. C. Roeding, Fresno, Cal., breeder of
Thoroughbred Holstein Bulls and Heifers
Thoroughbred Berkshire Boars and Sows

THE TALK OF THE
Cream Separator World
The Improved De Laval

"It can't be beaten." "It's peaches and cream." "Nothing like it." "Ten years ahead of all others." "A triumph in separator construction." "Perfect in every feature."

These are but a few of the expressions one hears on every hand this year in praise of the new Improved DE LAVAL Cream Separator. From the Atlantic to the Pacific the Improved DE LAVAL has simply swept the field of all separator honors.

Well informed dairymen once they investigate the new DE LAVAL will have nothing else at any price or under any condition. In one instance 32 Wisconsin dairy farmers were forced to buy hand separators on account of their branch creamery closing down and 31 of them bought DE LAVAL machines, notwithstanding all would-be competing makes of separators were hot after the business. Like instances can be pointed out in almost every section of the country.

The improved DE LAVAL represents thirty years of manufacturing experience and the expenditure of many thousands of dollars in experimental work. It represents the knowledge gained from nearly a million DE LAVAL machines in practical use by dairymen throughout the world. It represents the best ideas and brain work of the world's most skilled separator and mechanical engineers. It is the product of the largest and finest equipped separator factory in existence.

Surely the 1908 DE LAVAL is ten years ahead of all others. If you havn't bought yours write today for a DE LAVAL catalogue and any desired information.

DE LAVAL DAIRY SUPPLY CO.

108 So. Los Angeles St. LOS ANGELES
42 E. Madison Street CHICAGO
74 Cortlandt Street NEW YORK

General Offices: 101 Drumm Street, SAN FRANCISCO.

107 First Street PORTLAND, OREG.
1016 Western Ave. SEATTLE
Box 1052 VANCOUVER, B. C.

Sugar-Beet-Pulp (Kow Breakfast Food) For Sale

At fifty cents per ton F. O. B. cars or wagon, fresh from factory. Conceded to be the cheapest and best Dairy Food in California. Write for freight rate it too far to haul.

Also ***MOLASSES*** at $1.50 per barrel.

Los Alamitos Sugar Company **Los Alamitos, Cal.**

SOUTHERN CALIFORNIA DAIRY ASSOCIATION.

A new organization, which should be of considerable interest to the dairy farmers of California. has recently been started in the vicinity of Los Angeles.

The object of the Association is to produce absolutely pure and sanitary milk, deliver it, either direct to the consumer or to marketing agent, in good condition and at a price which will insure a fair profit to the producer.

The same general plan as followed by the ctrus, fruit, and walnut growers' associations has been adopted by this organization. Each member subscribes for one share of non-assessable stock and is given liberal time in which to pay for it. The money thus subscribed will be used for the purpose of establishing a creamery in or near Los Angeles, where the association will receive, process and sell their own product. At present the Association is marketing its entire product through one firm in Los Angeles.

The Association now has about 170 members. No attempt is being made to secure new members, the stock having been taken off the market for the present. The idea is not how large but rather how strong an organization may be made; although it is hoped to ultimately include all the independent dairymen of Southern California.

The Association is urging upon its members the importance of cleanliness, not only wanting them to observe the state, county and city sanitary laws but to even go farther in the matter, maintaining such absolute cleanliness in every way connected with the producing and handling of the milk, that every drop may be guaranteed absolutely pure.

The public is demanding pure clean milk and the Association proposes to supply such, getting it to the consumer as quickly as possible after production.

The Association will, no doubt, fill a long-felt want among the dairy farmers of this section of the state, by way of getting them a better market for their product and also a better price.

The officers and directors are: G. B. Miller, president; W. O. Graham, of Whittier, vice-president; P. P. Pallange of Norwalk, secretary; H J. Mayo, Compton; Jno. R. Venable, Los Alamitos; C. L. Dameron, Cypress; Geo. E. Preston, Buena Park, J. J. Orr, Norwalk; A. D. Stine, Artesia.

Offices in Severance building Los Angeles are in charge of C. H. Whipple.

BREEZY PAPER.

"The Separator News," published by The Sharples Separator Company, West Chester, Pa., is being sent out to readers—the autumn edition is 900,000 copies.

In this issue of "The Separator News" is more than usual variety of sound dairy counsel, from many different sources.

"The Separator News" will be mailed, prepaid to those who ask for it. Write to The Sharples Separator. Mention the Cultivator.

Cream Separators, all sizes, all prices. O. J. Weber Co., 555-557 S. Los Angeles street, Los Angeles.

Wood Soled Boots and Shoes. Boots, $3.25; Shoes, $2.00. O. J. Weber Co., 555 South Los Angeles St., Los Angeles, Cal.

"GIANT COUCH" OR "BANCROFT GRASS."

We have from a subscriber, B. Harrison, at Burringbar, N. S. Wales, the following as to a grass which is succeeding in Australia:

This vigorous heavy-yielding grass deserves to be more widely known and cultivated, and to dairy farmers with whom abundance of feed is the greatest desideratum, it should prove of great value. It is fairly well distributed in the coastal districts of Queensland, but as yet it appears to be but little, if not altogether, unknown in the other States. It appears to prefer a moist situation where it will yield about 20 tons of fodder per acre per annum, but judging by its strong rooting system and remarkably vigorous growth it should be more productive, and equally as capable of resisting drought as the majority of the other grasses, and should prove very efficacious in the subjugation of noxious growth. It is slightly affected by frost, but in the spring months makes rapid growth, producing a great quantity of soft, succulent, fattening fodder, which is said to be relished by all kinds of stock. It is very difficult to procure seed as it is a very shy bearer, but like some of the other species, it is readily propagated from roots or portions of the stem. These when planted in the spring or early autumn months throw out runners which make rapid growth, and if protected will soon attain a height of four or five feet, and present a lovely and luxuriant mass of verdure. After cutting the lateral growth is checked and a good sole formed, producing a strong vertical growth. It is too coarse for hay but should make first-class pasture or ensilage. Farmers having poor soil should give it a trial.

BERKSHIRE SHOW AND SALE.

At a recent meeting of the Executive Committee of the American Berkshire Congress it was decided to hold an annual Berkshire show, the first to be held during the American Royal at Kansas City, Oct. 12-17, 1908, and to ask Berkshire breeders to contribute first-class gilts between the ages of six months and twelve months to a sale to be held in connection with the show. The net proceeds of the sale of such animals, after deducting express charges, etc., to constitute a prize fund, one-half of this fund to be added to the regular classification of the American Royal Show, and the other half to be equally distributed among the exhibitors of the several States donating sale animals. C. E. Sutton, Lawrence, Kas., is sales manager.

THE RIGHT OF IT.

"Produce good milk and cream and deliver it to the creamery often; also wash your separator twice a day; in fact, be a good, clean dairyman and don't do these things because you get a better price for your milk and cream, and neither should you do them because you are afraid that the inspector might catch you and make you pay a fine, but do these things because it is absolutely right. I have but little respect for a man who is good because he has to be good, but I will tip my hat any time to a man who does right because it is right without considering the reward or punishment."—James Sorenson in Dairy Record.

The Forty-seventh Annual State Fair of Oregon was held last week at Salem.

GOMBAULT'S
CAUSTIC BALSAM

A safe, speedy and positive cure for

Curb, Splint, Sweeny, Capped Hock, Strained Tendons, Founder, Wind Puffs, and all lameness from Spavin, Ringbone and other bony tumors. Cures all skin diseases or Parasites, Thrush, Diphtheria. Removes all Bunches from Horses or Cattle.

As a **HUMAN REMEDY** for **Rheumatism, Sprains, Sore Throat,** etc., it is invaluable.

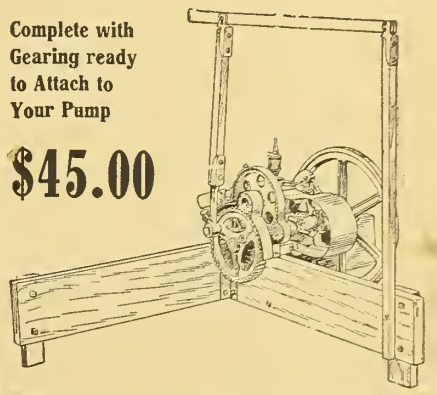
Every bottle of **Caustic Balsam** sold is Warranted to give satisfaction. Price **$1.50** per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars, testimonials, etc. Address

THE LAWRENCE-WILLIAMS COMPANY, Cleveland, Ohio.

Aermotor Gasoline Engine

Complete with Gearing ready to Attach to Your Pump

$45.00



Will pump all the time, wind or no wind, and deliver as much water as an 8 ft. Aermotor in a good wind.

From 225 to 1600 gallons per hour, depending on height water is to be raised.

Air cooled, uses Gasoline or Distillate.

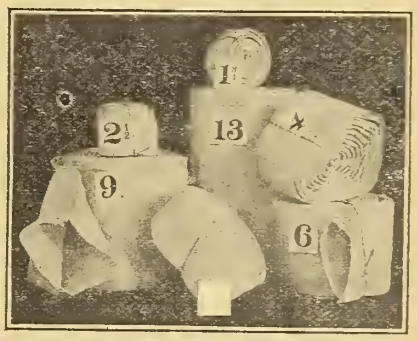
A reliable, durable engine at a very low price. **Can You Afford** to be without one.

Send for Special Circular.

Tanks Towers Pumps Distillate Engines

Smith-Booth-Usher Co
Machinery and Supplies

Successors to
S. J. Smith Machinery Co. and L. Booth & Sons
212-214 S. Los Angeles St., Los Angeles
Home, Ex. 1090—Sunset, Main 1090



IRRIGATING HOSE

12 oz. canvas, coated or plain; good for several seasons. 1¾ inches, 2½ inches, 4 inches, 6 inches, 9 inches, 13 inches. Galvanized or brass couplings.

Tents, Tarpaulins, Picking Sheets, Picking Bags, Stack Covers

Our Tent Catalogue, mailed free, gives full information.

The Wm. H. Hoegee Co.
INC.
138-140-142 So. Main St., Los Angeles

Thoroughbred Poland China Swine
Black Minorca and Barred Rock Poultry
High Grade Stock of Best Strains.
Young Stock For Sale
W. Bassett ***Hanford, Cal.***

California Cultivator

ESTABLISHED 1889

Subscription Price One Dollar per year, payable in advance. Dates of expiration of subscription accounts appear each week on the address label. John Jones 7-08 means July 1, 1908. Notify us by mail if you desire to discontinue.

Thursday, October 1, 1908

Address All Communications to

CULTIVATOR PUBLISHING CO.
115½ No. Broadway, Los Angeles.
733 Merchants Ex. Bldg., San Francisco.

Copy for Change of advertisement must be in office on Saturday preceeding date of issue. New advertising copy should reach the office not later than Tuesday to insure insertion.

CULTIVATOR PUBLISHING COMPANY
H. A. PERKINS, EDITOR AND GEN. MGR.

C. B. MESSENGER - - - - Associate Editor
FRANK H. THOMAS - - Advertising Manager
H. G. HUTCHINS - - Subscription Manager

EDITORIAL CONTRIBUTORS:

J. W. MILLS - - Deciduous and Citrus
JOHN ISAAC - - - - Horticulture
J. B. NEFF - Walnut Culture and Irrigation.
Mrs. M. E. SHERMAN - Live Stock and Dairy
Q. A. LOBINGIER - - Vegetable Garden
S. S. TWOMBLY - - - - - - Poultry
W. E. FOSTER - - - - - Pigeons
L. M. FALL - - - Law Queries
RALPH E. SMITH - - Plant Pathology
S. A. PEASE - Plant Diseases and Injurious Insects

Entered at the Post Office at Los Angeles, California, as Second-class matter.

Contents

AUTOMOBILE IN FARM LIFE, Cover.
FROST PROTECTION, 315.
CITRUS.—Device for Covering Fumigation Generators; History of Fertilizing; Lest We Forget, 316, 317.
DECIDUOUS.—Oil Emulsions, 318.
CALIFORNIA HORTICULTURALLY.—Action Against Pear Thrips; Colonizing Northern Counties; Is the Codling Moth Disappearing; Growing Table Grapes by Wholesale; Peaches Are Still Popular; California Prosperous; Spray for Peach Blight, 319.
GENERAL AGRICULTURE.—Curing Alfalfa; Cotton in Imperial Valley, 320, 321.
LIVE STOCK AND DAIRY.—Silo and Silage; Protein Content of Feed; Southern California Dairy Association; "Giant Couch;" Berkshire Show, 322, 323.
EDITORIAL.—Irrigation Congress; Protection for Dairymen; Likewise the Farmer; Preserve Fertility; Where Hides Go; The Ideal Farm Home, 324.
AGRICULTURAL NOTES OF THE PACIFIC COAST.—Northern, Central, Southern, The Coast, 325.
POULTRY.—Inbreeding; Preserving Eggs; Brevities; Roup, 326, 327.
SMALL FRUITS AND VEGETABLES.—This Month; Raspberries; Method of Shipping Eastern Celery; Root Cuttings, 328.
ORNAMENTAL GARDEN.—This Month; To Kill Dandelions; Hollyhock Rust; Golden Rod Breakfast; Parcels Post, 329.
QUERIES.—Landscaping Small Plats; Hen Manure for Oranges; Grafting Walnuts; Planting Barley; Defective Teat; Removal of Afterbirth; Old Age; Mending the Clock; Bees Injuring Fruit; Weevil; Bread for Hens; Basswood; Ants; Locoed Horse; Breeds of Hogs; Bronze Turkeys; Ticks; Wild Licorice; Hot Tamales; Indian Games; Alligator Pears; Fistula; Walnut Dip; Diseased Grape Leaves—Beetle, 330. 331.
PRODUCE MARKETS.—Los Angeles Market; San Francisco Market; Citrus Markets, 334, 335.

IRRIGATION CONGRESS.

This is a great week for the little city of Albuquerque and we trust will result in bringing forth much of value to irrigation and conservation in this country. It is estimated that there are 25,000 visitors gathered to discuss and view the irrigation industries of New Mexico. Amongst these delegates are not only many prominent Americans but experts from France and other European countries. The vim and vigor with which the people of Albuquerque went at the arrangements for the convention is shown by the fact that that little city raised $100,000 for the building of a pavilion for the holding of this convention and carrying the expenses incident to the occasion.

PROTECTION FOR DAIRYMEN.

The number of times in which dairymen have been caught by irresponsible creamery men starting in business with insufficient capital establishing a credit, then going broke, with the principal sufferer the dairyman who has put hard cash and months of hard work into his product, is causing a monotony which some dairymen have resolved to terminate. At least in one of the leading dairy sections, the San Joaquin valley, the dairymen have combined and demanded that the cream buyer doing business with them put up a bond or good security with the local bank as a guarantee for the payment for cream. As the Dairy Review says:

The dairyman's product quickly runs into money and he ought to see that he is protected, and while the matter of security may seem unreasonable, yet the honest creameryman ought to welcome it. It is a protection to his business as well as to the patrons. While in one way it works possibly some hardships, yet it will prevent the "wild cat" creamery concerns coming along and taking a share of the business from legitimate concerns. It will eliminate the undesirable competitors and leave the field open to those doing a legitimate business, paying for cream all that the traffic will bear and meeting payments when due. The demand for dairy products is good and the consuming public is paying the price for them and the dairymen have a right to demand cash for their product or good security if there is the least question as to payment.

LIKEWISE THE FARMER.

Attend the primaries and discard all labels. Business men should do both in the present campaign. Vote for the right man, whether his political label be Republican, Democrat, or what not. If you are not familiar with the affiliations and character of the candidate in your home district, more shame to you. Find out at once. Satisfy yourself as to the actual standing of the candidates on the important economic questions liable to affect your business, and vote right. But begin with the primaries. The business man's active participation in politics should not be deferred until election. It should begin with the primary and the nomination. No political system ever devised could safely be allowed to run itself. Men are needed to run it, and the selection of the best men for the important offices is the largest of all the problems of politics. As far as practicable, business men should be induced to become candidates for political office—American Industries for September.

PRESERVE FERTILITY.

In addressing a Farmers' Institute at Springfield, Illinois, recently, Judge J. Otis Humphrey said:

"There is no country on earth where the hand of man has tilled the soil long and continuously that he has not ruined it. And if we here in America shall teach the world how to use the land without abusing it we will have written a new page in history. We will have made ourselves a name that will live forever, not only as agriculturists, but in the history of the progress of the world. Why not do it? I tell you we are just playing with the business of farming; we have not begun to do business yet; we don't know what a heritage we have here. It is the youth of the land that must make this development. The professor is on the right track; teach it to the children! Teach it to the children! That is where the power of the nation resides; the schools will make the thing go. Sooner or later we will get these great subjects drilled into the children of the day."

True, if we are to teach the world how to maintain our fertility we must begin with our own children. Furthermore if we are to preserve a heritage for them and for their children we must be still more insistent on taking up and learning these questions and teaching them than we have been in the past.

It seems slow and a round about way to thus begin with the youth of the land but let us call attention to what we believe is a proof of the advantage of such education. It is but a few years since certain organizations in this country proposed the adding to our public school courses lessons on the effect of alcohol upon the human system and the disastrous results from its use. These questions and other similar lessons taken up in physiology classes have been general in probably nearly every state in the Union. To say that the knowledge gained by these studies has been the entire cause of the recent remarkable opposition to the saloon in this country would without question be overstating the case. But that it is one of the factors in the great number which have influenced the American people to take such decided action we fully believe.

The beginning with the younger minds to instill into them the principles of agriculture is being recognized in many schools of the Middle West where corn judging contests and lessons on seed selection are taken up with children in the elementary schools.

The question of fertilization is as yet one which has hardly received the attention of which it is worthy. It is one of the hardest to understand and one which means more to the success of the agriculturists than any other unless it be that of marketing his products.

Teach the young the meaning of the chemical needs of the soil and the advantages of a proper mechanical condition in a way which will impress it upon their minds much more forcibly than to wait until driven into their comprehension by the hard knocks of experiences in later life.

WHERE HIDES GO.

The immensity of the leather industry is shown by a few figures in the Technical World. From them it appears that the shoe products to this country aggregate one million of dollars daily. One factory produces 10,000 pairs daily, using every 24 hours hides and skins of 7800 kids, 300 horses and colts, 300 calves, 425 steers. Six large concerns made in 1907, 25,000,000 pairs. There are twenty-seven shades of golden brown shoes alone, on the market. Fourteen factories in Lynn, Mass., are devoted to making shoe polish and stain. . . . In the search for a rapid tannage of sole leather, it is said that about $1,000,000 a year is expended;—more than $10,000,000 having been spent before the chromic process for tanning of upper shoe leather was mastered. . . . Many of us who know the price of steak will be surprised to know that sole leather brings 40 cents and belting buts 50 cents per pound. And one may add that some of the steak which we buy might much more consistently have been sold at the higher price.

THE IDEAL FARM HOME.

The farm home should be kept up to a high standard. At least it should be as good as the farm itself, or a little better. Too often it has been the reproach of the farmer that his barn is bigger and better than his house. The farmer has been subject to the criticism that he is more careful of his domestic animals than of his family.

The fact is that present day farmers are not making the most of their opportunities. Very much can be done with but little expense to make farm life better.—Scientific Farmer.

Shop Talk

TIME TO GET BUSY—The coming fall and winter season promises to be an exceptionally good one for business and the outlook is satisfactory in all lines. We make this statement after a careful study of the situation of affairs on the Pacific Coast. Are you, Mr. Man, with goods to sell, making the effort you should to secure business?

The purchasing power of the Pacific Coast can be reached through the columns of the Cultivator. The early advertiser is the first one to get results. Do not let your competitor get the bulge on you, but start your advertisement now. Results will commence a few days later. Remember you can place your advertisement in 12,600 homes every week, can tell the well-to-do home owner just what you want to and what you have to sell, through the Cultivator.

Use the Cultivator as advance agent and your interests will surely be advanced.

SUBSCRIPTIONS.—Orders are received at this office almost daily to discontinue or change the address of the Cultivator without giving the name of the post-office to which the paper has been going. Much confusion and delay would be avoided if every one would bear in mind that we have a large list and that it is impossible to find names without knowing the postoffice address. The list is indexed according to location and not according to name, so all can see the necessity of paying attention to this suggestion when sending their orders.

Agricultural Notes of the Pacific Coast

Northern California

Sacramento Valley is planning to make a fine display at the Alaska-Yukon Exposition.

Sacramento Land Company is putting out several thousand acres of alfalfa near Princeton, Colusa county.

The total shipments of fresh fruits from Vacaville this season are 856 cars or more than double that of last year, same date.

Yolo county sugar beets are yielding about 9 or 10 tons per acre. A few exceptional cases are known where they run as high as 25 tons.

A special examination of the soils of Tehama county, on the east side of Sacramento, is now being made by W. W. Mackie of the Bureau of Soils.

A Sebastopol apple packing house has received an order for 15,000 boxes of apples to be shipped to Australia. The expectation is the price will be about $3 per box.

David Lubin of Sacramento is now in Washington making final arrangements for the International Institute of Agriculture to be held in Rome next November.

Sacramento County Horticultural Commission is making an energetic fight against the admission of any citrus fruits which are infested with purple or red scale.

The creamery at the University Farm at Davis which opened on September 1st is proving very satisfactory and is working into regular lines as much as if operated in a commercial way.

Some of the wineries of Sonoma county are paying as high as $12 to $15 per ton for grapes under contract. To those on the outside who have not contracted, $8 or $10 are the ordinary prices.

The Petaluma branch of the Sonoma County Co-operative Association has withdrawn from the county organization because the Petaluma people felt they could market their product to better advantage.

Mr. McKaig of Stony Ford, Colusa county, has sent to the Sacramento Valley Development Association a sample of native grass very closely resembling the Japanese matting grass and it is declared almost equal to the matting grass.

At the last creamery pay day in Ferndale, the following prices were paid by the various creameries of that section: Capital, 28 cents; Central, 28; Cream City, 28; Eel River, 27¼; Ferndale, 28; Grizzly Bluff, 27¼; Pioneer, 27½; Riverside, 27½; Arcata Central, 25¼ and Arcata United, 25½.

Gridley, Butte county, has an 11-months-old calf giving milk. A local paper, in speaking of the incident, says that the calf gives about a pint at a milking, showing 5.6 pounds of butter fat. Either the calf or the newspaper is doing exceedingly well to get over five pounds of butter fat out of a pint of milk.

The principal objection which has been urged against the use of hop picking machines, which have been tried this year for the first time, is that the machine wastes considerable quantity of the hops. It is thought this can be overcome, however, and many predict that hand-picking is a thing of the past.

Central California

The Fresno county fair is in session this week.

It is thought the second crop of table grapes will bring a good price.

Selma shipped her first car of Sultana raisins last week to New York.

Cars of Lodi Tokays are commanding from $700 to $2000 in the Chicago markets.

A grower from Orange county is about to plant 80 acres of oranges at Weed Patch, Kern county.

A good fair was held in Stanislaus county last week. Exhibits were made from many sections of the San Joaquin valley.

Raisin growers of Dinuba recently held a meeting to confer with Armsby & Company to discuss the 4 cent raisin offer.

The Spreckles Sugar Factory at Salinas is having trouble to secure prompt delivery of beets under contract with the farmers.

An effort to bear the apple market at Watsonville was made last week and it was thought to be by concerted action of the buyers.

Delano is to have a rabbit drive October 6th and it is hoped excursions will bring drivers from various sections of California to assist.

One nursery company at Exeter has produced what it claims to be a seedless lime, also another freak which they call the seedless lemon.

California shipped from January to September 15, 7444 cars of fresh fruit to eastern markets. This is almost double the shipments of last year.

The pear and apple crops of Santa Clara valley are unusually promising. The quantity is satisfactory and most of the fruit is without blemish of any kind.

Monterey is making a strong fight to secure the next State Fruit Growers' Convention, although it is understood that Sacramento is anxious to secure it.

Tulare county claims she will be heard from in the near future as a producer of the best grade of English walnuts. Several orchards near Visalia have been able to show excellent results.

Grape growers in many sections say they will carry their fight for protection of their industry to the elections where candidates are known to be opposed to the wine industry.

Raisin growers generally think the Armsby 4 cent offer has so many strings to it that it is no offer at all, as it leaves the option of taking the grapes entirely at Armsby's discretion

County Entomologist Morris of Santa Clara county is engaged in experiments to see how the Argentine ant can be controlled. He thinks it can be accomplishe dby feeding them poisoned food.

The Watsonville Pajaronian is making a fight for an honest and attractive pack of apples which will give bigger returns and more renown to that section as a high grade apple producing center.

A lawsuit begun in Fresno county in which the farmer sued for damages because of water seepage on his land from a canal of the Fresno Ditch Company was decided by the lower court in favor of the ditch company, but on appeal has now been reversed.

Southern California

Orange County Poultry Association held its regular monthly meeting last week.

Riverside is engaged in growing beans the pods of which are a yard in length.

Orange County Nursery Company recently shipped a full car of small eucalyptus trees to one party in Elsinore.

San Jacinto is having a material increase in the number of dairies which have been started there in the last few months.

Many delegates from different sections of Southern California are attending the National Irrigation Congress at Albuquerque.

Anaheim is occasionally forwarding a carload of sweet potatoes to Los Angeles markets which bring the grower about $1.25 per sack.

The Fullerton-Placentia district of Orange county will ship about 700 cars of oranges this year which is slightly short of last year's output.

Every body is spraying celery this year in the hope of preventing blight which did vast damage until the present spraying remedy was discovered.

The Orange County Canning Company at Anaheim is now putting up about 12,000 quarts of tomatoes daily. The company is paying $7 a ton for tomatoes.

San Bernardino county has recently entered into a good roads campaign in an election for $625,000 bonds but they failed to carry by the necessary two-thirds vote.

Considerable attention is being attracted in some sections by Arabian alfalfa which has been tested and sometimes claimed to be superior to the ordinary kind.

Owing to lessened evaporation the mountain streams furnishing water for many irrigation schemes of Southern California began to increase in flow even before the recent rains.

All Southern California was visited last week by the heaviest September storm in the last fourteen years Much damage was done to drying raisins, hay, grain, and especially to the bean crop.

Some citrus growers claim that the shipments of early oranges will not be so extensive in Southern California this year as in the past. The feeling seems to be to allow other sections to take the record for the sour early fruit.

A few years ago growing pampas plumes was quite a factor on several Southern California ranches but this year the Carnival of Products Committee of Santa Ana finds difficulty in securing sufficient for ornamentation of streets and booths at its carnival.

The Fruit Growers' Association of Walnut, Los Angeles county recently held its annual picnic at which a business session was held and the following were elected directors for the coming year:

A. T. Currier, A. W. Lee, W. O. McClintock, W. H. Howell, Francisco Grazide, Dr. W. H. Dailey, M. A. St Clair. After the adjournment the directors organized by reelecting the former officers, viz.: President, A. T. Currier; vice-president, W. H. Howell; secretary and manager, R. S. Persons.

The Coast

Hop pickers of Oregon, are reporting an exceedingly light yield.

Farmers at Walla Walla, Washington, are plowing for fall wheat.

Oregon produces about $17,000,000 worth of dairy products annually.

Green prunes in Western Washington have sold at about $15 per ton.

The Idaho State Experiment Station will hold a farmers' institute at the State Fair.

Fifty farmers of Nez Perces, Idaho, are combined to build their own grain warehouse.

North Yakima shipped 120 cars of peaches and 30 cars of cherries to Eastern markets.

Portland recently had a glut of fresh fruit and peaches sold as low as 25 and 30 cents per box.

Walla Walla, Washington, has shipped 2,000,000 bushels of wheat since threshing began.

Oregon creameries claim to average a higher price for their produce than any state in the Union.

Owen, Washington, fruit growers have been greatly benefited by heavy rains which recently visited that section.

Investigation is being made of irrigation problems in Eastern Oregon by experts from the Oregon Agricultural College.

Preparations for the National Apple Show at Spokane are being perfected and a great showing of fruit is promised.

Lack of dryers will cause great loss among the prune orchards of Washington, the crop being too large for all to be cared for.

Great improvement in the field corn of Eastern Washington has been effected by a campaign of education in selecting better seed.

The Farmers' Union at Davenport, Washington, has voted unanimously to hold wheat for 90 cents per bushel. Present price is 78 cents.

A farmer in Yakima valley, Washington, will ship about 10 carloads of honey this year and claims his profit will be about $8 per hive.

Mountain apple crop of the high land near Lewiston, Idaho, is the largest and finest since the growing of fruit began in that section.

The University of Idaho at Moscow has installed a modern creamery and refrigerating plant and is teaching creamery practices in a practical way.

Forestry farms where forest trees will be cultivated and grown under scientific farming are to be introduced on the Nez Perces Indian Reservation in Idaho.

Southwestern Oregon has a good roads association organized recently for the purpose of arousing interest in the cause of good roads in that section of Oregon.

The management of the National Apple show to be held in December at Spokane is elated by the promise of Thomas A. Edison that he and his family will attend.

North Yakima, Washington, shipped 300 boxes of irrigated apples to the National Irrigation Congress at Albuquerque. The idea is to show the irrigators of the world that the Northwestern territory is producing some beautiful irrigated fruit.

PER 2 BUSHEL SACK **$1.90** PER 2 BUSHEL SACK

Buy the World's Famous Egg Food No. 4

MIDLAND

IF YOU WANT EGGS
YOU WILL FEED NO OTHER.

Used by the largest and best breeders in the country. Thousands of poultrymen are using it, and it is the acknowledged standard of the world. Haphazard feeding is no longer profitable. Try Midland Food and be convinced.

Petaluma Incubators and Brooders

The acknowledged standards of perfection. All poultrymen who have used these machines have supreme confidence in their ability to hatch and breed. Hence their ever increasing popularity. Winners of the Gold Medal at the St. Louis World's Fair for the greatest hatch, with 40 different makes of incubators in competition. How's that?

St. Louis, Mo., Dec. 8th, 1904.—Petaluma Incubator Co., Petaluma, Cal: My dear Sir—The awards have been held up owing to a controversy between the Exposition officials and the national commission, but today I am able to state the award of a gold medal on your Petaluma Incubators has been confirmed. You are at liberty to make use of this in any way you see fit and in due time the diploma will be issued and the medal obtainable. Congratulating you upon this evidence of the merits of your incubators, in which there was very great competition, I beg to remain, yours very truly, J. A. Filcher, Commissioner.

And Now Comes New Reward for Merit

Read the following telegram received from the Lewis & Clark Exposition at Portland:
"Petaluma Incubators and Brooders just awarded Gold Medal at Lewis & Clark Exposition."

WRITE FOR CATALOGUE 47—A BEAUTY

Petaluma Incubator Co.

Main Office and Factory, Petaluma, Cal., Box F.
Los Angeles, 636 South Main Street.
San Francisco Office and Salesroom, 83 Market St.

Coulson's No. 3 Condition Powder

Is just the thing for molting hens. It acts as a tonic and digestive. Keeps the hens laying longer into the molt and quicker after it. Our FREE Booklet, "THE RIGHT WAY" gives full particulars and special offer. Manufactured only by

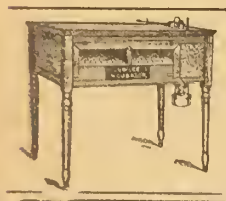
Coulson Poultry and Stock Food Company
Petaluma, California

Poultry Supplies

Best of All Kinds at Lowest Prices

West Coast Seed Co.

707 So. Spring St., Los Angeles, Cal.



WHY?

Do All Prosperous Poultrymen Use
Jubilee Incubators and Brooders
Our Catalogue A Will Tell You. It Is Free.
Jubilee Incubator Company *Sunnyvale, Cal.*

Ranch Mirasol
S. C. WHITE LEGHORNS—MITCHELL STRAIN
LARGE, HEALTHY, HEAVY BIRDS BRED TO LAY
Carl C. Curtis, Owner Cor. Lincoln Ave. and Ventura St., Pasadena, Cal.
North Fair Oaks Altadena Cars

Now is the time to hatch **BANTAMS**
Golden Sebright, Buff Cochin, and Light Brahma Eggs, $2 per 15. Prize winners.
M. E. Dillingham Box 67, San Gabriel, Cal.

White Wyandottes Exclusively
Good, White, Typical Birds. Stock and Eggs For Sale
W. A. SEYMOUR, R. F. D. No. 1, Anaheim, Cal.
Take Santa Ana Electric Line to Harper Station

Profit in the Poultry Yard

We solicit short articles of a practical nature from the fancier and utility breeder, giving their experience with poultry. All inquiries pertaining to feed, management, disease and its prevention will be answered through these columns.

INBREEDING.

SOON the pullets that have been raised on the ranches of California this season will be picked over and sorted for layers and breeders for the coming year. Then the owner will look about for a cock or cockerel to mate with these selected birds. He may have some good ones of his own, but the fear of inbreeding is so strongly intrenched in his ideas of poultry raising that to do so he believes leads to disaster. It may be that he has been trying for years to develop a flock that will be more prolific layers than the average flock and in order to do so he has bought every year or two a male bird from some breeder who is supposed to have superior stock, but no two years from the same breeder. At the end of five years the chances are that he has not improved the laying qualities of the flock at all. One year a cockerel is bought from a man who is aiming to improve laying characteristics; the next year from a breeder who is

striving to win in the show room. The result is in the end nothing has been accomplished toward the end in view. All because of fear of inbreeding. Because we have been warned that the most dangerous thing the poultry man can do is to inbreed. The fact is that no excellence can be attained in breeding any kind of stock without inbreeding, and there is good reason to believe that the more family lines are crossed under favorable conditions the more securely fixed are the qualities sought. The breeder of Jerseys wants a long price for a certain heifer and among her valuable qualities he cites the fact that five times she traces back to Old Commassie. And the breeder of Shorthorns does not conceal the fact that his herd carries much of the blood through close inbreeding of some famous ancestor. It is not in breeding itself that is dangerous; it is inbreeding without thought, indiscriminate mating in which no thought is given to the characteristics of the parent stock as to health, vigor and power to transmit its excellence to the progeny.

No breed of fowls has ever been bred up to a high state of excellence without close and volumious inbreeding. It is impossible to perfect a strain without crossing family lines again and again. Don't make the mistake of selling a good male because by using him inbreeding will follow. A recent writer on this subject gives this advice:

If any one has a male bird which has shown strong prepotency which has decisively marked his chicks with improvement he should be kept and bred back to his best daughters another year in order to fix his good qualities on the flock and increase its value.

When mating fowls which are closely akin, care should be taken to mate the most vigorous specimens, for this will tend to increase the stamina of the family, while to admit weakly birds to a pen that is to be inbred is to open the way to decrease vitality as the bad qualities are transmitted as well as good ones and if both male and female possess similar weak points this weakness is apt to be intensified in the progeny

Don't be afraid to in-breed if you have strong, vigorous birds that possess qualities you are desirous of intensifying.

PRESERVING EGGS.

Last April hens were laying lots of eggs and they were retailing at 15 cents a dozen. Now they are climbing toward 40 cents a dozen, and soon will be 45. During the 15 cent period a thrifty friend of mine who has a flock of hens kept to supply family need, had a liberal supply of eggs but instead of selling them for 15 cents a dozen she bought a few pounds of water glass—got some hardwood kegs and some 10 gallon stone jars, packed the clean fresh eggs into these receptacles, taking care there were no cracked ones and then poured over them a solution made by adding one quart of water glas sto ten quarts of water, the water having been previously boiled and cooled. After the eggs were well covered with the solution covers were put on and they were left in a cool place for the summer. They are looked at occasionally to see that the solution had not evaporated enough to expose the top layer. The first of September my friend began using these preserved eggs, and it would be a crital housewife who would have any fault to find with them.

In April 1904 I filled a whiskey barrel with fresh eggs; they were kept during the summer in an ordinary store room fairly well protected from the sun. and in April 1905 these eggs were taken out and subjected to the criticism of several housekeepers, who pronounced them in excellent condition for cooking purposes. The cost of material to preserve these eggs

High Priced EGGS

Are what all poultrymen like to get during the fall and winter; but without the very best of health in the flock and a good variety of sound, wholesome feed it is hard to get such eggs.

Nature requires that hens have a rest just prior to and during the molting period; the result is a scarcity of eggs, with higher prices, and a larger profit for those who can overcome the difficulty. The one that can get eggs during the fall will be just that much ahead of his neighbors and others who fail to do so, which in the end is the difference between success and failure.

COULSON'S EGG FOOD is the feed that will turn failure into success by enabling you to secure eggs in the fall and winter while prices rule high.

Improvements have been effected in the composition of the **EGG FOOD** during the past year, so that it is now richer in the various nutrients required by the laying hen, and is a better feed than ever before. Coulson's balanced ration poultry foods are guaranteed to contain nothing but wholesome ingredients.

"THE RIGHT WAY," our booklet fully describes **COULSON'S IMPROVED MASH EGG FOOD** and other balanced rations for poultry and gives full particulars of guarantee and directions for feeding and care of poultry from the time they are hatched. If you have no copy of it, you should drop us a line today; a postal card will bring it to you.

We have agents selling our poultry foods in nearly every town in California. If you cannot obtain what you want from your dealer, write to us and we will tell you where to get it.

Coulson Poultry & Stock Food Co.
Petaluma, Cal.

Germain Seed Co., Los Angeles
Distributing Agents for So. Cal.

Excelsior Egg Food

Is an Egg Producer and a Money Maker. It keeps poultry in most healthy condition.

Excelsior Scratch Food

Is just what you have been looking for. Give it a trial and you will never be without it.

EXCELSIOR

None Others So Good

No others "just the same." Insist on **Excelsior** or write to us direct. Mention Cultivator.

Excelsior Cereal Milling Co.

242 Central Ave.
Los Angeles, Cal.

was about one cent per dozen. It is not necessary to keep eggs as long as these were kept, but the object in this case was to determine how long eggs would remain in a suitable condition to use under this treatment.

Care should be had in buying water glass for this purpose that a sample is secured, free from marked alkalinity especially if wooden vessels are to be used, as the shells will be darkened by the material acting on the wood. It is well to clear the inside of the barrel if wood is used. Stone jars are really the most satis factory but are also more costly.

POULTRY BREVITIES.

An unfertile egg will endure 100 degrees for weeks without spoiling while a fertile egg under the same conditions will be unfit for food in a few days.

* * *

Eggs are the foundation of the poultry industry and in buying stock one should keep this fact in mind. Not all winners in the show room are egg producers.

* * *

The pullets that have been so reared that they will begin laying early next month will be a source of profit. Those that delay laying until next spring will never pay for their rearing.

* * *

If every poultry keeper would make a practice of separating the males from the females as soon as the hatching season is past there would be less bad eggs going to market during the hot months. It is the fertile eggs that spoil.

* * *

In starting in the poultry business select the breed that you fancy. Don't choose one simply because someone has told you that it is the best breed on earth; there is no best breed. All have their good qualities. Select the one best adapted to your conditions and fancy.

* * *

Don't carry into next season unde sirable birds; among these are hens that lay soft shelled eggs habitually or ill shaped ones. Hens that have acquired vicious habits such as feather pulling, egg eating, should go. They will teach the habits to pullets and prevention is better than cure.

* * *

Roup.

I have a flock of very fine Buff Orpington pullets six and seven months old. These birds have been doing nicely and have made an excellent growth through the summer, but recently some of them seem to have bad colds and I fear a few are affected with roup. Now I do not want to lose any of these birds that can be possibly saved. What would you advise in way of treatment?—E. H. P.

It seems that our correspondent recognizes the fact that he has roup in the flock and as they are nice birds wishes to treat even the well developed cases of roup.

Without discussing the policy of such a course we will proceed to give the treatment of such cases. First, separate the well and sick birds, disinfect the pens and drinking water as advised in a recent number of the Cultivator.

Many times treatment with coal oil will cure very mild attacks of roup. Give all the affected birds about ¼ teaspoonful of Epsom Salts following this the following day with

Continued on Page 335

70c Eggs

Will they sell for that this season? Some say so. Will you get your share of this good money? More reason than ever with feeds so high that you should feed a scientifically balanced ration.

Egg-More

is not a strong tonic and stimulant, but a highly nitrogenous, concentrated Poultry Food, very rich in protein. A little fed daily with good grains will keep hens healthy, make them molt early, feather out quickly and lay lots of eggs. Have you tried it? Many have and are pleased. Here is just one:

F. W. Healy, the well-known banker and fancier of Pasadena, writes: "After hearing others praise Egg-More, I determined that if there was anything to keep hens laying through the fall and winter months, I wanted it. I bought a package of Egg-More and fed it and the improvement was very marked. Keeping on with it I soon proved the truth of your statement that 'you can't put all your eggs in one basket if you feed Egg-More.' I have raised poultry nearly all my life and for twenty years in California, but never did my hens lay so well as since I began to use Egg-More. I consider it the best egg producer on the market, and I do not intend to be without it."

You better try it. For sale by many dealers. If not by yours we will **prepay** freight on 12½ lbs., $1.00; 25 lbs., $1.90; 50 lbs., $3.60; 100 lbs. $7.00

Are you in the race for any of our

$50 Cash Prizes

$20 first, $10 second, $5 third, fifteen $1 each. Easily earned in an hour or more by any boy or girl, man or woman, but only one in each family, without any cost to you, and no peddling or canvassing. And to each one competing we will also give a useful article. Send postal for particulars, mentioning this paper.

West Coast Mill

707-709 So. Griffin Ave., Los Angeles, Cal.

Trap-Nested White Wyandottes

That won 22 ribbons out of 25 and 6 Silver Cups and a carving set and a cut glass vase. All the National White Wyandotte Club Ribbons. Second on 10 pullet pen, contest open to all breeds. Mammoth Bronze Turkeys, winners of 5 blue ribbons, all at Los Angeles County Poultry Association Show, December 7, 1907. White Wyandottes were judged by H. Berrar of San Jose, Cal., and W. W. Browning of Ogden, Utah. Stock for sale. Write for prices.

MISSION VIEW POULTRY RANCH, MRS. C. D. HUBBARD, SAN FERNANDO, CAL.

GUTTING'S SUPERIOR WHITE ROCKS

Won 9 firsts out of a possible 10 and all specials and many other prizes at the great L. A. C. P. A. and Pomona Shows last winter. Place your order now for exhibition birds for the winter shows. Eggs now $3 per setting. Send for circular.

E. GUTTING 134 W. SLAUSON Los Angeles, Cal.

Is Your Dog or Cat Sick?

You may lose your valuable dog or cat at this season of the year, when a simple remedy would effect a cure. We have that cure in the Celebrated CLAYTON'S DOG & CAT REMEDIES. In short, we have a cure for all ailments that "Fido" and "Tabby" are heir to.

Write for treatise on diseases of both. It's FREE.

Germain Seed Company
326-330 So. Main St., Los Angeles, Cal.

F. E. Baldwin's
WHITE LEGHORNS

THEY LAY
THEY PAY
At Every Pop
THEY SHOW
THEY GO
To the Very Top

First Prizes Everywhere Shown.
Bargains ***now*** to make room. Send for Prices and Free Booklet.

46 Washington Ave. - San Jose, Cal.

Thoroughbred White Leghorn Cockerels

For sale; price reasonable. MRS. J. F. SULLIVAN, Sunset P. O., Sunset City, Sutter County, Cal.

The
Superlative Raspberry

Orders booked now for 2-year-old plants for December delivery. Send in your name and address for my 1909 Catalogue.

A. Mitting, Santa Cruz, California

SEEDS
Plants Trees
BULBS

We are Headquarters for

Garden and Field Seeds

Send for Our New Fall Catalogue

Those sending their names now will also receive our handsome new 1909 General Catalogue in December.

C. C. Morse & Co.
41 Jackson St.
SAN FRANCISCO, CAL.

SEED

We are now in our ***New Store*** and are able to serve you better than ever before. All seed ***Fresh*** and ***Full of Life.*** If you have had trouble with poor seed try ours and be satisfied.

We are headquarters on ***Eucalyptus—Trees and Plants*** — 6 pkts. of leading varieties, 50c postpaid.

Full line of Trees and Plants.

Morris & Snow Seed Co.
425 So. Main St., Los Angeles

Berry Plants

Hopkins' Improved Strawberry plants in all standard varieties. One-year-old plants of Brandywines, A-1 and Lady Thompson still on hand; also one-year-old Himalaya Blackberry and Cal. Surprise Raspberry. Catalogue soon ready.

G. H. HOPKINS & SON
Burbank, Cal.

Burbank Crimson Winter Rhubarb

Plants and Seed for sale in any quantity. Warranted the genuine article. Orders filled promptly

A. L. Fratt, Ventura, Cal.

Pacific Seed Co.
C. Bagnall, Prop.
GROWERS AND IMPORTERS OF
Grass, Vegetable and Flower Seeds
All Kinds of Bulbs and Onion Sets
609 J St., Sacramento, Cal.
Send for Catalogue. Please mention Cultivator.

Small Fruits and Vegetables

THIS MONTH.

SEED for tomatoes and peppers for extra early planting in warm, protected sections may be planted now in beds. They must be in cold frame or at least where they can be protected.

Seeds of Yorkshire Hero peas can be planted now and if the winter is not too severe will bring very nice crops in January. Vetches and field peas are sown this month and turned under for green fertilizer in the spring. Sow spinach, radishes and onions and other hardy vegetables which add to the winter bill of fare. Rake off and burn all vines and rubbish in the garden for you will be far freer from fungous and insect pests by doing it.

RASPBERRIES.

IN making a plantation of raspberries select a good, strong, rich piece of ground. Mark off your rows 4 feet apart, then plant 3 feet apart in the rows, but before planting, unless the ground is very rich, I would advise digging holes and mixing up some well rotted manure with the soil and planting the roots in it, and unless the weather is wet at the time, I would put some water in the holes to settle the soil around the roots. After the soil is settled, put in a stake about 4½ feet above the ground to tie the canes to as they grow. Fill the holes, if they have not been filled, and cultivate the ground. When the plants are established and growing they will throw sucker-shoots or canes which will bear fruit for the following season.

The first year after planting, four of those canes which grow out from the roots should be selected and the rest kept cut off. The ground should be kept well watered and cultivated, but in the fall when the foliage begins to show a change of color, let the plants or bushes go to rest and when the foliage is nearly off, cut last year's wood down to the ground and tie up the four canes to the stake and cut them back to its height. Before the rains come, top dress with manure and fork or dig the ground over to cover the manure. Keep the ground clean and well cultivated and you will get considerable fruit. Some prefer growing the bushes spread out on wires but I prefer the stake as in picking you can get around the bushes and the air and sun can get at the fruit better.

During the second season keep the ground moist and well cultivated, but instead of leaving four canes grow up I would leave six, as the bushes will be larger and better able to sustain their fruitings. Then in the fall cut back the old wood that was tied up and has fruited and tie up the six that you left during the summer and cut them back to the height of the stake again. Don't be afraid of manuring the bushes as they are gross feeders. By feeding them well with water and cultivation, the raspberry will give you a certain income for several years, from seven to nine years being their profitable life.—John Burr, San Francisco.

METHOD OF SHIPPING EASTERN CELERY.

The greater part of the celery produced by the growers of Michigan, Ohio and New York is shipped in carload lots to the eastern cities. Some growers follow the practice of washing and boxing the entire crop, others wash and tie the celery in bunches and set them in an upright position on decks in a refrigerator car. The select bunches are usually boxed and placed in the middle of the car, filling up the space between the doors. As quickly as the car is filled it is re-iced and rushed to its destination by fast freight.

Several of the larger growers follow the plan of shipping in the rough; by this method only about two-thirds as many bunches can be placed in a car, but the expense of loading is greatly reduced.

The celery is lifted from the field, a few of the outer leaves pulled off, and the root trimmed roughly, after which the plants are tied in bunches of twelve to fourteen each by means of common binder twine. These bunches are loaded upon wagons and hurried to the car before the celery has had time to become wilted. The first course is set root end down on the floor of the car and two decks are put in above, which will fill the car to the roof, and the space between the doors is filled in the same manner. A car loaded by this method will hold about 950 bunches, and the celery is usualy in the car from three to ten days, during which time the temperature is kept down by means of ice.

ROOT CUTTINGS.

Many wooded plants will root easily now while it is warm. Cut new, well matured branches with six or eight eyes, take off the leaves and put them down in sand so that two or three eyes will be out. Water well and they will soon be rooted.

IMPROVED SMALL FRUIT PLANTS.

The Fair View Farm Nurseries of Burbank have just issued their catalogue for the coming season. Strawberries, raspberries, blackberries, dewberries, logans and phenomenals are the specialities. Messers G. H. Hopkins and Son, the proprietors, are putting up first class stock and building up a good business along these lines.

The booklet contains helpful suggestions on planting and care of plants. It may be had by writing G. H. Hopkins & Son, Burbank Cal.

A SAN JOAQUIN COUNTY ASPARAGUS FIELD.

FRUIT CURES.

"Grapes are wonderful things," said a vine-grower. "In Switzerland they have in the autumn a grape cure. Thousands of anaemic and nervous persons are benefited by this cure Eating a huge bunch of grapes every ten minutes all day long their cheeks soon bloom, they soon recover their health again.

"Fruit—all fruit—is medicinal. As a drink cure and as a blood purifier, what is there better than an apple? Did you ever hear of currant leaf poultices for gout? They are excellent, I asure you. And black currant jelly in water is a remedy for sore throat

"Pineapples are good for diphtheria, strawberries for rheumatism, mulberry juice for fevers, elderberry for chills, and lemon for colds, for headache and for bile."—Philadelphia "Bulletin."

The reclamation of 100,000 acres of land in the Sutter basin, near Yuba City, is under contemplation. It is expected to cost about one and a half million dollars.

Tulare grange was a strong factor in making the Tulare fair a success this year.

The Ornamental Garden

THIS MONTH.

THE time has come for bulb planting. The writer has Watsonias up and growing Gladioli, which were taken up early and dried off, may be planted now for an early bloom. In fact, all bulbs of hyacinths, tulips, narcissi, Easter lilies and St. Joseph lilies, cyclamen, ranunculus, anemones, ixias, tritonia, sparaxis and freesias and others are in order.

Pansies and stocks can be sown this month. Sow the last seed of sweet peas for winter blooming, also scarlet flax. Violets, stocks and pansy plants are put in the places where they are expected to bloom.

In the cooler sections, roses may be replanted now. This is a good time to go at the old lawn and renovate it; also plant a new one where needed. Less trouble will be experienced with Bermuda grass when planting lawn at this season of the year.

TO KILL DANDELIONS.

If there is a lawn or grass plot where dandelions have taken a firm hold, it is an almost hopeless task to attempt to dig them out. The dandelion is a perennial plant and has a strong, vigorous root. For this reason a single cutting of the tops will not often kill the plant. Only repeated cutting of the leaves will starve out the store of vitality contained in the root system. Neither is this repeated cutting and hacking of the turf conducive to a smooth and beautiful grass plot. Besides, the work of digging dandelions is not much like a vacation job; it is much more like good, hard, solid work.

One method of eradicating the dandelions, as well as other weeds. is that of literally "running them out" with strong growth of blue grass or other grasses having vigorous root growth. If persisted in, this means of fighting dandelions will surely win out in the end. The plan may not, however, be successful the first season. The measure of success depends largely upon ground gained in the seeding with grass seeds; this in turn depending upon the season and the vitality of seed sown. Eventually, though, grasses will drive out weeds if sown thickly and a thick, strong growth kept constant and vigorous.

A quicker method of dandelion extermination is carried on now quite extensively by the use of the iron sulphate spray. This is a solution of sulphate of iron in the proportion of about two pounds to one gallon of water, applied with a sprayer. Two or three applications, one week apart, will do the work. Grass seed should be sown at the same time, so that the dandelions may be replaced by a growth of grasses.

Sulphate of iron is not poisonous and is not expensive. It will not injure the grass, but will discolor light colored clothing and cement walks. It makes a cheap, easy and certain dandelion eradicator.

HOLLYHOCK RUST.

No doubt many people have noticed to their disgust that the leaves on the hollyhock are drying up and the plants are now unsightly, writes W. Paddock, of Colorado Agricultural College. It is human nature to attribute the ills to weather conditions. However, if we examine the underside of the leaves, we will find that the surface is thickly studded with small pustules. Innumerable seedlike bodies or spores are borne in each postule which are so light that they are readily scattered by the wind as well as by other means. When the spores are lodged on any green part of the hollyhock and sufficient moisture is present they germinate much the same as true seeds and penetrate the tissues of the plant. Once started the fungus plant usually spreads rapidly and absorbs the plant substance, hence the drying and shriveling of the leaves.

If it were worth while spraying with Bordeaux mixture would keep hollyhock plants comparatively healthy, or other fungicides might be used which would not discolor the plants. But it is not likely that many people will care to go to this trouble.

A GOLDENROD BREAKFAST.

"This is a pretty country entertainment, and the one in mind was given under wide-spreading trees on the lawn of a pretty suburban home," says a writer in Woman's Home Companion for September.

"Great bunches of goldenrod were dug up and transplanted into jardinieres and arranged on the lawn, with the grass as a carpet and the trees as a canopy.

"Two tables were used. In the center of one was a large, gilded, flaring-shaped basket filled with the goldenrod, and tied on the handle was a butterfly bow of pale yellow tulle, and festoons of the same extended to the four corners, where were placed four small baskets, also tied with bows of the tulle. The second table was resplendent with tall cut-glass candlesticks with yellow candles and shades. The place cards were white edged with gold.

"Gold-banded china was used and the same golden tint carried out in the menu. Cantaloupes, cream, eggs, cheese and frozen oranges in orange-peel baskets all will help to carry out the golden color."

PARCELS POST.

The Retail Grocers' Association of California in session recently in San Francisco "resolved" against the parcels post, after which J. R Newberry a large grocer of Los Angeles, said:

"The parcels post system is bound to be adopted in spite of all the opposition to it. If you knew what I do you would lose no time in reconsidering your resolution opposing it.

"Did you know the big express companies have raised $250,000 to fight the adoption of the parcels post law? Why have they done this? Because they represent one of the biggest trusts in this country. They are sending men all over the country to stir up opposition to the measure."

With all flowers, if the seeds are not wanted especially, it is an excellent rule to remove the seed vessels as soon as the flower begins to fade, or else gather the flowers for decoration use when in their prime.

Sacramento is finally awaking to its duty in regard to the printing of the proceedings of the last National Irrigation Congress and one public spirited citizen, Mr. G. W. Peltier has guaranteed, if funds are not secured in any other way, he will advance them himself.

Malthoid Roofing

Mr. C. H. Wagner, Gen. Mgr. Russ Lumber Co., San Diego, Cal., U. S. A., writes as follows: "A fire occured during the night of August 17th and was not discovered until morning. Blaze had died out as the roofing would not ignite. This roof is covered with your Malthoid Roofing. We consider that the resistance of the Malthoid Roofing stopped the blaze and saved the plant."

The Paraffine Paint Co. San Francisco California

E. G. Judah, General Representative, Security Bldg, Los Angeles

Clip Your Horses

with this superb Stewart No. 1 Ball Bearing Clipping Machine

The great enclosed gear machine at your dealers all complete, as shown, only $8.50

No machine ever made at any price equals this one. It is the most perfect in every way of all clipping machines on the market.

It turns easier, clips faster and lasts longer. If you have but one or two horses it will pay you to have this splendid machine.

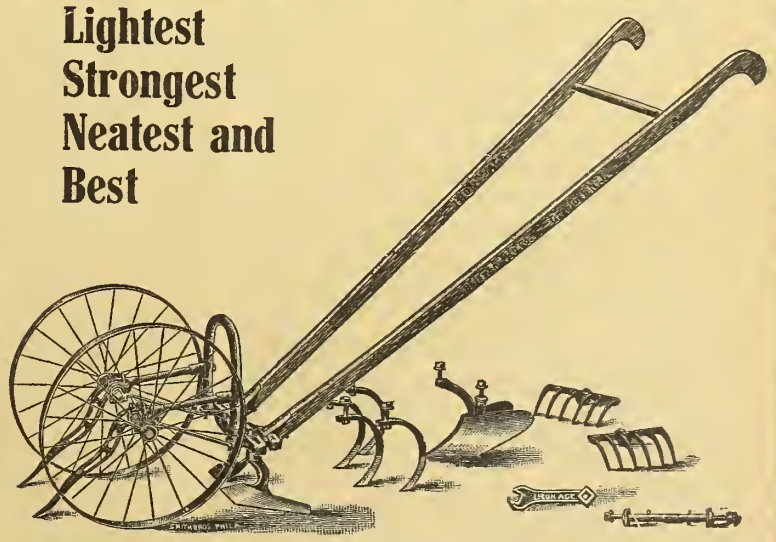
The gears are all cut right out of the solid bar, and all wearing parts are file-hard. It will last a lifetime.

If your dealer hasn't it, write us direct. GET ONE NOW

Chicago Flexible Shaft Co. Dept. H, Chicago

Garden Tools

Lightest
Strongest
Neatest and
Best



The Most Accurate Seeders and the Simplest and Most Easily Adjusted Seeders are possessed by

Iron Age Garden Tools

Send for Profusely Illustrated Booklet

Newell Mathews Co.

200 North Los Angeles Street
Los Angeles, California

Queries and Replies

Questions to be answered in this department should be received at this office one week before reply is expected. Write plainly on one side of the paper and sign full name and address. Unsigned communications receive no attention.—Ed.

Landscaping Small Plat.

What would you advise to plant in the way of flowering shrubs on a piece of ground 50 x 100 between the side of the house and driveway; thermometer in winter occasionally registering as low as 24 degrees. Would like to use evergreen shrubs and to have some in bloom each month. Thought of having a row of roses along driveway and arranging balance in clumps with other flowers, and walks between. —Subscriber, El Cajon.

It is difficult to suggest the arrangement of such a planting without having seen the location and having a knowledge of this particular piece of ground in its relation to the surroundings. If there are buildings to the rear, and no special view from the dweling would be obstructed I would plant a group of half a dozen palms—Chamaerops Excelsa—at the extreme end. It is a palm of great beauty, not a rapid grower and one of the hardiest and should be planted in a group or cluster, and can be so planted as close as six feet. Some of the Bamboos are of graceful and elegant form and hardy. I name two that rarely exceed 10 feet in height and grow into clumps that are a source of endless beauty for the eye—Arundinaria falcata and Bambusa metake. If these are used they should be planted so as not to obstruct the view from the house. The list of evergreen shrubs that are flowering, and will endure a temperature as low as 24 degrees is rather limited. A few that are often grown for hedges make beautiful specimens when grown as single specimens. The Laurustinus is one and Ligustrum amurense is another. Pittosporum tobira is also a fine shrub. Prunus caroliniana, while often used in the south for a hedge plant, makes a grand specimen when grown alone. I would name two more plants that are usually grown as vines, but unless one has seen them under conditions where they were grown as shrubs, with fertile soil and abundant water and free cutting back to keep them in bush form, there can be no idea of their beauty as a flowering shrub. Tecoma (Bignonia) capensis, is one and the other is Plumbago capensis. But to get good rich colored flowers and bright luxuriant foliage they must have plenty of water and fertile soil.—Q. A. L.

Hen Manure for Oranges.

How much hen manure may I safely use per orange tree?—E. H., Nestor.

One grower says three or four inches thick, but we think a half inch thick is plenty.

Grafting Walnuts.

I am thinking of putting out some walnuts. My notion is to gather the native walnuts and plant them in a nursery, and from these graft or bud at the proper time to what I want. When and how should the walnuts be planted? How old should they be before grafting? I suppose you are still in favor of the native walnut. Any instructions will be appreciated.—C.

I am quite convinced that the native walnut makes the best stock and have seen a good many trees that had been grafted, the oldest being about 16 or 17 years and having large tops.

Your plan of planting in nursery form is the right one as then any necessary selection for vigor or growth can be made. There is no particular way in which the nuts should be planted, other than to have them in a straight row and at about 15 to 18 inches apart and about 3 inches deep The planting is usually done in February, the nuts having been kept in a cool dry place. If the nursery trees have made a good growth they can be budded in the following September, or later if the sap is flowing well, or they can be grafted the following February. Trees that are under one half inch in diameter are too small to work well, either for budding or grafting.

Planting Barley.

I am contemplating sowing 20 acres of barley for hay. Please tell me whether it will be a good plan to let the grass start before plowing and when is the time to sow?—E. A. B., Anaheim.

The Cultivator would hardly want to hazard a guess on the best time to sow barley for the coming crop. Last year the early sown gave the best results. Some will sow on the fallow land before the rains come so as to be ready for the very first showers. Others may wait until toward spring and possibly have better results. It depends upon seasons, and upon your soil and moisture conditions. Consult your neighbors who are producing under similar conditions, and get better information than any one at a distance can give. Whenever you plant you will probably wish before the season is ended you had planted earlier or later.

Defective Teat.

Cow has one teat which occasionally does not give much milk. That quarter of bag then comes very full, almost as if caked. By the next milking it is softened up and the milk comes, gargety at first and rather small in quantity. In a few days she is all right again, although she never did give quite as much milk in that quarter as in the others. This trouble repeats itself once in three months. What is the trouble and what can be done for it?—C. M. H., Whittier.

Careful milking out clean every milking will end this trouble. M. E. S.

Removal of Afterbirth.

I am troubled more or less every fall with some of my cows not cleaning properly. I have one now with a calf three days old that has not cleaned at all. Please tell me what to do for her.—O. P.

Whenever a cow does not clean within twenty-four hours we go after the placenta and remove it by hand. This is done by greasing the hand and arm, first carefully trimming the nails to avoid wounding the parts Carefully remove the afterbirth from the buttons, taking it off and not tearing them loose, for they are part of the cow, going slowly and carefully, not to tear the walls of the womb. It is a simple matter, but if you lack courage, almost anyone who has handled cows will help you out. After the afterbirth is removed, use a douche twice a day of a quart of warm water with corrosive sublimate tablet dissolved in it. Continue until all discharges cease. I believe this trouble can be in a measure prevented by giving the cows a good dose of Glauber's salts, one pound to one ounce of ginger, as soon as they begin to show they will calve within twenty-four hours. Bran mashes fed for a couple of days before calving will help greatly. This trouble rarely comes in the spring when cows are on green, laxative foods.—M. E. S.

Old Age.

I have a mare about 20 years old. Until recently she had always been in good condition and health. Was never overworked and has done nothing for a year except light driving. About two months ago she became logy, did not travel free, when urged beyond a slow walk or jog would immediately slow down again. Is slowly losing flesh; eyes watery part of the time, sometimes moistening a small streak 2 to 4 inches below them.—F. B. M., Chula Vista.

If a chronic case, I should say, debility of old age and nothing can be done. If an acute case, I should look for the tetanus or lockjaw. Watch closely for further symptoms. I had an animal once that lived two weeks in this condition. M. E. S.

Mending the Clock.

I have cleaned our clock and find it runs and keeps excellent time but cannot mauage to make it strike. I seem to have ommitted to put in some attachment. How can I fix it?—H. S.

This is so entirely outside of agricultural lines that the best of our specialists seem unable to give any answer. We imagine however an examination of the interior may develop the need of some little screw or other factor which may cause the clock to go on a strike again.

Bees Injuring Fruit.

We are in receipt of an anonymous box of grapes, regarding which the writer insists that the bees are injurious to the fruit industry. We would have been glad to have published the article in question, had the correspondent sent us his name as an indicatiou of good faith. The Reverened Bob Burdette says that the moment he opens an envelope he looks for the signature. If the letter is anonymous he consigns it to the basket without so much as reading the first line. This is a good plan and we believe we will follow it in the future.

Weevil.

How can I keep weevil out of beans? Also does it hurt melon and pumpkin seeds to wash them?—F. C. M., Turlock.

Bi-sulphide of carbon is the best remedy for the weevil, assuming that you mean the weevil that attacks the bean after storing. The beans are placed in an air tight room or box and bi-sulphide of carbon is used at the rate of oue pound to 100 bushels of beans. This is poured in a dish and the room or box instantly closed. Care must be used to keep from all danger of fire because the gas which comes from the bi-sulphide is very explosive.

When the melon or pumpkin seeds and pulp are fomenting so as to soften the pulp for removal from the seeds, rain water must uot be added. But after this is accomplished and the seeds removed from the pulp they are thrown into clear water and washed.

Bread for Hens.

What is the value of bread which is not musty? Can I pay one cent per loaf when wheat is $2 and corn $2.15 per hundred? Is there danger of over feeding ripe tomatoes and melons? We notice they eat these in large quantities.—Inquirer, San Diego.

We would surely buy all the bread we could get at one cent per loaf We assume you mean the ordinary one pound loaf. This would be at the rate of only $1 per hundred pounds for the most nutritive part of the wheat. It is possible that continuous feeding on the one diet would not keep the hens in the best of condition and the coarse grain would be necessary in a small quantity to balance the ration. We would however cut out wheat when feeding the bread. We do not believe there is danger of feeding too many vegetables or fruits. We imagine chard is the best vegetable to raise exclusively for poultry but would surely save all waste from the garden.

Basswood—Feed for Cows.

Has Eastern basswood or linden been planted in the San Joaquin valley? How many times per day should dairy cows be fed when they are kept in corral, their entire fare consisting of alfalfa hay?—Beginner, Modesto.

We cannot say as to the linden in the San Joaquin valley but know that it has grown well in Los Angeles county and makes a beautiful tree. Will some of our subscribers in the San Joaquin inform us as to its success there?

We notice in the corrals of some of the dairymen large racks which are kept supplied with alfalfa hay continually. We believe this would be our plan that the cows might go to the alfalfa as they preferred.

Ants.

As there have been several items in your paper lately about keeping the industrious and annoying little ants out of the pantry and victuals, it may be helpful to some one to know our plan.

In the first place we began with our safe in which we keep our victuals by putting the legs into old cans as stated in one of the other papers, only we used insect powder or buhach instead of liquid of any kind as it is cleaner and does not evaporate as any water preparation will. If cob webs and dust are not allowed to get too thick, will keep them off for a year or more without renewal.

On shelves that we attached to the sides of the building we use a top shelf one inch shorter and kept out from the wall ½ inch with double pointed tacks or short screws or anything that will answer for short legs on the under side of the top shelf. Then place enough powder on the shelf to cover a spot about as large as a silver dollar so these little legs will stand in the ceuter of each spot of powder then by being careful not to let milk pans or dishes extend over the sides against the building we have no trouble.

The top shelf can easily be made of two or three lath fastened together with small cleats and be lighter to handle when cleaning the shelves.

With best wishes for your very helpful paper I remain.—F. M. Smith. Ventura.

Locoed Horse.

Is there any remedy or cure for a locoed horse? I have one that is in the first stage from eating loco weed or rattle-box.—E. T., Turlock.

The government is investigating the question asked above, but as yet we believe there is no satisfactory

Anthrax Cure, Milk Fever Outfits. See O. J. Weber Co., 555-557 S. Los Angeles street, Los Angeles.

For Mehring Foot-Power Milking Machines see O. J. Weber Co., 555-557 S. Los Angeles St., Los Angeles, Cal.

remedy known. The writer has had just such an experience with an animal and was never able to accomplish anything other than to keep the animal from becoming excited or overheated, as much as possible.

Breeds of Hogs.

Having forty acres adapted to hog raising I wish to stock it with a pure strain of some good breed and am undecided what one to select. I wish to raise pedigreed stock for breeding purposes, as well as for market. Poland China seem to be the favorite here. What are the strong points in favor of Berkshires, the Duroc, and Poland China? What breed shall I select? I can produce plenty of corn, alfalfa, beets, melons and clover. —E. C. R., Lake county.

The inquirer asks questions which it would be impossible for any one to answer excepting himself. It has often been said regarding breeding of any kind of stock, "There is no best breed." The best breed for a particular case depends on the immediate situation, the market to be sought, and the most paying product for that market, and the fancy of the breeder. The fact that Poland Chinas are a favorite in the section in which E. R. has his ranch shows that they have been tested and found profitable. The Berkshire is a hog which readily adapts itself to almost any conditions and is grown all over the United States. It matures early, is a good grazer and fattens quickly. In tests in the Iowa Experiment Station the Berks made a daily gain of .98 pounds, the Poland Chinas .90, the Chester Whites .89.

The Poland China is the middle weight class, though they have been brought up to 200 pounds at 6 months. It is said to be the best breed to finish off early in fat form of any. The Chester White is another favorite in many parts of California. It carries too much fat to make, however, a good bacon hog.

The Duroc Jersey is one of the very best breeds and has many warm admirers in California. They mature early, are good feeders, and at the Ohio Experiment Station took on flesh at a cost of $2.27 per hundred pounds as against $2.33 for the Berkshire and $2.46 for the Chester Whites. "Types and Breeds of Farm Animals," also a new book on swine by F. D. Coburn of Kansas, now in press, would give much information to one intending to go into the swine industry.

Peckham Says:

What are you going to do with the boys? Keep them to work for a small salary all their lives? Why don't you

Send Them to Corcoran

Where each of them can become independently rich in a few years?

The Corcoran district is big—the opportunities are equally big. It is growing faster than any other section in California.

Thousands of acres, the richest in the State, are waiting for hustling young fellows—and it's easy to make there—all that is necessary is a willingness to work and intelligence to grasp the many opportunities that are waiting on every hand.

Come with us and let us show you the coming farming section of the State—where you can make $2000 a year—and bring the boys—let them see for themselves. It won't cost much to do it, or send for a copy of Profitable Realty, our magazine, which tells the story.

George C. Peckham & Company

203-4-5 Union Trust Bldg., Corner Fourth and Spring Sts.
Phones: Main 3221, F5392.

Bronze Turkeys.

In addition to the names of breeders of Bronze Turkeys given in answer to query last week we should have added the Stuhr-Williams Co., of Riverside have an excellent strain.

Ticks.

How may I get rid of blue ticks on chickens?—J. P. W., Porterville.

Grease the hens and spray the house thoroughly with strong distillate emulsion. See last week's Cultivator for answer to same query.

Wild Licorice.

Under separate cover I mail you weed said to be a pest worse than morning glory. It grows about two feet high and has a very tough root which is almost impossible to plow. I would like to know the name and the best way to fight it.—V. Walker, Santa Clara county.

The weed you find so troublesome a pest and so difficult to eradicate is Glycirrhiza glutinosa or Wild Liquorice, a native of this Coast and northward as far as Hudson's Bay. We were not aware of its ever having become a noxious weed, but if it has acquired these habits it will be found difficult to eradicate. Its roots are strong and deeply set, so that plowing them out is almost hopeless. The only method that promises success is to lay the affected fields to fallow for a season and systematically and continuously cut off each new stem as soon as it appears. If over an extensive surface this can be done by the cultivator.

Hot Tamales.

Please give me recipe for making hot tamales.—Subscriber, Irrigon, Oregon.

To prepare the corn, cover it with water, add the lime water and boil until the husks slip off easily between the fingers, then wash in cold water until perfectly white. The lime water is made by adding an ounce of common lime to a quart of water; stir well and settle. For the dough, add to one pint of corn meal one tablespoonful each of salt and lard, and enough boiling water to make a thick dough. For the filling, boil one pound of beef and pour over it hot beef fat; cut into small bits and season with salt and chile sauce. Put a layer of the dough in the husk, over this a tablespoonful of the prepared meat; roll like a cigarette, with a layer of dough between each husk. Tie each end and steam two hours.

Indian Game Fowls.

I am a subscriber of your paper and have been looking for advertisements of Indian game fowls in your columns. Where can I procure stock of that magnificent breed? Also where can I secure trap nests?—F. J. R., San Luis Rey, San Diego county.

Indian game fowl breeders should wake up and not hide their stock under a bushel, but proclaim it from the hilltops, or better, through the Cultivator columns. The trap nest may be procured from the Henry Albers Company, the Germain Seed Company, West Coast Stock Food Company of Los Angeles, or practically any poultry supply house advertising in the Cultivator.

Alligator Pears.

Regarding a query which recently occurred in the Cultivator, Mr. C. P. Taft of Orange writes that he does not know where alligator pear trees may be had. Also as to relative merits of Advance and Triumph loquats he could not say, as he is not acquainted with the latter. But he thinks both would do well in the Santa Rosa section, from which the query came.

Alfalfa.

I have a catalogue from an eastern nursery in which the claim is made that they have a variety of alfalfa or lucerne especially adapted to dry sandy land. Kindly let me know if this alfalfa would do well here where my soil is very sandy.—W. A. Kingsburg.

It would be impossible to give any information on this without knowing something of the variety. It may be the so-called Turkestan alfalfa which has been tested in Tulare county and found to do very well with a very small quantity of water. Where irrigation is impossible, the Turkestan has proved hardy and gives a very superior forage. Another variety, the Arabian, has lately been spoken of extensively. Regarding this we do not know other than that it was introduced by the Department of Agriculture and is said to be a prolific yielder.

Colorless Peaches.

A subscriber, J. C. Orrick from Cumberland, Maryland, sends the following: "In your issue of September 10th, A. L., San Bernardino, inquires as to lack of color in ripe peaches. I have known of two varieties (one of them the most delicious peach I ever ate) which never showed any color under any circumstances within my knowledge. But ordinarily the lack of color in standard varieties will be due to deficiency in the composition of soils. Since iron oxides are seldom or never present in California soil, I suggest the use of iron filings treated with weak hydrochloric acid and spread around the trees in very small quantities, about one foot from the trunk. The acid oxidizes the iron filings and seems to put the residual salts in proper shape for absorption by the trees. Since this is a good tonic and insecticide, it is worth trying for color of fruit as well."

Fistula.

Mr. Adam Bair, of Arroyo Grande, having cured a horse of fistula, writes: "Having cured a horse of mine of fistula I will give my remedy, as I notice a query, answered by R. T. W., in the Cultivator of September 10th. My horse had a fistula on the top of his neck, caused by a collar sore. After cleansing the sore out thoroughly I sifted pulverized bluestone in the hole and left it for a few days. Then I took hold of the top of the pipe and lifted it out, and in a short time the sore was entirely well."

Walnut Dip.

Kindly inform me as to what is the best solution for dipping walnuts for bleaching. Also what species of eucalyptus trees is the most profitable.—W. C., San Luis Obispo.

A bleach which was formerly used and was recommended by the University Experiment Station is as follows:

Six pounds of bleaching powder (also called chloride of lime) twelve pounds of sal-soda, fifty gallons water. Dissolve the bleaching powder in about four gallons of water, stirring until dissolved. Dissolve the sal-soda in about four gallons of water. Add one solution to the other and stir well, let the carbonate of lime settle to the bottom and draw off the clear liquor and add water to make a total of fifty gallons. Put the nuts in large dipping box or lath crate, immerse in the fluid, and then add one and one fourth pounds of fifty per cent sulphuric acid and agitate by raising and lowering the dipping box. The bleach

Continued on Page 335.

Classified Liners

Rates 1½ cents per word per issue. No ad accepted for less than 25 cents. Our classified columns are the clearing house for the readers of the Cultivator. Here you can insert an ad for the small sum of 1½ cents per word per issue, and be sure that it will be read by thousands.

MACHINERY.

WE CARRY A GENERAL LINE OF MAchinery, gas engines, air compressors, boilers, engines and pumps. 40 car loads of screw pipe and casing can be cut to lengths, also all kinds and sizes of fittings. Several hundred iron fence posts. R. KELLY MACHINERY CO., corner of Mission road and Macy street, Los Angeles, Cal.

FOR SALE—CHEAP FOR CASH SMALL pumping plant gasoline engine good make also pump new. A real bargain. Address MACHINERY EXCHANGE 945 N. Main St., Los Angeles.

FOR SALE—COMPLETE PUMPING PLANTS all sizes, also complete line of electric motors, new and secondhand as well as all kinds of other machinery. All guaranteed. BAILIE & BRANDT CO., 943 N. MAIN St., Los Angeles.

FOR SALE—MEHRING MILKING MAchine with extra parts and covered pail, all in good order. WM. H. BIRD, Box 6, Compton, Cal.

FOR SALE—ADDISON DEEP WELL PUMP never been used; at an exceptionally low price; also other standard makes, vertical and horizontal pumps. BAILIE & BRANDT CO., 943 N. MAIN Ct., Los Angeles.

FOR SALE—WINDMILLS, TANKS, PIPES and engines. Bore wells for 85c per foot and up. JOHN Q. MASTIN, San Gabriel, Cal.

FOR SALE—6 HP. GASOLINE ENGINE new never been used at a snap. Worth looking up. 117 BRUNO St., Los Angeles.

FARM LANDS FOR SALE.

DAIRY AND RANCH—ONE-HALF INTEREST in thirty acres within one mile of courthouse, set to alfalfa; well flows fifty inches; necessary buildings; twelve cows; milk wagon; route paying $200 per month. $2000 buys my equity. Am compelled to sell on account sickness. This is one of the best buys around San Bernardino, and any one looking for a home as well as an investment should not miss looking up this place. Address GEO. S. BURROWS, CARDIFF AVE., San Bernardino, Calif.

FOR SALE—FINE LITTLE CHICKEN AND fruit ranch on E. 10th St., Tropico. Park ave. stop Glendale line. 1¾ acres. Grapes, peaches, walnuts, apples, oranges, quinces and berries. 5-room modern, plastered cottage, barn. Best of soil. Price and terms upon application to owner FRANK METCALF, Inglewood, Cal.

RANCH FOR SALE—105 ACRES AT $40 AN acre; 85 acres in cultivation; nearly all of remainder can easily be put in cultivation; 45 acres level land; 800 full bearing apricot trees; 5-room dwelling; good large barn; fruit drying plant; 5 miles north west from Moorpark; half mile of school; land suited to beans, hay and corn. For further information apply to WM. ROBINSON, Moorpark, Ventura county, California.

FOR SALE—1 TO 10-ACRE TRACTS ON CAR line, between Riverside and new cement works; good for chicken ranches, alfalfa or gardening; will sell on easy terms; plenty of water on each tract. C. C. POND & N. R. BELL, Riverside, Cal.

POULTRY

SPECIAL SALE—TO MAKE ROOM FOR my young growing pullets I offer at common stock price all my this year's breeding pens, including many prize winners. This is a rare opportunity to get first class breeders cheap. At the last L.A.C.P.A. show my birds won all specials, all first prizes, and all seconds but one, that were offered on Barred Rocks. CHAS. E. SMITH, Gardena, Cal. San Pedro car via Gardena to Smith's Crossing.

FOR SALE—STOCK OF THE FOLLOWING standard bred varieties of poultry, Black and White Orpingtons, Brown and White Leghorns; won fourteen first and second prizes on fifteen entries, State Fair, 1908. J. J. VERKOUTEREN, Route 3, Hanford, Cal.

WANTED—MALE HELP.

NINETEEN JOBS GOING AT PRESENT—Electricity, plumbing, bricklaying taught in few months; tuition back after two months; advanced students paid wages. Free catalogue. UNION TRADE SCHOOL & CONTRACTING CO., 120-126 E. 9th St., Los Angeles, Cal.

DOGS.

SABLE AND WHITE COLLIE PUPPIES—Sires, Brandane Wishaw Squire and Glen Fana Bounder, litter brother to Aufield Model. Dams, Ormskirk Gloriana and Presidio Nellie. $10 to $25; 2 to 8 months. GLENALPINE KENNELS, Grandville, Cal.

TREES.

FOR SALE—1,500 EUREKA LEMON TREES and 1,000 Washington navel orange trees, true to name. Also street and ornamental trees. Clean, healthy stock only offered. GEO. B. WARNER, SANTA ANA, CAL.

PIGEONS.

PIGEONS—FANCY RUNT PIGEONS, LARGE prize birds. Mail Address R. F. D. 6, BOX 190, Los Angeles, Calif.

SHOPPING BY MAIL.

SAVE MONEY AND GET A BETTER choice by shopping in a large city. We will do your shopping for you. Send for our free book. It tells you how. LOS ANGELES PURCHASING CO., 506 Bradbury Bldg., Los Angeles, Cal.

HOGS.

REGISERED BERKSHIRE AND POLAND China hogs, both sexes. C. A. STOWE, Stockton, Calif.

PHEASANTS.

FOR SALE—FIFTY CHINESE RING NECK Pheasants in lots to suit the purchaser. Cocks $3.00 to $5.00, hens $1.00 to $2.00. Mrs. R. S. Spaulding, 533 WALNUT St., Woodland, Cal.

What MORE Could You Desire In A Savings Bank?

20,000 Depositors
Strong Directorate
Capital and Surplus
Over
$900,000
Resources
$10,000,000

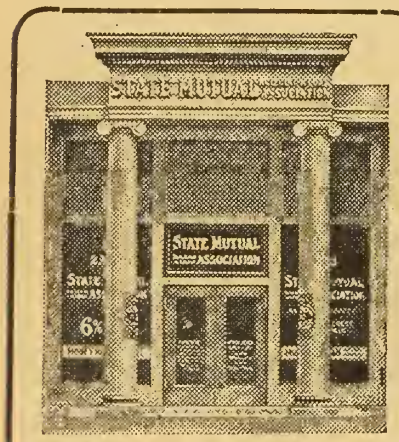
GERMAN AMERICAN SAVINGS BANK

Tallest Building in Los Angeles

SPRING & FOURTH STS.

Heart of the Business Center

Model Banking Facilities



6% INTEREST PAID
STATE MUTUAL
BUILDING & LOAN ASSN.
223 S. SPRING ST., LOS ANGELES, CAL.

ESTABLISHED 1889
Largest Association in California
Assets [Jan 1, 1908] $2,002,111
No Admission or Withdrawal Fee
Only 30 Days' Withdrawal Notice
Money to Loan for Building

OFFICERS AND DIRECTORS

DR. W. G. COCHRAN, President
A. E. POMEROY, Vice President
J. M. ELLIOTT, Vice President
W. D. WOOLWINE, Vice President
C. J. WADE, Secretary

D. M. CUTHBERT, Loan Inspector.
Send for Booklet and Statement
Mention This Paper

Your Eastern Trip

SOUTHERN PACIFIC

May be arranged so that you may travel by way of

New Orleans and the Sunset Route

San Francisco and the Ogden Route

Portland and the Shasta Route

Enjoying the balmy air of the South or the cool and bracing air of the North.

Personally conducted excursions every day from Los Angeles via all routes without change to principal eastern points.

Southern Pacific

Household Department

You shall seek that which you desire only by such means as are fair and lawful, and this shall leave you without bitternes toward men or shame before God. —Henry Van Dyke.

LAVINIA'S RUMMAGING.

"IT seemed like a good way to combine things—"

"Sort o' kill two birds with one stone," interjected Lavinia.

"That's it exactly, Miss Giles—select the things that we need for the missionary barrel, and put everything else in the rummage sale. Well, I must hurry along if I see every one on my list. You're the first one I've called on, and I'm glad you approve our plan."

Lavinia was straightening the mat on the porch as her visitor turned back to say: "Bring anything. Seem's as if people go crazy at a rummage sale—just as they do at an auction—and things sell if they aren't worth much. Just as if she'd bring anything that was," Mrs. Dempsey added contemptuously to herself as she closed the picket gate.

That afternoon Lavinia went up to the attic. "Well, I declare, I hardly know where to begin," she thought as she looked around. "There ain't any use opening that chest. My bedding's too good to give away to missionary barrels and rummage sales," and she turned away. "Here's those old Gazettes; I don't b'lieve there's any use keeping them any longer. Sakes alive! what a pack"—and she took them from the shelf. "They'll be nice for the barrel. Missionaries don't have any too much reading matter, prob-ly, and I don't s'pose I'll ever look at them again. And this lot of stuff here—my! how things do accumulate." A glass vase with a broken edge, bits of discarded bric-a-brac, a dinner castor with the stopper gone from one of the cruets, pictures without frames and frames without pictures. From the heterogeneous mass she selected carefully. "Castors have gone out, but mebbe they'll come in again, some time; keep a thing seven years and it'll be in fashion, they say. Anyhow I b'lieve I'll put it in. I always did think a castor set off a table; makes such a tasty centerpiece. It's too bad that piece got nicked out of the infant Samuel"—she regarded ruefully a plaster of Paris image—"but I can fasten on a bow so as to hide it; they put ribbons on to everything nowadays. Anyway she said to bring anything. I'm going to give this thermometer, too. I never had no use for a thermometer; I know when I'm cold and when I'm warm without looking at a toob of quicksilver."

Once Lavinia raised her hand to take from a nail a not immaculate lithograph of most improbable fruit, but she drew back. "I don't know as anybody'd buy it, on account of that stain; besides, I might want to clean it and put it back in the dining-room some time," she said irresolutely, but she lifted the picture down.

From a trunk in the corner she took a knitted shawl. "I could color it," and she looked at it critically, "but I don't know as it would pay, on account of those moth holes—that's what comes of trusting to other folks to put away things when you're laid up and can't do for yourself, but they can be ketched together; it'll do for the barrel, it's real warm. And here's that purple fascinator Mary Ann sent me—if that ain't the most outlandish color to make a fascinator! even the moths wouldn't touch it"—she smiled a grim smile—"but it's just as good as new, for I ain't ever had it on;" and she added it to the heap. Then she took out a pair of "arctics," gray and rusty looking. "These are real good ar'tics," she said, "not a break in them. I don't know whether I can find the strap to this one or not—but land! they can sew on a piece of black tape or something; a buckle being off don't hender the warmth. It's a wonder the moths didn't get at this brown coat. I don't know when I'm ever going to get around to make it over. It looks some threadbarer'n I was thinking, too, and the sleeves are awful old-fashioned." She worked into it and surveyed herself in a cracked mirror which hung on the wall. "Well, I declare, if I don't look as if I'd come out of the ark, and I must have been getting stout, it don't come together. It's short-waisted, too," she soliloquised, twisting around for a better view of the back. "Evidently there ain't any use keeping this, but it'll certainly make a fine coat for that missionary's wife."

She opened another trunk, which breathed out a powerful suggestion of mothballs. "I don't b'lieve there's any use opening this; I know just what's in it;" but she hurriedly went over the contents. Flannel underwear, yards of dress stuffs neatly folded in paper, layers of stockings and mittens rolled into balls. People often speculated as to what Lavinia Giles did with all the things she knit. She hesitated a little over the warm long-legged stockings; and once she stopped to unfold a gaily-striped scarf and look at it for a moment, waveringly. "I s'pose it's pretty cold out there in Dakota," she thought with a sigh, but the scarf was replaced with the other things.

Lavinia closed the trunk with a satisfied sniff at the strong odor; no danger of moths getting into that. "When I do things I do 'em right. There's that big packing trunk full of things, too, but I won't disturb it; they're just as good as these, every bit. Well, I guess I've looked around here long enough." She halted at the chest of bedding, and raising the cover, peered into it for a moment undecided, then shook her head, and went on down the narrow stairs.

There was a pause at the door of the hall closet, but more for the pleasure of viewing her possessions than for anything else. Every hook was full, every shelf piled high. "I don't b'lieve there's many houses in Grafton any better stocked than this is," she said complacently, as she adjusted the folds of a gown that encroached too much upon its fellows. "If I was to drop off sudden I wouldn't have any call to feel ashamed of the neighbors coming in and looking through my things."

Just then there was a faint knocking down stairs. It was Abby Parker, the thin-faced little seamstress, at the kitchen door. "I just stopped in to tell you that I can come Saturday, if Janie's all right, and if you want me," she said as she warmed her hands over the shining black stove. "She ain't feeling real well today, and I'm taking the day off to kind o' look after her, and to run over to Mrs. Dempsey's with my contribution—for the Aid Society, you know," she added, as Lavinia looked at her blankly. "Of course, I couldn't do much, but every little helps."

"What you going to give?" Lavinia asked bluntly.

Abby reddened a little at the abruptness. She lifted a small package from the chair where she had laid it, and untied the string. "I don't know but you'll think it's a pretty small contribution, Miss Giles," she said deprecatingly, "I couldn't find anything for the rummage sale."

"Well, for the land's sake, Abby Parker! you ain't going to send that collar?"

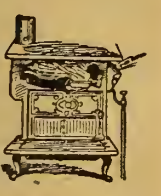
"Why, yes," Abby said, somewhat taken aback, "ain't it all right? Won't they like it?"

"Oh, they'll like it fast enough—but it's that handsome new collar your cousin from Philadelphy sent you. I don't b'lieve you've ever wore it."

"Oh, no," quickly replied Abby, "I haven't. It ain't been out of my bu-

Hague Domestic Oil Burner

Showing the Method of Attaching to Cook Stove. A device for using low grade distillate. Saves 40 per cent of cost of coal or city gas—let us prove it. Write for circular.



Hague Domestic Oil Burner Co.

214 Winston St., Los Angeles, Cal.

PIANOS Slightly used Steinways; 1909 Model Lyon & Healys, and other remarkable Bargains. Lyon & Healy, 80 Adams St., Chicago. World's Largest Music House

Our Great Re-Building Sale is Now in Progress!

EDISON PHONOGRAPHS, VICTORS, ZONOPHONES
Records and Supplies, delivered at your nearest railroad station upon receipt of full retail price. Write for particulars and ask for catalogue. Peter Bacigalupi & Sons, 1113-15 Fillmore St. San Francisco

FARMERS' BOOKS

Order Through the Cultivator

FEEDS AND FEEDING.—By Prof. W. A. Henry. Is a thorough, accurate and reliable handbook for students and stockman, giving most practical and useful knowledge on plant growth and animal nutrition, feeding stuffs, feeding animals and every detail pertaining to this important subject, indispensable to every owner of live stock. 658 pages. 6x9 inches.
Cloth $2.00

AMERICAN GRAPE GROWING AND WINE MAKING.—By George Hussmann of California. With contributions from well known grape growers, giving wide range of experience. The author of this book is a recognized authority on the subject. Illustrated. 269 pages. 5x7 inches.
Cloth $1.50

STANDARD OF PERFECTION.—By the American Poultry Association and used as the standard for judging all shows. The thing for dealers in fancy stock.
Cloth $1.50

PERFECTED POULTRY OF AMERICA.—This is the most recent publication, and is one of the finest poultry books ever issued. It contains full page illustrations of all breeds and varieties of poultry, turkeys and water-fowl. On many of its pages are represented the feathers from each section of the fowl. Gives the information necessary for the selecting of the best specimen in your flock.
Cloth $2.50

A. B. C. AND X. Y. Z. OF BEE CULTURE.—By A. J. and E. R. Root, the leading authority on Bee Culture Its reputation is known to all Beekeepers. 536 pages.
Cloth $1.50

CAMPBELL'S SOIL CULTURE MANUAL.—By H. W. Campbell. The originator of the "Campbell System of Dry Farming." A complete guide to scientific agriculture as adapted to the semi-arid regions. Of great value to all Western ranches. 320 pages.
..... $2.50

THE NEW AGRICULTURE.—By F. Byard Collins. A new and authoritative work dealing with the changing agricultural conditions. Why "Back to the Soil" is calling millions from the cities to the farm. The debt which agriculture owes to science. Irrigation, fertilization, machinery, etc.
Illustrated, 374 pages, cloth.....$2.00

Cultivator Publishing Company

reau drawer, except just to look at, since it come. I'm going to ask 'em to put it in the barrel. I thought," she said, as she stooped to pick a stray thread from her skirt, "that I'd like to send that home missionary's wife something kind 'o pretty to wear. I know all she asked for in the letter was the things they had to have, but I think it's real pleasant," she added, hesitatingly, "to have something besides just necessary things sometimes."

After Abby had gone Lavinia sat a long time by the stove. The tea-kettle rocked comfortably back and forth for a while, singing its happy little song, then as if impatient at being ignored, began to bubble over clamorously.

Lavinia rose mechanically and set it further back. "A selfish, good-for-nothing old thing," she uttered sadly. The tea-kettle, evidently hurt, subsided into a protesting murmur.

"I never realized," she said humbly, "what a perfect miser I'm getting to be." Turning, she looked steadily at herself in the little kitchen mirror. "Don't seem 's it could be me. I didn't use to be so stingy. What would pa and ma've thought! I hope to mercy they don't know. Someways it's been so long sence I've had anybody to care about or do for—and living alone and all—I s'pose I've got kind o' warped." The face in the glass grew blurred. Lavinia laid her head against the shelf for a moment, then raising it with an impatient motion she went resolutely upstairs.

"I expect it'll come pretty hard," she said, "but I'm going through this house from top to bottom, and I'm going to give till it hurts, and then I'm going to keep right on giving till it stops hurting, as that preacher said."
—Country Gentleman.

HOW TO LIVE LONG.

A SUBSCRIBER writes, inquiring if I can give him a few simple rules, which, if followed, will tend to produce longevity. You bet I can; he has come to the right man. For some time past I have been carefully and thoughtfully investigating this important subject, and I have compiled a set of rules, each one of which was given to the world by a recognized authority and scientific expert. I claim no credit for these rules, for mine has been merely the work of the compiler, and far profounder savants than I, delving amidst the secrets of nature have discovered and given them to the world. But here they are, every one of them bearing the trademark of some gifted and tireless investigator:

Don't sleep within walls, for life-giving ozone is less plentiful there.

Don't sleep out of doors, for the outer night atmosphere tends to the development of malignant germs.

Don't drink during meals, for nature should supply its own moisture for food.

Don't drink between meals, for in so doing you impede the digestive organs and sooner or later a breakdown must result.

Don't drink alcoholic liquors at any time, for their unnatural stimulation must result in reaction.

Drink alcoholic liquors moderately, for tired nature must be toned up to its normal condition.

Eat only fruit and nuts, for it is demonstrable that they supply the proteids or tissue builders.

Make meat your principal diet, for it supplies the body with heat, which is but another name for energy.

Be extremely cautious not to eat anything that you like.

Feel no hesitation about eating anything that you don't like.

Bathe daily in cold water.

Bathe daily in hot water.

Take baths but rarely, for they are weakening.

Don't worry. Perhaps you cannot help it, but don't anyway.

Keep a cheerful spirit, but preserving it in alcohol in order to keep it is recommended only where other means fail.

Don't breathe air that contains microbes. (N. B.—All air contains microbes, so you should be particularly cautious about heeding this rule.)

Don't handle money. It disseminates microbes.

Don't kiss the girls. So do they.

As has been said, there is not a rule in this list, I believe, which was not first promulgated by some recognized scientist and savant, and by carefully following them all, a long and miserable life should be assured. Anybody thus can live to old age—if he wants to pay the price, and I hope that all of my readers will do so.

But what about myself, do you say? Oh, I have concluded that for my part I will pull along as did my grandpas, disregarding these simple laws of health and cutting myself off in the prime of my young manhood, as they did, at somewhere between 80 and 95 years of age. They did not heed the microbes, they breathed when and where they pleased, they ate and drank what they chose, and so they wrecked and terminated their lives while they still lacked a little of reaching the century mark; and that is the kind of wrecker I am. I may die with the bloom and flush of ninety years upon my youthful brow, thus failing of that old age which I might reach, but I am blessed if I am going to heed rules which only a fool would follow, and he can't.

Still probably you should follow these rules, as some of you try to do, for a multitude of sages have announced that they will result in longevity and anybody should see that it is worth while to make oneself miserable in order to have a long period of the misery.—Waterhouse's Paper.

HOME-MADE FRUIT JUICES.

Before beginning to prepare grape juice—and the same rule applies to other fruit juices—be sure that you have a supply of good sound bottles on hand. Whether the bottles have been used before or not, be careful to sterilize both the bottles and corks. Then wash the grapes thoroughly to remove all dust and germs.

When the grapes have been cleansed, pick them from the stems and put them into the preserving kettle. Let them boil gently for about half an hour over a slow fire and, as they cook, crush them with a wooden spoon. At the expiration of the half hour press them through a colander or cheesecloth sieve; then put the strained juice into a preserving kettle and let it boil up.

As soon as it has boiled move it from the fire and skim it. Repeat this operation and after it has been skimmed the second time add about a gill of sugar to each quart of juice and stir the mixture until the sugar has dissolved. Then let it boil for five minutes longer, skim it very carefully and pour the result into the bottles, which must previously have been heated. Set some pans of boiling water in a moderately hot oven and stand the bottles in them as they are filled. Let them remain there for fully ten minutes, then set them where they can cool, being careful not to put them in too cold a place or where they will be in a draught.

To make strawberry, raspberry or blackberry fruit juices, proceed exactly as you would for grapes until you come to the addition of the sugar, as these berries require fully a half pint of sugar to each quart of the juice.

This receipe does not keep the natural fruit flavor as does the usual method of sterilizing the juice in bottles, but this makes a nice drink and one especially valuable in making fruitades, etc.

HOMELY HINTS.

When flatirons become rough or sticky, lay a little salt on a flat surface and rub the irons over it well.

One tablespoonful of turpentine put in the water in which clothes are boiled is an excellent way to whiten them.

Dry salt in the oven with a teaspoonful of cornstarch before filling salt shakers. This keeps the salt from lumping.

To remove grass stain, rub the stain well with alcohol before the garment has been wet; a thorough application will remove all traces of stain.

The Oldest Savings Bank in California

FOUNDED IN 1857

The Savings and Loan Society

101 Montgomery St., Cor. Sutter St., San Francisco

CAPITAL FULLY PAID $1,000,000.00

Exclusively a Savings Bank whose policy is for ***Conservatism*** and ***Safety,*** the result of ***50 years experience.***
Deposits may be made and withdrawn by mail.

San Francisco Savings Union

Founded June 18, 1862 **Northwest Cor. California and Montgomery Sts., San Francisco**

Conducts a Savings Bank Business Exclusively

Capital Paid Up, $1,000,000.00 Surplus, $1,183,632.00

Total Assets, $27,508,850.00

E. B. POND, President.

W. C. B. de FREMERY AND C. O. G. MILLER, ... Vice-Presidents
LOVELL WHITE, Cashier. . . . . R. M. WELCH, Asst. Cashier.
Directors: John F. Merrill, Wm. A. Magee, W. C. B. de Fremery, H. C. Breeden, Jacob Barth, Fred H. Beaver, Wakefield Baker, C. O. G. Miller, E. B. Pond.

Every facility afforded for opening accounts and making deposits and withdrawals by mail. Correspondence invited.

LEARN

Plumbing, Electricity, Plastering or Bricklaying

Our graduates make $6 per day after three months instructions
You can enter at any time.—No previous knowledge required.
NO BOOKS—TOOLS TAKE THEIR PLACE
Day and Night Classes. Our Scholars are from 15 to 50 years old
Positions Secured and Experience Given on Outside Work **Write for Free Catalogue**

COYNE NATIONAL TRADE SCHOOL Inc.
233 8th Street, San Francisco, Cal.

$16.30 buys this handsome six-hole Nickle-Trimmed Cast Range direct from the Manufacturer

without high shelf. With high shelf, just as shown in the cut, $19.97; large oven, six cooking holes, best quality of iron. Burns coal or wood. Handsome nickel trimmings. OUR TERMS are the most liberal ever made. You can pay after you receive the range. You can take it into your own home and use it 30 days. If you don't find it exactly as represented, the biggest bargain you ever saw, you won't have to keep it.

Write today for our beautifully illustrated Stove Catalogue No. 101-C. A postal card will do it. Don't buy until you get it.

P. F. Ross & Co.
268 Market St. San Francisco, Cal.

Home Made Ice Cream and Candy

Appeals to Everyone in the Family

Has been going since the very day of publication. Full of all that is known about Home Made Ice Cream and Candy. Nearly Three Hundred Formulas.

Make 60 cent Chocolates for 15 cents
Taffies Nut Candies Butterscotch Everything

A 50c Book **You Get It Free With the Cultivator** For 1 Year's Subscription

Paid in advance. For old or new names who pay for the coming year. Enclose a $1.00 bill and ask for the "Candy Book." But remember, you will not receive the book unless the remittance pays for at least a whole year from this date. Address

Cultivator Pub. Co., Los Angeles, Cal.

The Produce Markets

Los Angeles Markets

LOS ANGELES, Sept. 3. 1908.

Butter.

Butter was advanced 2½ cent on extras on Monday and the market is in a firm condition.

Creamery ex per roll.... ....67½
Firsts............. 60
Dairy........ 25
Eastern Extra.... 30
Ladles...... 23
Cooking.......... 23
"Butterine"....... .... 16@20

Cheese.

Southern California...... .... 14@15
Northern fresh ....14½@15
Longhorn...... ....17@18
Eastern singles ....15@16¼
Cheddars......... 19
Imported Swiss.......... ....27@28
Swiss........ ....15½@16
Daisy 17½
Oregon.......... 16
Limburger...... ....15@16

Eggs and Poultry.

Eggs have advanced a couple of cents, in fact advanced during the week 2½ cents and declined on Monday ½ cent to 40 where it stands. The general tone of the market is good though some inferior stock has been received.

Eggs local candled 40
Eggs case count buying price......35
Firsts fresh 37
Storage selected...... ....26@27
Storage, short time.......... ....28@30

Wholesale prices:

Hens per pound...... ....13½@14
Young roosters per lb..............17
Fryers.......... 18
Broilers per lb........ ....18@19
Roasters...... 18
Old rooster...... 7
Turkeys.... ....16@19
Geese........ 10
Ducks................ 11
Squabs....... ....1.25@1.75

Live Stock.

The following quotations are f. o. b., Los Angeles, on all stock.

Hogs from 175 to 200 pounds........6¼
Prime steers..... ....4¼
Heifers... ....3½@3¾
Calves per lb........... ....4½@5
Sheep ewes per head........3.75@4.00
Lambs per head...... ....2.75@3.25
Wethers.. .... .4.00@4.50

Potatoes.

Wholesale prices are:

Sweets per ctl...... ....1.40@1.50
Sweets red...... ....1.15
Burbanks choice ....1.05@1.20
Northern Burbanks fy............ 1.25
Local Burbanks...... ....1.50
Highland fancy........ ....1.35
Coast 1.10
Salinas ....1.75@1.85

Onions.

Wholesale quotations are:

Silverskin new........ 90
Northern Red........ ....90@1.00
Australian Browns.... ....90@1.00
Danvers ....90@1.00
Garlic...... ....9@10

Vegetables.

Asparagus per doz.... 80
Artichokes per doz Northern........70
Artichokes local per box...........40
Beets per doz........ ....30@40
Bell peppers per lb large..........3@4
Bell peppers box........ ....20@25
Beans limas per lb.......... 3
Beans string 5½
Brussels sprouts per lb............9@10
Cabbage sack.... ....1.25
Cabbage red per lb.................2
Celery per crate.... ....1.75
Celery ex fy...... ....3.00@3.50
Corn per box.... 40
Chicory per bunch.......... 10
Cucumbers per box...... 40
Cauliflower per doz ....1.25@1.40
Carrots per doz.... ....30@40
Egg plant per box...............15@30
Green onions doz bunches......20@30
Horseradish...... ....12½
Lettuce per crate........ ......75@1.00
Okra...... ....6@8
Peas sugar per lb..................5@6
Parsley. 30
Parsnips...... ....35@40
Rhubarb per box...... ....1.25
Radishes per doz.......... ......15@20
Summer squash per box..............40
Spinach per doz.. ....15@17
Turnips doz bunches.... ....30@40
Tomatoes lug box.. ....25@40
Tomatoes yellow.......... .. ....50@65

Citrus Fruits.

Valencias...... .... 2.30@2.50
Grapefruit seedless....... ....3.00
Grapefruit seedlings...... .. 1.75@2.00
Lemons fy........ ....3.00
Lemons choice...... ....1.50

Fresh Fruits.

A large amount of partially spoiled grapes was on the market yesterday. This is the first of the damaged fruit that has reached here since the rain, but the condition of these few boxes shows that the damage to the whole crop has been considerable. The fact that the grapes on practically every vine were spoiled more or less has had demoralizing effect on the market.

Wholesale prices on the market are:

Astrachans 1.00
Astrachans packed box........1.35@1.50
Bellfleurs ....1.05@1.15
Alexandria 4-tier...... ...... 1.00@1.10
Gravenstein 4-tier.... .. ....1.15@1.25
Skinners 4-tier.... ....1.15@1.25
California Jonathans.... ....1.20
Red Pearmains.. ....1.25
Crab apples........ ....1.50
Apricots cold storage........ 50
Cantaloupe locals large crate......1.50
Casaba crate.... ....1.50@1.75
Figs per fig box.... ....75@85
Christmas melons per doz....1.00@1.20
Figs blk per fig box..................85
Guavas per lb........ ....5@6
Muscats per lug box...........50@75
Grapes Malaga...... ....50@75
Grapes Concord per lug box........75
Grapes Tokay.... ....75@1.00
Grapes Red Emperors........ 90
Cornichons...... ....1.00
Rose of Peru...... ....35@50
Grapes Black Hamburgs 50
Nectarines..... ....1.25
Pears per box........ ....1.60
Pears lug box...... ....1.10
Pears Winter Nellis per box........50
Plums Sonoma.... ....50@60
Plums Kelsey 50
French prunes.... ....75@85
Hungarian prunes...... 85
Peaches per lug box...........50@75
Peaches clings.... 50
Pineapples per lb 7
Quinces...... ....65@75
Raspberries per box...... 11
Strawberries per box...... ....5@6
Extra fancy........ 10
Blackberries per box...... 7
Huckleberries........ 4
Watermelons per lb.... ....¾@1

Dried Fruits.

The dried fruit market has been slightly strengthened by the storms of last week. A Fresno raisin grower says:

During the past few weeks I have tried to make as careful and complete an investigation from both points of view as it was, or is possible to make, and believe that this year's crop will not exceed 40,000 tons.

Every grower knows, and most packers concede, that last year was an unusually favorable one for the development of sugar in the fruit; this applies to all kinds of dried fruit, and was especially noticeable in prunes and raisins. Last year the average weight of sweat-boxes was about 175 pounds, against a normal weight of 140 pounds. This, with the well-known tray shortage, will bring this year's crop to little more than 50 per cent of last year's crop.

Another important fact, upon which nearly all growers agree, is that the berries are much smaller this year, and will therefore run to a greater percentage of two-crowns than usual. This will naturally make the tray weight of the fruit less, besides creating a decided shortage in the percentage of three and four-crowns.

Wholesale prices are:

Apricots...... ....8@9
Evap. apples fy per lb...........8@9
Figs loose white...... 6
Figs blk........ 4
Peaches ....8@9
Pears.......... ....9@10
Nectarines........ ... .9@10
Prunes... ....4@4½

Beans Dried.

Wholesale prices:

Limas per ctl...... ....4.75
Lima, new crop.......... ....4.50@5.00
Pink No 1...... ....3.50@3.60
Lady Washington ....3.90@4.00
Small white 4.00
Black eyes.... ....3.40
Garvanzas... ....4.80@5.00
Lentils... ....9@10
Bayou.... ....3.80

Nuts.

Walnut prices as established last Tuesday are as below:

Almonds IXL per lb...............14
Almonds choice...... .. ..10@12½
Pecans polished.......... 18
Peanuts Virginia...... 8
Peanuts California........ 7
Walnuts No 1 SS..................12½
Walnuts No 1 HS...................12
Walnuts No 2 both hard and SS..8½
Walnuts all less1½ per cent to trade

Honey.

Wholesale quotations:

Extracted Water White..... ..7½@8½
Extracted Amber... ....6@6½
Comb W W.................. 15
Comb, white......... ... .14
Beeswax...... ....28@29

Hay.

Prices paid to producers f. o. b. Los Angeles are as follows:

Barley No 1........ ....13.00@15.00
Barley No 2......... ....10.00@13.00
Alfalfa northern per ton....11.00@12.50
Alfalfa local...... ....12.50@14.00
Plain oat No 1..............15.00@17.00
Wheat No 1........... ......13.00@16.00
Wheat No 2.......... ......12.00@14.50

Grains.

Wholesale selling price f. o. b., Los Angeles.

Wheat new per ctl.................1.85
Wheat in 100-lb sacks...... ......1.90
Kaffir corn...... ....1.80
Corn Eastern sacked...... ....2.00
White oats.. .. ..1.80

Feed Stuff.

Selling price F. O. B. Los Angeles as follows:

Cracked corn........ ....2.05
Shorts........ ....1.80
Bran.......... ....1.65
Oil cake meal........... ....2.50
Feed meal...... ....2.10
Rolled barley 1.50

San Francisco Markets

SAN FRANCISCO, Sept. 29, 1908

Butter.

Butter was marked up from the 30½ cents on extras of last week on Saturady to 31 where it still stands. At that quotation it is not active though the general tone is firm and no indication of a decline.

California extras per lb..............31
California firsts...... ....27½
California seconds...... ....22½
California thirds...... 20
Eastern extras.... 27
Fresh packing stock 23
Packing stock No 2..................20
Storage Cal. ex 25½

Cheese.

California young American fy....12½
Firsts...... 12
California flats fy...... ....12½
Firsts...... ....11½
Young America fy 14½
Eastern fy........ 16
Oregon fy...... 13

Eggs and Poultry.

Eggs advanced 2 cents soon after last week's quotation of 40 cents and still stand at 42 cents for extras with good eggs scarce and dealers holding for full quotations.

Official quotations of the S. F. Wholesale Dairy & Produce Ex. are:

Fresh ranch extras.... 42
Eggs firsts per doz..................38
Eggs seconds.... .. ..26½
Eastern selected........ 22
Eastern firsts 25
Eastern seconds.... 23
Storage..... 30

Hens per doz.......... ....4.00@5.50
Hens extra ....7.00@9.00
Young roosters.... .... 6.00@7.00
Old roosters...... ....3.50@4.50
Fryers per doz.......... ......5.00@5.50
Broilers per doz........ ......3.00@4.50
Geese per pair ....2.00@2.50
Goslings per pair...... ......1.75@@2.00
Ducks young ....6.00@8.00
Hen turkeys per lb................21@23
Gobblers live.... ....21@23
Pigeons young...... ....2.00@2.50

Live Stock.

San Francisco prices gross weight:

Steers No 1...... ....3¾@4
Do second quality...... ......3¼@3½
No 1 cows and heifers................3
Second quality...... ....2¾
Hogs 100 to 150........................6
Hogs 150 to 250.....................6¼
Rough heavy......... ....4¾@5¼
Calves per lb.......... ....3½@4½
Lambs spring.... ....4@4½
Wethers No 1 ....3¾
Ewes No 1.......... ....3¼

Potatoes.

Wholesale market quotations:

River whites fy...... ....75@85
River whites poor.......... ......50@70
do per box........... ....1.00@1.15
Early Rose new........ ....75@85
Salinas Burbanks...... ......1.25@1.60
Sweets crates 1.65

Vegetables.

Wholesale quotations:

Asparagus per lb....... ....7@8
Asparagus No 2..... ....4@5
Bell peppers per box.............25@40
Celery per doz...... ....35@50
Cucumbers per box...... ....30@40
Cucumbers pickle.. ....1.00@1.25
Cucumbers pickle No 2..........65@85
Chili peppers per box...........30@40
Corn per sack.... ....1.00@1.75
Egg plant per box..............35@40
Green peas per lb...... ....2@5
Lima beans........ ....2@3
Squash per box.... ....30@40
Onions green per box..........70@75
Okra per box.... ....40@60
Rhubarb per box....... ....60@65
Tomato River large box..........15@40
String beans.......... ....2@4
Wax beans...... ....2@3
Garlic new........ ....4@5

Onions.

Onions yellow per sack..........50@55

Citrus Fruits.

Valencias fy........ ....2.00@3.50
Grapefruit seedless........ ..2.00@3.50
Lemons ch.... ....1.50@2.00
Lemons fy..... ....2.50@3.00
Limes...... ....4.00@5.00

Fresh Fruits.

Apples per 4 tier box..........1.00@1.25
Apples per 4½ tier box..........75@1.00
Apples unwrapped.... ....60@75
Crabapples........ ....50@60
Blackberries per chest.... ....2.00@4.50
Figs per crate one layer........40@65
Grapes seedless.. ....50@75
Grapes Muscats...... ....20@40
Grapes Rose of Peru.............15@30
Grapes Tokays...... ....20@40
Grapes Isabellas crate.... ......40@60
Huckleberries per lb.... ....12½
Loganberries........ ... .4.00@6.00
Cantaloupes River nutmegs.... ..15@40
Muskmelons.. ....75@1.00
Nectarines red..... ... .75@1.00
Nectarines white... ....50@60
Pears Bartlett per box..........15@50
Pears other varieties.... ....90@1.00
Plums & Prunes per small bx..40@65
Peaches lug box........ ....40@65
Peaches carrier box........ ......55@80
Peaches Mountain.... ....25@40
Pomegranates per box.... ......65@75
Aligator pears per doz.......7.00@9.00
Quinces per box........ ....60@75
Raspberries per chest.... ....5.00@7.00
Strawberries per chest...... ..5.00@7.00
Longworths per chest.........6.00@8.00
Watermelons per doz.... ......1.25@2.00

Dried Fruits.

Prunes 4-size basis.. ....3½@3¾
Santa Clara...... ....3½@4
1908s contracted for.... ....4@4½

New crop contracts, 25-lb. lots—Apricots per lb.: Choice, 6@8; fancy 9@10.

PEACHES—Choice 5@6; fancy 6-7

Apples evaporated.... ....4@6
Pears...... ....5@5½

RAISINS—1907 crop f. o. b.; Clusters and layers. 30-lb bxs—Imperial Clusters, 6-crown, $2; Dehesa Clusters, 5-crown, $1.75; Fancy Clusters, 4-crown, $1.40; London Layers, 3-crown, $1.10; do, 2-crown, $1.05. Seeded, 25-lb bxs—Fancy bulk per lb, 6½@7c; Choice bulk, 6½@7c. Loose Muscatels, 50-lb bxs— Standard, 4-crown, 5½c; do, 3-crown. 4¾c; do, 2-crown, 3¾c; Seedless, 4¾c. Seedless Sultanas— Unbleached, 4¾@5c. Thompson Seedless—Unbleached, 5½@6¼c. Dried Grapes, 4c.

New Crop Raisins—Preliminary prices are named as follows: Cluster—Imperial 6-crown, $2@3; Dehesa, 5-crown $2.50; London Layers, 2-crown, $1.25; 3-crown, $1.35; 4-crown, $2. Thompson's Seedless, 5¾c. Loose Muscatels, 5¾c. for 4-crown, 5c for 3-crown, 4½c for 2-crown and 4¾c for seedless.

Nuts.

Walnuts S S No 1 new crop...12½@13
Walnuts No 2......... ....10@10½
Almonds nonp.... ....11@12
Almonds IXL.... ....10@10½
Ne Plus Ultra........ 10

Beans Dried.

Limas....... ....4.50@4.65
Pink........ ....2.80@2.90
Small white........ ....4.30@4.40
Large white...... ....3.40@3.50
Lady Washington...... ......3.45@3.50
Black eyes...... ....3.00@3.25
Red kidneys...... ....3.00@3.25
Garvanzas.... ....1.75@2.00
Bayo........ ....2.80@2.90
Horse beans.. ....2.00

Hops.

Hops new crop......... ....9@13
Hops old stock.... ....3@6

Honey.

Clear white comb.. ....15½@16
Amber.... ....12@14
Extracted w c........... ....7@8
Extract light amber...... ......6½@7
Beeswax No 1 per lb............25@27
Beeswax No 2 per lb............24@25

Hay.

Arrivals of hay continue to run quite heavy, the total for the week ending today amounting to 3670 tons but little less than last week. It was generally expected that shipments would materially decrease about the middle of September in anticipation of rain. There seems to be quite a little out of doors however, and shipments from what are generally considered as outside points continue quite freely. Our present range of prices which is considerably above the average for this time of year, is attracting attention on many sides, sample shipments being made from Nevada from which state there is apparently quite a surplus of hay which can be brought

here under a moderate freight rate. For our fancy grades of hay we must depend on our own state and already both choice wheat and choice tame oat hay is being taken from the warehouses, same finding ready sale here is marketed sparingly.

The only item of interest during the past few days to be reported is the advertising for 10,000 tons of hay by the Government for shipment to Manila. As the delivery of this quantity will probably extend over a period of months and as it is generally conceded that because of lower prices this business must necessarily go to Seattle, we can hardly expect our market to be affected in any way.

Choice wheat hay.... .....17.00@18.00
Good wheat hay.... .....14.00@16.50
Other grades same..... ..11.00@14.00
Wheat and oat..... .....11.00@16.00
Tame oat..... ....11.00@16.00
Wild oat..... ....10.00@14.00
Stock hay..... ....8.50@10.00
Alfalfa..... ....9.50@13.50
Straw, per bale.. .....45@75

Grains.

Wheat No 1..... ....1.67½@1.70
Barley new..... ....1.30@1.35
Corn large yellow.....1.80@1.85
Oats white..... ....1.45@1.70
Oats gray.... ....1.65@1.70
Rye new crop.... .....1.45@1.52½

Feed Stuff.

Bran per ton.....29.50@31.00
Feed cornmeal per ton.....37.00@38.00
Cracked corn per ton.....38.00@39.00
Rolled barley per ton.....29.00@30.00
Oil cake meal per ton.....37.00@38.50
Cocoanut cake per ton.....25.00@26.00
Middlings..... ....32.50@35.00

Citrus Market

LOS ANGELES, Sept. 30, 1908.

The orange market is still more satisfactory and the few remaining will close at satisfactory prices. Extra choice are now selling at $3.00 and $3.50 per box in most Eastern markets. No fancy prices will be realized but the present conditions will probably continue until the end of the season.

Lemons are going forward daily and commanding good prices.

Shipments.

Shipments of citrus fruits since Nov. 1, '07, aggregate 28,904 of which 4593 were lemons. To same date last season 27,263 of which 3332 were lemons.

NEW YORK, Sept. 29.—Four cars Valencias sold. The market is firm on good stock. Weather clear, cool, favorable.

VALENCIAS—	Avg.
Iris DM Ft Ex.....	$4.40
Violet DM Ft Ex.....	3.75
Carmencita ST Ft Ex.....	3.35
Colombo ST Ft Ex.....	2.55
San Rafael N W Bailey.....	3.50
Mayflower R W Richardson..... ..	4.75
Mayflower ch R W Richardson....	3.95
Buena R W Richardson.....	3.50
Plain R W Richardson.....	2.75

BOSTON, Sept. 29.—Two cars sold. Weather cloudy. The market is firm on good stock. Nine cars on track.

VALENCIAS—
Red C Covina Ft Ex Covina.....3.45
Cougar Covina Ft Ex Covina.....2.10
Homer QC Ft Ex Corona.....3.15
Family QC Ft Ex Corona.....3.00

NEW YORK, Sept 28.—Nine cars sold; market remains practically unchanged.

VALENCIAS—	Avg.
Old Mission fy C C Chapman....	$4.90
Old Mission ch C C Chapman.....	4.30
Golden Eagle std C C Chapman..	3.30
Orchard or run National O Co....	3.70
Standard std National O Co.....	3.10
Cerrito fy L V W Brown.....	4.30
Swastika ch L V W Brown.....	3.20
Climax ex ch R E Peycke.....	2.40
Bunker Hill fy C C Union.....	2.80
Blue Seal ACG Ft Ex.....	5.05
Red Shield ACG Ft Ex.....	3.60
Green Crown ACG Ft Ex.....	2.50
Blue Globe Riv Ft Ex.....	3.60
Red Globe Riv Ft Ex.....	2.65
Bear OK Ft Ex.....	3.40
Eagle Highgrove Ft Ex.....	2.85
Yankee Doodle Highgrove Ft Ex..	1.75
LEMONS—	
XXX ST Ft Ex.....	3.55
EEE ST Ft Ex.....	3.10
GRAPEFRUIT (Halves)—	
Cerrito seedless fy L V W Brown..	4.95

PITTSBURG, Sept. 28.— Two cars sold; five cars on track. It is raining. The market is unchanged.

VALENCIAS—
Jasmine DM Ft Ex Duarte.....1.95
Primrose DM Ft Ex Duarte.....2.25
LEMONS—
Success or run Speich & Co.....3.40
Fountain ch Speich & Co.....2.45
Santa Fe std Speich & Co.....1.85

ST LOUIS, Sept. 28.—Weather cold. Market is firm on good stock. Two cars sold; five on track.

LEMONS—
Whittier ST Ft Ex Whittier.....3.45
Pico ST Ft Ex Whittier.....3.35
Loma ch Limoneira Ft Co.....3.25

BOSTON, Sept. 28.—Three cars sold; ten on track. Weather favorable. The market is firm on good stock.

VALENCIAS—
Quail OK Ft Ex.....3.00
Stag ACG Ft Ex Glendora.....3.35
Pointer ACG Ft Ex Glendora.....3.55
Hunter ACG Ft Ex Glendora.....3.25
Peacock Worthly & Strong.....1.60
El Toro Cal Clt Union.....2.45

CLEVELAND, Sept. 28.— Weather cool; raining. The market is firm on good stock Valencias. Market is weak on small size lemons. One car sold; two on track.

LEMONS—
Golden Rule Riv Ft Ex Riv.....2.90
Golden Riv Ft Ex Riv 1.75
La Paloma Riv Ft Ex Riv.....1.80
Housewife Riv Ft Ex Riv.....1.40

QUERIES.

Continued from Page 331.

should be reached in five or ten seconds, and the nuts are then washed in clear water and put to dry. Of course to employ this process cheaply specially contrived dipping appliances are used. The same liquor can be used with new batches of nuts so long as the proper effect is produced and small additions of acid will prolong the efficiency of the liquor.

We believe however that the above is the same process of which a firm claims the patent and on which suit has been begun to prevent growers using it without paying royalty. The other process which has often been used is the simple one of placing the nuts in a closed aperture and subjecting for about thirty minutes to the fumes of sulphur. A newer one which has been tested and will be used this season for the first time in a commercial way is the salt solution which is treated with a current of electricity in such a way as to release the chlorine. This is said to be the most perfect dip which has ever been tried upon walnuts.

The most profitable eucalyptus to raise can only be decided by knowing to what uses you expect to put it and something of soil and climatic conditions. Should you ask what is the best apple to plant, we would have to say it would depend upon the market and whether you wanted spring or winter crops. The same, in a slightly different measure, is true of planting forest trees.

Diseased Grape Leaves—Beetle.

I am sending a branch of one of my young grape vines I planted last spring and some of them are suffering, as you will see by the branch, from what looks like a mildew, but on close inspection I see some little long bugs on them. Please tell me what is the trouble and what to do for them and when to do it.

I have a fine large weeping willow tree by my house, of which I think a great deal. It has been attacked this summer and fall by a grub worm, which I am afraid will kill it. The worm is about three inches long and as large as my little finger. It bores into the body and limbs of the tree and causes a loss of sap and the tree to rot. What can I do to rid the tree of them?

I inclose with grape branch a bug that did great damage to my young plum trees. They eat all the buds and new growth that would start out on the young trees. What is the bug? And what can I do next spring to keep them from destroying the trees again? What few leaves are left are green, but the tree made no growth. Will the trees be all right next year or had I better dig them up and plant others?—C. M. M., Garden Grove.

The leaves were referred to the Pathological Laboratory at Whittier and answer was made as follows: "I think that I may safely diagnose from the specimens that your reader's vines are suffering from Brunissure. Brunissure is the name given to the browning of the leaf blade in vines debilitated from overbearing or other causes, and the only remedy for it is to improve the health and vigor of the affected vines. If at pruning time the cut surfaces of the spurs do not turn blue on being touched with a drop of a one per cent watery solution of iodine, fertilization should be resorted to; nitrogenous manures, especially those in which the nitrogen is present as a nitrate, being favored."

In the same box was a large brown beetle which was referred to Prof Quayle at Whittier who writes. "The large beetle is one belonging to the group commonly known as Leaf Chafers and bears the scientific name of Serica mixta. The larva of this insect feeds upon the roots of plants, especially of grasses, and is more likely to infest the sandy soils. As an adult beetle, it feeds upon the foliage of a large variety of plants, and has been known to do considerable injury particularly to the grape in San Joaquin county."

The large worm on the willow we cannot name without seeing but will refer to Mr. Mills for practical remedy if he has one.

OIL EMULSIONS.

Continued from Page 318.

gallons of 8 per cent crude oil emulsion will cost about 80 cents.

Changed Conditions.

Changed conditions make it necessary often to vary slightly the making of the emulsion, for which reason we advise making a small amount first, which avoids losses in case it fails to emulsify the first time. In general, however, if the tank holds 200 gallons put in it about 100 gallons of water and the required amount of emulsifier, stir well and add the oil gradually. If it fails to emulsify add a tablespoonful, more or less, of caustic soda. Miscible oils may be made with this emulsifier, but is not of any advantage in field operations.

What we need is a ready prepared miscible oil. Prepared emulsifiers have been and are on the market, but they need considerable manipulating, so much in fact that the orchardist can just about as easily make his own emulsifier and save considerable expense. We need a preparation containing a given amount of oil which will mix readily with water. Private concerns have given this some attention, but not enough. If the orchardists can be provided with miscible oils at a reasonable price we believe the demand will increase with mutual benefit to all concerned.

ROUP.

Continued form Page 327.

a one grain dose of quinine. Swab the mouth and throat with a solution of equal parts peroxide of hydrogen and water, with a small rubber syringe inject some of this solution into the nostrils and roof of the mouth. Where the case is severe vary this treatment somewhat.

Give Epsom Salts, immerse the head of the fowl in the solution of peroxide of hydrogen and water, keep it there until the bird strangles somewhat. This will get the solution into the mouth, nostrils and thorax and eyes, all of which are affected.

If the disease manifests itself as canker remove the covering from the sores with a swab and bathe with the solution of peroxide of hydrogen.

Feed stimulating foods, as mashes of middling, corn meal and beef scrap. The mash may be mixed with broth made by boiling beef liver till it breaks up rapidly.

If swellings appear on the head, open, as they begin to soften and cleanse with a small syringe and inject peroxide and water until there is no foaming.

THE "BOSS"
Tree Protecter

Made of Yucca Palm

Is cheap, durable and quickly put on the tree. It prevents Rabbits from destroying your trees. A sure protection against frost, sun-burn, grasshoppers or dry winds. Can be easily removed; will last for years.

Send for samples.

Prices

12 inch long,	$ 9.00	per 1000
14 inch long,	10.00	per 1000
16 inch long,	11.50	per 1000
18 inch long,	12.50	per 1000
24 inch long,	15.00	per 1000
30 inch long,	17.00	per 1000

Agents Wanted Everywhere

YUCCA MANUFACTURING COMPANY
1380 Willow Street Los Angeles, Cal.

Come to Oakland for Business Training

Polytechnic Business College and School of Ehgineering,

306 Twelfth Street, Oakland, California.

offers by far the best facilities ever devised in the West for highgrade business training. This large institution is like a series of large business offices where students are trained in actual business practice. Every graduate of the complete business course of this college is employed. Pleasant, homelike places in private families, for young men and women, are reserved, practically at cost.

Courses in Business Training, Shorthand and Typewriting, Telegraphy, also Civil, Electrical, Mechanical and Mining Engineering.

FREE College Journal and one doz. Cards with your name written thereon will be sent any one upon request.

230,000 DAY OLD CHICKS.

Ducklings, Goslings, Turkeys etc. have already been sold this year by the Pioneer Hatchery Co., 112 E. 8th St., Los Angeles. This concern ships chicks to most all points in Arizona, Nevada, and California. Several shipments have safely been made to Yuba City. Shipments are made each week to Goldfield, with practically no loss in transit. This concern has recently moved into their own new building at 108-110 and 112 E. 8th st. and will have much more room for their growing business. Visitors are always welcome, and a price list will be mailed to any one on request giving prices of chicks and the eggs of all varieties.

COUNTRY BOYS WANTED FOR BUSINESS POSITIONS.

Business men of Oakland and San Francisco, and other large cities, want young men reared in the country to prepare for commercial positions. Experience has shown that the average boy from the farm has habits of industry and integrity that make for success.

The Polytechnic Business College of Oakland, Cal., has made a phenomenal record in training and placing young men and women in business positions and the College is so located as to provide homelike accommodations at very low rates.

It is said that every young man who has taken the complete course in business training at this College has received remunerative employment upon graduation.

An illustrated Catalogue will be sent free to any one who will write to Prof. W. E. Gibson, 306 Twelfth street, Oakland, Cal.

SAW WOOD.

Have you wood to saw? Posts? Poles? Have you any sawing of any kind, including the sawing down of trees of good size in the woods?

If you have, let us tell you that the Folding Sawing Machine advertised elsewhere in this paper is a mighty valuable thing for you. Leaf through this paper until you find the little advertisement and read it. Then write to the makers and give them a chance to tell you about it—what it is, what it does, how much labor it saves, how easily it is handled, how easy it is to carry about from place to place, etc.

The advertising is just started in our paper. We welcome it because the Folding Sawing Machine is something every man with wood sawing to do ought to have. Don't fail to look up the ad and then write to the Folding Sawing Machine Co., Chicago and let them tell you all about the machine.

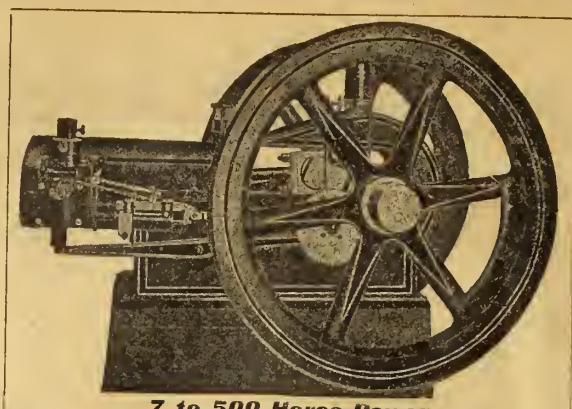
The Popular

Western

Built In the West **Best** For the West

FACTORY AT YOUR DOOR

LONGEST LIFE LEAST FUEL FEWEST PARTS ALWAYS GOES



7 to 500 Horse Power

Irrigation Plants Designed Constructed Installed

U. S. GOVERNMENT TEST

35 H.P. Western Engine Been Run 2 Years

RAN 87 DAYS DAY AND NIGHT

With One 20-Minute Stop to Lace a Belt

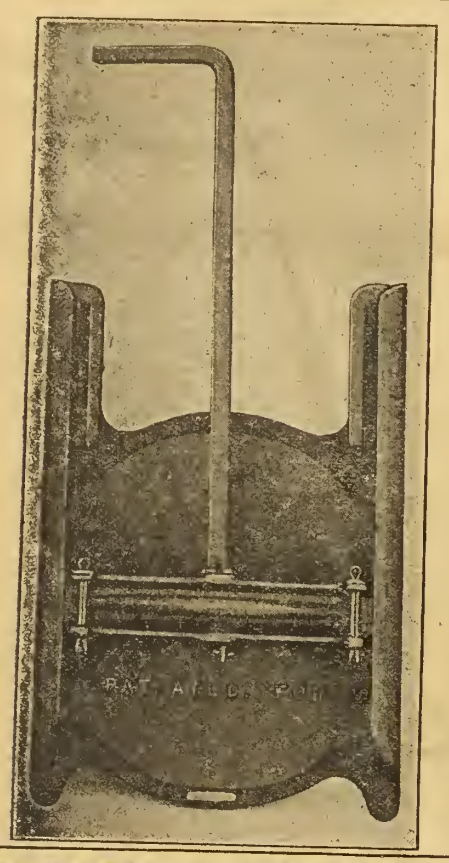
Send for the Copy of Test

Western Gas Engine Co.

Works and Office:

908 to 932 No. Main St. Los Angeles, Cal.

Send for Catalogue.



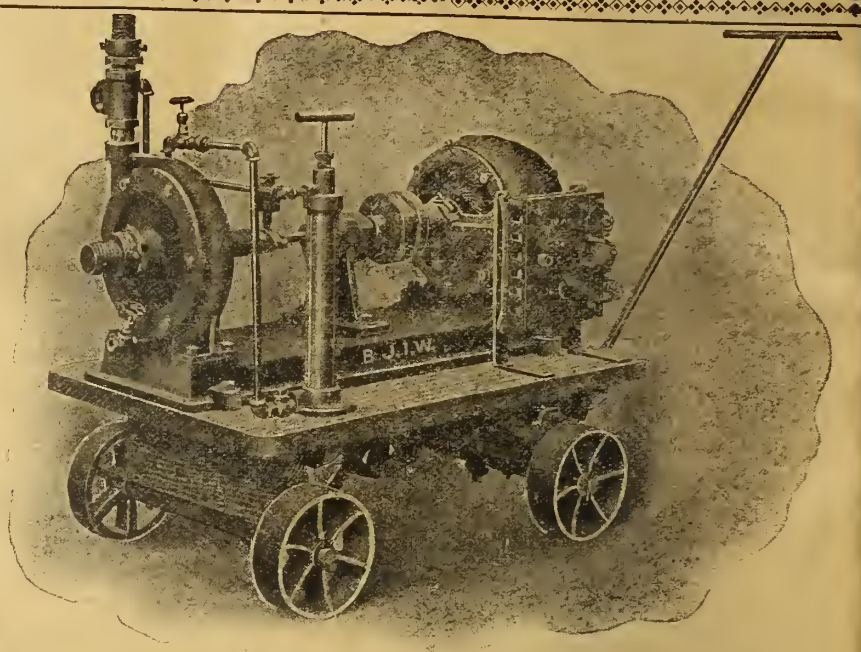
Pomona Pressure Gates

A Great Aid in Irrigation

These gates are made similar to the ordinary slide gates except that there is a locking device interposed to lock the cover in any desired position or to press the two faces together to make a WATER TIGHT joint, from either direction when closed. The parts are very simple, only a tapering screw with a split tapering nut socket. By turning the handle to the right tightens, and to the left loosens the cover or it may be removed entirely.

Pomona Mfg. Co.

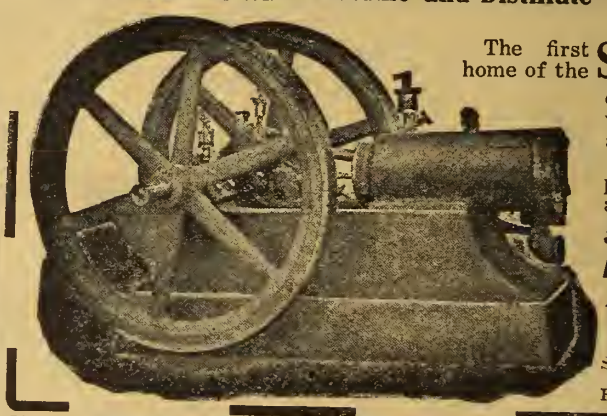
Pomona, Cal.



Jackson Wine Pump Direct Coupled to Motor and Mounted on Truck. Write for Bulletin 25.

Works: Carlton Station West Berkeley **Byron Jackson Iron Works** Branches: San Francisco Los Angeles Portland

Samson Gasoline and Distillate **Engines**



The first home of the **SAMSON** engine is a large one. It's second home, which is everlasting, is a happy one.

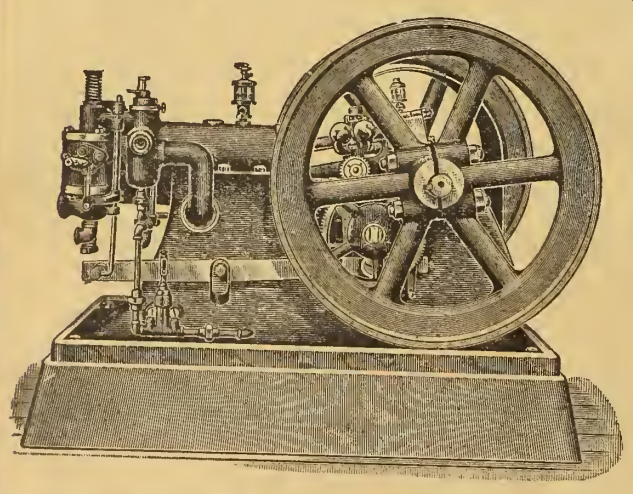
They may be compared with the sea—always ready to roll.

Samson Iron Works

Office and Factory: 1100 to 1198 Aurora St. Stockton, Cal.

BRANCHES: San Francisco, Cor. Market and First Sts. Fresno, 920 J St.

Alamo Gas and Oil Hoisting and Stationary Engines

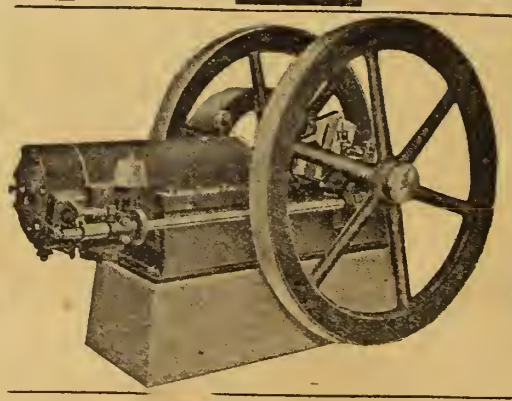


Best in price, appearance and quality. Self-starting and small operating cost. A complete line of repair parts and accessories always on hand.

Complete pumping plants installed and we are prepared to construct all kinds of mining machinery on contract.

Write for catalog and prices

Harrison Machine Works 719-721 N. Main St. Los Angeles, Cal.



HERCULES DISTILLATE ENGINE

Heavy, Strong and Simple in Construction

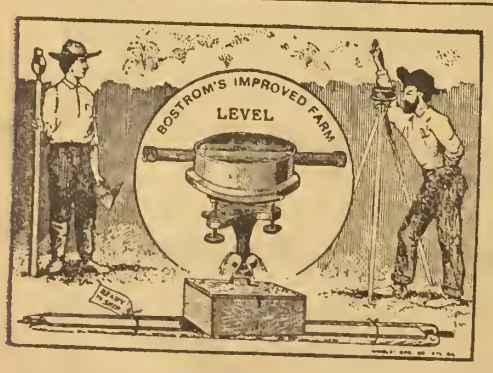
The Right Engine at the Right Price

Horizontal and Vertical; All Sizes. Buy direct from the manufacturer and save agent's commission. Send for our new Catalogue C.

The Hercules Gas Engine Works

351 Market St., San Francisco

Telephone Douglas 3630

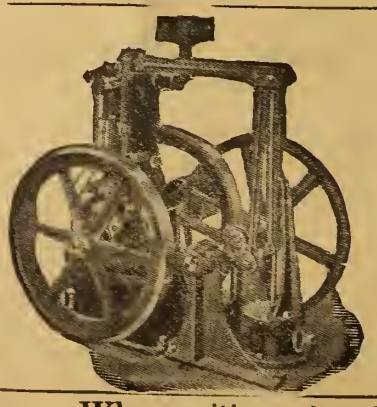


BOSTROM'S IMPROVED FARM LEVEL

Used for irrigation and drainage work. Cheapest and best level yet invented for farm use. Has the latest patented improvements in simplicity and usefulness. Can be operated by any one. Price including telescope tripod and target rod $15.00.

PALACE HARDWARE COMPANY
581 Market Street, San Francisco.

Coast Agents. Send for Circular.



A Handy Little Engine

Just the thing to run the feed cutter, the pump, the churn, the grinder, or anything on the ranch. It's well named

The Little Wonder

Write or call on

Wm. Gregory

602 No. Main St. Los Angeles, Cal.

When writing advertisers, mention Cultivator.

30.5
CA

California Cultivator

Published Weekly — One Dollar a Year

Los Angeles — October 8, 1908 — San Francisco

The Shasta Daisy Grown in California

COURTESY SAN JOAQUIN COUNTY CHAMBER OF COMMERCE.

The Oldest Savings Bank in California

FOUNDED IN 1857

The Savings and Loan Society

101 Montgomery St., Cor. Sutter St., San Francisco

CAPITAL FULLY PAID $1,000,000.00

Exclusively a Savings Bank whose policy is for ***Conservatism*** and ***Safety,*** the result of ***50 years experience.***

Deposits may be made and withdrawn by mail.

San Francisco Savings Union

Founded June 18, 1862 **Northwest Cor. California and Montgomery Sts., San Francisco**

Conducts a Savings Bank Business Exclusively

Capital Paid Up, $1,000,000.00 Surplus, $1,183,632.00

Total Assets, $27,508,850.00

E. B. POND, President.

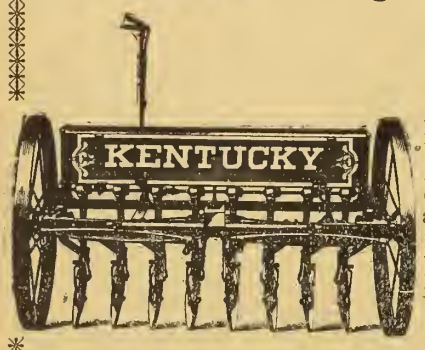
W. C. B. de FREMERY AND C. O. G. MILLER, ... Vice-Presidents

LOVELL WHITE, Cashier. . . . . R. M. WELCH, Asst. Cashier.

Directors: John F. Merrill, Wm. A. Magee, W. C. B. de Fremery, H. C. Breeden, Jacob Barth, Fred H. Beaver, Wakefield Baker, C. O. G. Miller, E. B. Pond.

Every facility afforded for opening accounts and making deposits and withdrawals by mail. Correspondence inviteed.

Kentucky Disc Drills



meet every requirement of particular Farmers. Constructed on correct mechanical principles, of the best material obtainable, they are strong and lasting. KENTUCKY Conical Disc Bearings are unique. Of fairly large diameter, they are narrow, giving greatest clearance between discs. Dust proof, oil retaining and adjustable. Over 250,000 in use, giving perfect service, have demonstrated the superiority of the Kentucky Disc Bearing.

Write us for Catalogue of the complete

KENTUCKY LINE

Pacific Implement Co. **135 Kansas St. San Francisco**

GOPHER DOPE

Gophers destroy annually a large per cent of the crops, trees, lawns, etc., and they are a great nuisance to land owners all over the country.

The Gopher drives burrows or tunnels of very great extent and wherever it gains admission into a garden it works much damage to the roots of the plants. Every root that crosses the tunnel the Gopher will eat and not only herbs and flowers but even fruit trees of many years' growth have been killed by this destructive animal. In such cases the extremity of the tunnel is always to be found among the roots of some tree, which acts at the same time as a defense and a larder, for the Gopher hides itself under their protection and eats away their tender shoots.

A great many things have been devised to exterminate this pest with some success. Gopher Dope works on a different plan. It is in a powdered form and about one-quarter ounce placed well down in each hole and also in the run ways will soon rid the place of gophers. It gets in their eyes and pouches and on their feet. They track it through their tunnels. They will not stay where it is used. It will not harm domestic animals or fowls. It must be used thoroughly and systematically, the Gopher given time to work in it and any new holes thoroughly treated. If this is done you will soon find the place free from them.

Do not irrigate for one week after the dope is used.

Gopher Dope is sold in 50c, $1.00 and $4.00 tin cans, and is for sale at grocery, drug and hardware stores, also at feed yards, and is absolutely guaranteed or money refunded.

Free on board cars at Los Angeles. Live agents wanted in every county.

Yours very truly,

B. & G. Disinfecting Co., 415-417 Laughlin Bldg., Los Angeles, Cal.

Home Phone A 9089

From photograph showing amount of

Ten-Inch Pipe

made by four men from 10 bbls. of cement in 9 hours — 280 two-foot joints, or 560 feet. This pipe was made with the

"K T" Moulds

An equal amount can not be made with any other tools in the same period of time. Write for "Brown Book" and price list.

THE KELLAR-THOMASON MFG. CO., Covina, Cal.

PLOWS AND SEEDERS

Ranchers, don't forget that we are headquarters for the **Fosmir Plow** and extras for same and also the **Shaw Stockton** and **Madison & Williams Stockton.** All the extras in stock for above plows. Also **Pacific Seeders.** A postal card will get you any of the above articles at the right prices.

Los Angeles Vehicle and Implement Co. **110 and 112 North Los Angeles Street Los Angeles, California**

Garden Tools

Lightest Strongest Neatest and Best

The Most Accurate Seeders and the Simplest and Most Easily Adjusted Seeders are possessed by

Iron Age Garden Tools

Send for Profusely Illustrated Booklet

Newell Mathews Co.

200 North Los Angeles Street Los Angeles, California

Red Cross Wind Mill

Is built right, Works right. Runs in light wind. Has ball bearing turntable and outer thrust. Easy mill to set up and take care of. Built upon honor.

Woodin & Little **Pump House**

70-72 Fremont Street, San Francisco

PUMPS FOR EVERY SERVICE AND USE

Pumps for Irrigation, Road Sprinkling, Electric Motors, Gasoline Engines, Spraying, Whitewashing, Wine Pumping, Wind Mills, Hand and Power Use, Steam, etc.

Gasoline Engines Wind Mills
Tanks Pipe Pipe Fittings

SEND FOR CATALOGUE

Pioneer Rubber Sanded ROOFING

What Rubber Sanded Roofing will do is told of in our Booklet, "Roof Talk," which will be sent free upon request, together with samples of the Roofing itself.

PIONEER ROLL PAPER CO.

Department 11 **Los Angeles, Cal.**

Cultivator Order Blank

_____ 1908

CULTIVATOR PUBLISHING CO.,
115½ No. Broadway, Los Angeles, Cal.

Gentlemen—Enclosed find $_____ for which please send the **Cultivator** for one year to the following, or credit on my account from _____ 190— to _____ 190—

NAME	P. O. ADDRESS	STATE

Are you an old or new subscriber? _____

SIGNED _____

ADDRESS _____

California Cultivator

Vol. XXXI.—No. 15 Los Angeles, California, Thursday, October 8, 1908 Subscription $1 a Year

The Tomato and Potato Blight

A Paper by Prof. Ralph E. Smith of the Southern California Pathalogical Laboratory. An Important Article Full of Suggestions on Care of Fall Tomatoes

As the time approaches for the fall crop of tomatoes every thoughtful grower must have in mind the disastrous experience of last year with this crop and the thought of what must be done during the present season to prevent the recurrence of such a condition. While we know that the tomato blight does not occur every year, and may not put in an appearance at all during the present season, the fact that it may come on if weather conditions are favorable as severely as it did last year makes it very important for every grower to make some preparation against this disease, writes Prof. Smith in the Orange County Tribune.

First of all one should have clearly in mind just what the trouble is which may be controlled by the methods to be described in this paper. Tomatoes are subject to various troubles and diseases, only one of which is now under consideration. This is the so-called "winter blight," which is characterized by a sudden killing of the vine, accompanied by spotting and decay of the green fruit, which occurs only at times of considerable moisture. As is well known to the growers, the blight appears following heavy rains and moist weather, occurring therefore only during the rainy season. The various troubles with tomatoes which occur during the summer have no connection with the winter blight and cannot be controlled by the treatment herein outlined.

The winter blight of the tomato is the same disease as the blight of the potato, which causes the leaves to turn black and the vines to die under similar weather conditions as those which bring about the tomato disease. The treatment described applies equally well to both crops. In either case the blight may be looked for at any time during the rainy season when the crop is growing. That is to say, tomatoes or potatoes may be affected in the spring as well as in the fall, if the plants are growing at that time and abundant rains occur.

The treatment for the control of tomato blight which was so successfully demonstrated last fall at the Whittier laboratory consists in spraying the vines immediately after the occurrence of rain with the Bordeaux mixture, a combination of bluestone and lime. The reason for the success of this treatment is that the blight is caused by a fungus which develops only under conditions of abundant moisture. When this occurs the fungus spreads very rapidly through the air in the form of minute germs or spores, and these spores develop on the surface of the leaves and start the blight fungus in the tissues of the same. If the leaves are covered with the Bordeaux mixture soon enough the spores are poisoned by this material and thus the fungus is kept from developing.

The fact may be accepted as thoroughly demonstrated that proper spraying will entirely control this disease. Those who saw the demonstration which was made on the laboratory grounds last fall will have no doubt of this fact. The sprayed vines continued growing and producing fruit until plowed under late in the winter, while those which were not sprayed were entirely killed and the fruit ruined after the rain. The main question which confronts the grower is whether it will pay to spray this year, or every year. He knows that there is a considerable chance that weather conditions will be such as to keep the blight from occurring, and also if he does spray that it will be at some additional expense. In the eastern states where rain is sure to occur at frequent intervals during the summer, potato growers spray their vines at intervals of about two weeks, knowing that the blight is sure to occur, and thus are able to save their crops. With us it is probably an even chance that no rain, and therefore no blight, will occur. Against this, however, is the experience of last year, when in a few days the whole crop was entirely ruined. Certainly a few dollars per acre expended at that time in spraying would have been most profitable.

In general, there are three methods which the grower may take. First, he may pay no attention to spraying whatever, taking his chances that early rains and blight will not occur. Second, he may spray his vines at about the time when the first rains might occur, say during the last of October, as a matter of precaution, following this up with later sprayings as the vines grow larger or after rain. Third, he may prepare materials to spray on short notice, but do no actual spraying unless rain occurs, spraying them immediately after the rain. Of these three methods, the first is a purely speculative practice and gives the grower no chance to prevent the loss of his crop should conditions occur which favor the blight. We believe that no careful man will take this risk if he values his crop. The second method has some advantages and some disadvantages. It permits a large acreage to be treated properly, where if one waits for the rain to occur he may not have time to get over as much ground. If the vines are thoroughly sprayed during the latter part of October, assuming that no rain has occurred up to that time, they will remain protected for several weeks and with another spraying early in December, this also regardless of the occurrence of rain, ought to carry the crop through the season. The work can be done more systematically and thoroughly in this manner than by waiting for rain to actually occur.

The one objection to this method is that if no blight occurs the expense of spraying will be lost and the expense of wiping the spray from the fruit, which must be done with tomatoes, might be a serious disadvantage in a season of no blight, large crops and low prices. Taking one season with another, however, we believe that for the grower with a large crop, or an association of growers if they prefer to do the spraying under one management, this is the only safe method to pursue. Whatever loss might occur by spraying in seasons of no blight would be more than made up in one year like the last.

The third method is the one which we would recommend to the grower who has his own spraying outfit and can get out at any time and spray his vines very promptly. If he has his pump and equipment in good working order and ready for business on an hour's notice and his materials ready to put together immediately, he is reasonably safe in waiting for rains to occur which might bring on the blight, and then getting to work during the first half day that it is not actually raining.

Each grower who intends to spray his vines must decide for himself which of the two latter methods he will follow.

In making the Bordeaux mixture the following formula is used:

5 pounds of bluestone.
5 pounds of quick lime.
50 gallons of water.

The lime should be slaked and the bluestone dissolved separately in portions of the water and the two then mixed together in a dilute condition. If very strong solutions are mixed the spray is not as good. The lime should be strained before mixing in order to take out the coarse particles and prevent clogging of the pump and nozzles.

In spraying the vines the outfit employed must be of the size and proportion to the acreage which is to be treated. Spray pumps and outfits can be obtained of all prices and sizes. The outfit should be mounted on a wagon and driven through the field, straddling one row, with hose long enough to extend to a considerable distance on the sides, in order to drive through the field as few times as possible. The vines must be completely covered with the spray, and this is best accomplished by having two nozzles on a Y at the end of a curved iron rod about four feet long. With such a rod the spray can be directed all through the vines and to the under sides of the leaves.

For large tomato vines about 150 gallons of spray per acre will be required, and the total expense for labor and material may be set at about $3.00 per acre for each application. In a season of average rainfall about two applications ought to be sufficient to carry the crop through. Some years more would be necessary, while in others no spraying at all would be required. It is certain that the price of tomatoes will depend on the occurrence of the blight and therefore extra sprayings ought to prove a very profitable investment in wet seasons.

As suggested before, it will be necessary to wipe sprayed fruit before shipment, on account of the small amount of spray which is visible on the surface. There is no danger whatever of poisoning from this source, the only disadvantage of the presence of the spray being the injury to the appearance of the fruit.

At the Whittier laboratory tomatoes are being grown and experimented with this season on a much larger scale than last and we shall be very glad to see or hear from any growers to whom we may be of assistance.—Ralph E. Smith.

Considering the progress in scientific agriculture, the steady increase in the yield per acre now going on, the vast expansion in trucking and fruit growing to meet the needs of an ever-expanding population, the great possibilities in irrigation and reclamation work, we can readily see that the agricultural interests of the country are only at the beginning of their real broad development, and that the future holds in store a prosperity much greater even than the magnificent advance since 1900 has brought them. These facts furnish a foundation for unbounded optimism as to the magnitude of our material progress in the future.

The Right Kind

Can always be found in the celebrated

Canton Clipper Line

AND

P&O CANTON PLOWS

P O

Steel Walking Plows
Chilled Walking Plows
Sulky and Gang Plows
Subsoil Plows
Hillside Plows
Road & Grading Plows
Garden Plows
Orchard and Vineyard Plows
Shovel Plows

All sizes and patterns for all kinds of work

Pacific Implement Co
131-153 Kansas St., San Francisco

B. Hayman, Los Angeles
General Agents

When writing advertisers, mention Cultivator.

IRRIGATING HOSE

12 oz. canvas, coated or plain; good for several seasons. 1¾ inches, 2½ inches, 4 inches, 6 inches, 9 inches, 13 inches. Galvanized or brass couplings.

Tents. Tarpalins. Picking Sheets. Picking Bags, Stack Covers

Our Tent Catalogue, mailed free, gives full information.

The Wm. H. Hoegee Co.
INC.
138-140-142 So. Main St., Los Angeles

Notice to Orchardists

Now is the time to plant your cover crops. Plant Vetch, Blue peas and White peas in sandy soils or where there is slight alkali. Plant Burr Clover or Foenugreek on heavy soil. Write us for prices and for any particular information you may wish.

Johnson & Musser Seed Co.
113 N. Main St., Los Angeles, Cal.

When writing advertisers, mention Cultivator.

With the Citrus Growers

JUICY GRAPEFRUIT.

From a Department Bulletin we quote:

Grapefruit, or Pomelo, has been grown for centuries in Asia where the climate was suitable, and there the natives prize it greatly for its many medicinal properties. The name "grapefruit" comes from a tendency which some varieties have to grow in clusters on the trees, bunches of more than twenty having been found, every fruit of which weighed over a pound. The flavor of the fruit, also, is distinctly "grapey." With years of careful development, California now produces a finely flavored, aromatic, juicy fruit, with an improved flavor and increased medicinal qualities.

The California seedling Pomelo is much finer and thinner in skin than the "Triumph," and is of superior quality. In fact, no Pomelo which has been received by this Division surpasses in quality the California seedling. This is undoubtedly a very choice fruit, and worthy of general cultivation. The Pomelo, like its cousins, the orange and lemon, is possessed of marked medicinal qualities. It is chiefly valuable as a corrective of the stomach and digestive organs, and also as a tonic stimulant. A medical opinion from a widely quoted physician states: "The sharp stimulus of the grapefruit is the best thing to set the digestion in order for the day." Invalids find it the right thing to give tone to the system, and it is a sure preventative when partaken of freely for the enervation caused by climatic conditions. It possesses in a remarkable degree the virtues of quinine without producing any of its bad effects, and may be given with benefit in malarial fevers. Many use grapefruit as a relish with meals, and the appetite is sure to be quickened by it. For medicinal purposes the entire fruit may be cut up into slices upon which boiling water is poured, put into a pitcher and left to cool. A glass of this before meals and at bedtime will prove an excellent tonic. Grapefruit marmalade contains all the good qualities of this fruit in the form of a most delicious preserve

Probably no fruit of the citrus family has forced its way into the front rank of popular favor with more difficulty than the grapefruit or pomelo. Of East Indian origin, it is said to have found its way into Asia through the efforts of one Captain Shaddock, hence the name, shaddock, sometimes applied to it. From Asia it became diffused through the West Indies and later into Florida and California. At the close of the Civil war the writer embarked in the foreign fruit trade, and has watched with interest the trade growth of this once discarded, but now popular, fruit. So popular has it become that it is looked on now as almost a necessity, not only as a breakfast dish, but it appears on the menus as a first course at many state dinners and social functions, besides being highly recommended by leading physicians as a great relief for Bright's disease, rheumatism, constipation, malaria and many other kindred complaints, the acid of the grapefruit being so strongly impregnated with quinine properties as to serve as an excellent tonic and appetizer, besides working favorably on the kidneys more promptly than any other fruit acid. Even the rind of the grapefruit is said to produce an excellent tonic when boiled. While grapefruit is said to have its origin in the shaddock, it is evident that there are several varieties, for the shaddock as we know it is usually larger than the grapefruit, is mostly pear-shaped, thick-skinned, and when cut shows a pinkish color while the perfect grapefruit is round, thin-skinned and juicy, with a white pulp. Between the years 1860 and 1870 small quantities of grapefruit began to make their appearance in the New York market, coming there from the West Indies, mostly in schooners carrying Abico oranges, pineapples, conch shells, etc. So limited was the sale that seldom did a consignment realize expense charges, the grapefruit generally finding its way into the hands of vendors who loaded their wagons and hawked the fruit about the city calling the "California Oranges," "Forbidden Fruit," "Paradise Fruit," or using any name best suiting their sale. Several hundred barrels of this fruit was shipped from New York to England in the early 0's, but with no financial success. As Florida became a fruit-growing state, and careful attention was given to the cultivation of grapefruit, people began to appreciate the fruit, cultivation having improved its flavor, texture and shape, and in later years, as Florida became a Mecca for invalids and tourists, the grapefruit grew rapidly in favor. While Jamaica, Florida, Nassau, and California furnish us with our present supply, it is said that Cuba will shortly be quite a factor in this line, as thousands of young trees have recently been planted there of the best varieties, so that lovers of this health-giving fruit may feel assured of a never-ending supply."

SLIGHT INCREASE IN ORANGE ACREAGE.

A Riverside fruit grower in a interview in the Riverside Enterprise in speaking of the output for the coming year said:

"We hear a great deal almost every year about the increased acreage of oranges and how the crop will be much larger, but it does not always work out that way. Persons who talk about the increased acreage do not take into consideration that there is also considerable decrease each year and I think this decrease will almost offset the increase caused by new groves.

"The growth of all these towns out along the foothills and in the citrus belt is causing old groves to be cut out.

"Land that is covered by oranges is subdivided into lots or acreage, and the groves are cut out to make room for houses. Redlands is built right among the orange groves, and the expansion of the town necessarily crowds out the orange trees. The growth of Sierra Madre, Azusa, Pasadena, Alhambra and other towns is encroaching on the oranges.

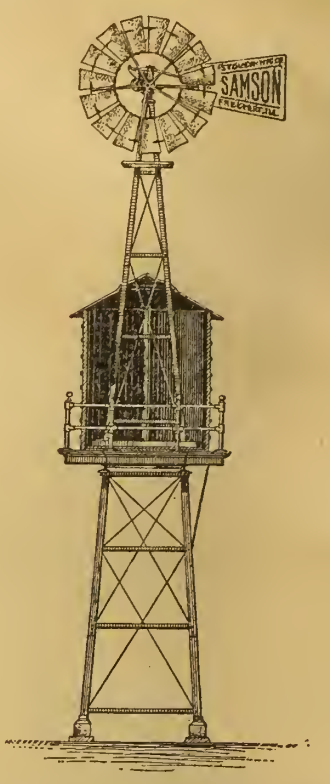
"So while new groves are coming into bearing each year, old ones are being cut out.

"Here is one significant fact, however. Almost all the new groves are valencias, while the ones that are cut out are navels or seedlings. Consequently, the production of summer oranges is constantly increasing while the navels are decreasing slightly in this section. Our summer shipments the past season were far larger than ever before, and I look for them to be still larger next summer.

"There is a fine demand for summer oranges up to a certain point. There is no danger of an overproduction of oranges as a whole, although if the increase is in valencias alone there may come a time when there will be an overproduction of that specific variety."

SAMSON WIND MILLS

Have double gears, removable bearings and center lift, which double the life of the mill. They will last longer, pump more water and give better satisfaction than any other WIND MILL.



This is an up-to-date Sub-structure, Tank and Wind Mill outfit complete; substantial, economical and attractive. We build all kinds. Write us or our general agents for full information and prices, description &c., before purchasing.

The STOVER MFG. CO.
FREEPORT - ILLINOIS
30 California Avenue
CRANE CO., LOS ANGELES and SAN FRANCISCO
General Agents for California

ALL ABOUT THE

Orange* and *Lemon

Is told in our new book on Citrus Culture, embracing every phase of the subject from the seedling bud to the final disposition of the fruit in the Eastern market. The largest and best book on the subject ever printed — 50,000 words, 100 illustrations. You will want a copy, which we will send you for the small sum of 25 cents. Remember we are the largest growers of orange and lemon trees in the world.

The San Dimas Citrus Nurseries
R. M. Teague, Prop., San Dimas, Cal.

Don't Wait Till Christmas

to make yourself and family a present of a Portable Billiard or Pool Table. Do it now! High quality, low cost. Used in any room. Best thing on earth for the home. Catalog?

C. Ridderhof, Laughlin Bldg., Los Angeles

Wanted To correspond with parties or nurserymen who have olive trees for sale. Address
BOX 242, LINDSAY, CALIFORNIA

IT'S PENNY WISE

Policy to set out a good tree, costing good money, and then let the sun burn the bark or the rabbits gnaw it, when for $1 an acre you can get Yucca Tree Protectors that are practically indestructible. Write for free sample of the wrap. Yucca Manufacturing Company, 1380 Willow street, Los Angeles.

Farm Names

INTEREST in the naming the ranch home is not manifested so much by the great number of names being received as by the tone of the letters which do come to this department. Plainly some of those who do write have been inspired to choose a name for the home place by this campaign of the Cultivator. Others are sending in names which have been given to their places for months or perhaps years. In any case the custom is growing and it is an admirable one.

Our first name this week comes from the northern part of the State. It is:

"Laurelwood," owner, B. W. McGrath, Cloverdale, Sonoma county. The name is sent in in the following catchy verse:

A Farm Name.

Since the dear old Cultivator
Has become an agitator,
  Seeking ever for its own subscribers, good;
And among its other branches
Calls for naming of our ranches,
  I will write to you while I am in the mood.

Our postal and railway station,
Also where we buy our ration,
  Is a little town that's known as Cloverdale.
It's a "daisy." It's the "candy."
I can tell you it's a "dandy,"
  It's a place where crops are never known to fail.

It is called the "Orange City,"
But that can't affect this ditty
  Since I thought that I would tell you if I could,
Of our ranch and why we name it,
So that others cannot claim it.
  From its natural surroundings, "Laurelwood."

The baylaurel grows upon it,
Worthy of a springtime sonnet,
  But I have to spend my time in chopping wood.
So my wife then named it Laurel,
And, lest we have cause to quarrel,
  Let me add my work—and call it "Laurelwood."

"Calazona Ranch," owner, F. S. Webster, El Centro, Imperial county. Mr. Webster writes:

I have read with pleasure the answers to your farm name request.

Every farm or ranch should have a distinguishing name in my judgment.

Every successful business enterprise or undertaking has a name to distinguish it from other ventures of like motive. If a ranch produces anything that the public needs, give the ranch a name, in order that the public may know where to go to get the product of the ranch. It's an advertisement, a trademark which properly handled means a great help financially to any farm.

We came to the Imperial Valley 5 years ago and have one-half section of the very best land in the valley.

We call our ranch the "Calazona Ranch." A combination of California and Arizona. Named thus because many years of our lives were spent in Arizona and for old times' sake we desire to keep alive the memories of friends there, and the wonderful things of that wonderful territory. Next to Arizona we cherish California our present home, and in honoring both we coin "Calazona."

We think the Cultivator the best farm paper printed in the west. It has been a constant visitor to the family for over 10 years.

"El Alamo," owner, C. H. Francis, Loomis, Placer county. In sending in the name Mr. Francis writes: "We have a large cottonwood tree and we wished to name the place to call attention to the fact, and also to give it a Spanish name. Hence the name, El Alamo. Is that proper? We wish the Cultivator success in this campaign for naming the ranch."

Alamo is Spanish for poplar and the cottonwood is of the poplar family hence we think your name entirely correct.

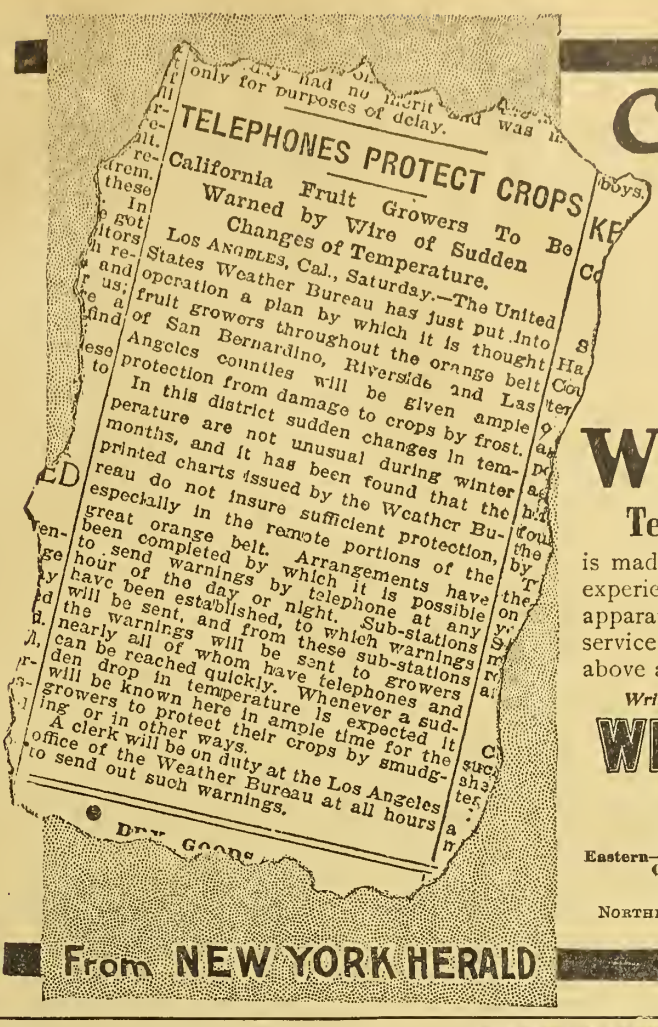
"Tereticornis Rancho," owner, Reverend L. D. Temple, Hemet, Riverside county. Mr. Temple writes from Upland but says his ranch is a 320 acre one, ten miles west from Hemet on the main highway from Hemet to Riverside. Regarding the occasion for naming the ranch Tereticornis, he writes:

Last spring I set out 800 Eucalyptus tereticornis as an experiment. They were set March 15 and were about six inches high. They have had no irrigation and scarcely any rain. They have been kept free from weeds, and have been cultivated once a month or oftener. On September 14, I found specimens 5½ feet tall, and all were making a fine growth, thus proving that this variety of eucalyptus will grow from the start without irrigation and with slight rainfall. My land has no sub-irrigation. I am intending to set 1000 just as soon as the ground is wet to the depth of one foot as a further experiment to determine whether fall or spring setting is the better. I have engaged 8000 Tereticornis for planting in April.

I set several varieties last spring for comparison—rudis, polyanthema, corynocalyx and rostrata. The tereticornis excels them all in beauty, vigor and rapidity of growth. I shall therefore keep on planting this variety and have named my ranch as above stated. I inclose a photograph of a specimen tree 5½ feet high six months from planting with no irrigation and almost no rain.

Enclosed in Mr. Temple's letter is the photograph of tereticornis trees and it shows remarkable growth.

"Ward's Fruit Ranch," owner, Nelson Ward, Compton, Los Angeles county. Mr. Ward's ranch is two miles south east of Compton and is principally devoted to the production of high grade apples.



Crop Insurance

The telephone is a great protection against loss on crops due to sudden weather changes. It enables the farmer to obtain at any time the latest weather forecast fresh from his nearest station. Likewise, the telephone protects against loss through sudden market changes and enables the farmer to sell when prices are best.

Western Electric

Telephone Apparatus and Equipment

is made by a house having over 30 years' experience in the manufacture of telephone apparatus, and insures the reliability of service that is required in a rural line above all others.

Write for Booklet "1 "Rural Telephone Equipments"—Sent Free

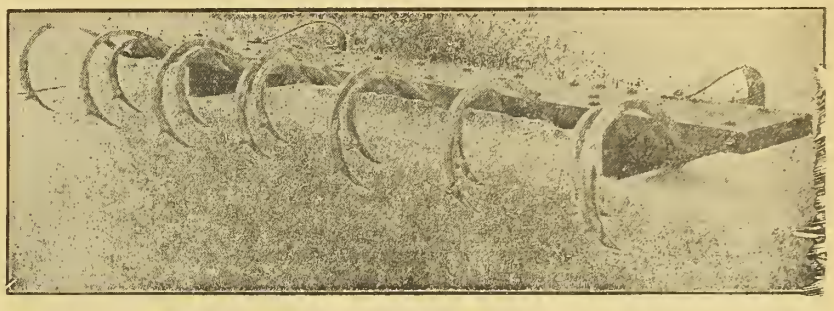
WESTERN ELECTRIC COMPANY

Manufacturers and Suppliers of All Apparatus and Equipment Used in the Construction Operation and Maintenance of Telephone Plants

Eastern—New York: Philadelphia, Boston, Pittsburg, Atlanta
Central—Chicago, Indianapolis, Cincinnati, Saint Paul
Western—Saint Louis, Kansas City, Denver, Dallas, Omaha
Pacific—San Francisco, Los Angeles, Seattle, Salt Lake City
NORTHERN ELECTRIC AND MANUFACTURING CO., LTD., Montreal and Winnipeg

Use Address Nearest You

WILLIAMS' GOOSE-NECK CULTIVATOR



Especially adapted for citrus orchards. Sizes 8 to 14 feet. Lightest draft. Free trial to responsible parties. No agents. You pay only one profit. Write today

WILLIAMS & SON, Manufacturers
Orange, California

TENTS

Fumigating and Lemon Curing Tents our Specialties

Irrigating Hose, all sizes. Prices and Samples quoted upon application. Write your wants
Wagon Covers, Hay Covers, and Canvas Covers of Every Description.

Mellus Bros. & Co

Phones—Home, F 4871; S. S., Main 3500
250 East Fifth St., Los Angeles, Cal.

"Muscatel Orchard," owner, Mrs. J. B. Leininger, Fresno, Fresno county. Mrs. Leininger writes: "We are delighted with the Cultivator and always show it to our neighbors. We have named our 30 acre ranch "Muscatel Orchard' because Muscatel is our nearest station. The Southern Pacific railroad passes over one corner of our ranch. Principal productions are Muir and Alberta peaches and Malaga grapes."

"The Poplars," owner, D. D. Palmer, Modesto, Stanislaus county. Mr. Palmer writes that the large number of poplars on the place is the occasion of choosing this name. He says these trees are grown largely in that section because of their quick growth and their shade and their value as posts and fuel.

In addition Mrs. Rafael Lanini, a subscriber from Humboldt county, comes for a suggestion for a ranch name and sends in the following letter:

"What name would you suggest for a ranch of over one nundred acres? We do not own this place but have it under a ten years' lease. We dairy forty-seven cows. Are having a new cottage built, and the cottage sets on the bank of Seven Mile slough, fringed with green willows.

"I wanted to call the place either 'Willow Brook Ranch,' 'Meadow Brook Home,' 'Mossy Bank Cottage,' 'White Clover Ranch,' and am not decided on a name, so thought to come to you for help. I prefer either Mossy Bank Cottage or Meadow Brook Home to any of the other names. This ranch is situated in the fertile Eel River valley and grows green clover all the year round."

It is hard indeed to comply with the subscriber's request, at least to go farther than to make suggestions. Naming the ranch, like naming the baby, is a matter of personal preference and in this case where one lives upon it and takes pleasure in referring to its name, that which appeals strongest to the family directly concerned

Continued on Page 359

Fruit Trees Require Food

You cannot expect a full yield of rich milk from a half-starved cow.

Neither can you get a bountiful yield of fine, full-flavored, sound fruit from trees not properly nourished with

POTASH

The soil should be enriched with a commercial fertilizer containing a good percentage of Potash. The proper proportion is from 9 to 12 per cent., according to requirements.

The experience of successful fruit-growers proves that Potash, supplied in proper proportions, causes the trees to grow more sturdy and vigorous—better able to resist disease. The fruit grows larger, sounder, finer-flavored, and ripens earlier.

POTASH

Send for free book on Fertilizing, prepared by practical experts, and of great value to the fruit-grower.

GERMAN KALI WORKS, 93 Nassau Street, New York City
CHICAGO—Monadnock Block ATLANTA, GA.—Candler Bldg.
Address office nearest you

Meyer, Wilson & Co., San Francisco, Cal., are Sole Agents for the Pacific Coast

Placer Nurseries

We have now growing for next season's delivery a large stock of all leading varieties of trees and vines. We propagate only the best commercial sorts. Our trees and vines are the best that good care can produce and in their selection, propagation and growing we spare no labor or expense; and they are true to name. That is what you want.

Contract now the trees and vines you will want for next season's planting.

Write us.

Silva & Bergtholdt Company

Newcastle, California

TREE TANGLEFOOT

A Sticky Preparation Applied Directly to the Bark of the Trees

Will not injure trees. A band 5 inches wide and 1-16-inch thick cannot be crossed by any climbing insect pest. Remains sticky five to ten times as long as any other known substance. You can test it at slight expense, as no apparatus is required. Used by the carload in New England against the Gypsy and Brown-Tail Moths. In California it preserves prune orchards from the Canker Worm. Wherever the Gypsy or Brown-tail Moths, Tussock Moths fall or Spring Canker Worm or Web Worm appear TREE TANGLEFOOT is of great value, and should be used when the caterpillars begin to crawl while they are very young.

Price 25c per lb. Liberal discount on quantities. The only safe and effective banding preparation. Send for testimonials

THE O. & W. THUM COMPANY

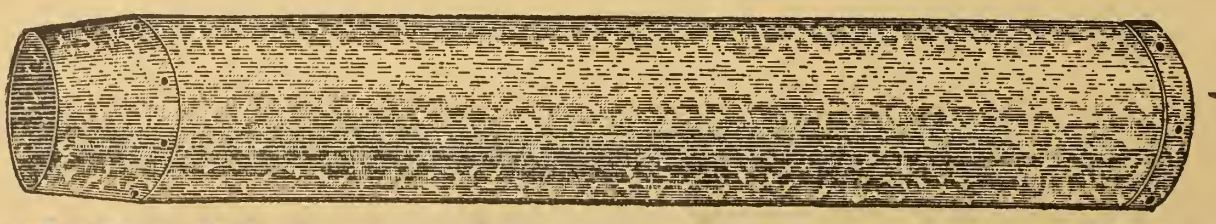
Manufacturers of Tanglefoot Fly Paper — Grand Rapids, Michigan

Crimson Winter Rhubarb and Berry Plants Our Specialty

1000 choice Navel Oranges, together with a few other Citrus Trees. April and May are best months to plant Rhubarb for heavy Crops next winter. It has never been equalled as a money maker. $1.50 per dozen, $6 per 100, $40 per 1000. Pedigreed plants.

J. B Wagner

The Berry and Rhubarb Specialist — Pasadena, California



AMERICAN SURFACE IRRIGATION PIPE

SAVES WATER, GRADING AND TIME

The **only** way to **irrigate Alfalfa. Cheaper** than **Flumes.** This is only **one** of our **specialties. We make Riveted Water Pipe** in lengths of **ten feet** from **single sheets.** Let us **prove** to you that we make **Pipe** and **Tanks right.** WRITE FOR CATALOGUE.

AMERICAN STEEL PIPE & TANK COMPANY

FORMERLY TALLERDAY MANUFACTURING COMPANY

636-7 Pacific Electric Building — Los Angeles, Cal

Deciduous Fruit Culture

CROPS BETWEEN TREES.

A FRIEND who has an unprofitable apricot orchard on a fine sandy loam came to us and asked for an opinion on the proposition of planting a strip of alfalfa between the rows eight feet wide, leaving the trees in a strip of cultivated land sixteen feet wide. This man has an abundant water supply. Under these conditions it is a good proposition to plant alfalfa among the trees as described. Without water it would not do. The alfalfa would no doubt bring more one year with another than the apricots and he would perhaps wind up with planting the whole orchard in alfalfa, as we have known to happen.

One time a fruit grower of Cucamonga planted alfalfa in his Moorpark apricot orchard, which has never paid for the cultivation. He had an abundance of water and soaked the orchard well, and to his surprise the apricots bore heavy crops of fine fruit that sold for the top price in the market.

The alfalfa was a paying proposition alone, and the apricots were extra.

An orange grower at East Highland tried the experiment on his orange grove, there being some hard, tight soil into which the roots and water penetrated with difficulty. There were two plantings, one early in the winter and one late. The grove was furrowed out for irrigation and water was run as often as necessary, without subsequent cultivation, of course. The alfalfa was mowed during the summer and left as a mulch, which, with the growing crop, completely covered the surface. We had the pleasure of seeing it early in the summer and also late in the season. The alfalfa was grown in this grove because the trees had failed to produce satisfactory crops. There was at the time a fair crop of fruit of good quality on the trees. What the final results of this experiment proved we are not aware of, but the grower has promised to inform our readers when he is sure about it himself.

As a general proposition, it is not good policy to grow crops between trees on a large scale, for the reason that there is a certain depletion of the soil that is not returned in most cases. In small plantations it is different, as fertilizers are easily and more cheaply applied. A man with ten acres will have stable manure from his own place for part of it and it is no big item to purchase enough for the balance, whereas if he has a hundred acres or more he will need to make fertilization a special business and growing intercrops will complicate it.

There are exceptions, as in the case of legumes, where it is well known that they add fertility to the soil through their utilizing atmospheric nitrogen in addition to adding humus to the soil, as any vegetable does. When sufficient moisture is always present for both trees and intercrops, there can be no great loss to the trees except they be citrus. It is, however, sometimes necessary for persons of moderate means to utilize the spaces between the trees to procure an income to tide them over till the trees come into bearing.

The injury brought about by growing intercrops is illustrated in the English walnut grove north of the Southern Pacific tracks at Bassett in Los Angeles county. Intercrops of cabbage and potatoes were grown for several years in that grove, much to their detriment. Both trees and annual crops suffered at times for water and neither proved very satisfactory.

Among the bean growers along the Ventura and Santa Barbara coasts, walnut groves in which beans are grown do not produce as fine nuts as the groves that were given clean culture. These conditions were noticeable where no irrigation was practiced.—J. W. Mills, Marysville.

GRAVENSTEIN APPLES AT FORESTVILLE.

The oldest tree in this orchard was planted by L. Harbine 43 years ago and from it were picked this last season 47 boxes and 50 per cent of them 4 tiers. After its 43 years of service the tree is yet thrifty and well balanced. This fine orchard is the property of H. R. Harbine of Forestville, Sonoma County.

The tax rate of Butte county, fixed for the coming year, is $2.05; Placer county, $1.85; Glenn, $2.25; Siskiyou, $1.45 (the lowest in its history;) Tehama, $1.60; Trinity, $2.25; Yuba, $2.70.

Irrigation and Forestry

DISASTROUS CONSEQUENCES ILLUSTRATED.

THE disastrous consequences of destroying forests in mountains and wooded regions in which streams have their sources have been illustrated by the results of the recent floods in Georgia and the Carolinas. When mountains and hill sections are forest-covered, the rainfalls, however heavy, swell the streams gradually and give them a fairly equable flow. They seldom rise so as to become destructive of property and a peril to life. But cut off the woods and leave great bare spaces of rock and exposed soil, and when an unusual storm comes torrents sweep down, overflow the land, ruin crops, submerge villages and cause disastrous loss and misery to thousands.

The precise extent to which these Southern floods are to be attributed to indiscriminate lumbering and the destruction of forests in the Appalachain Mountain region it is impossible to ascertain or to estimate, but this may have made all the difference between the excess of water flowing harmlessly away through moderately swollen streams and rising suddenly and swiftly into an uncontrollable and destructive flood. The loss of property is reckoned in millions of dollars and the suffering and privation are not to be computed in figures. Aside from this, the spasmodic and irregular flow of streams all through the year as the result of forest devastation interferes seriously with their utility for water power.

Whatever the exact relation between these Southern floods and forest destruction the general fact is indisputable that the denuding of mountain ridges and cutting away the woods about our river sources has done and is doing incalculable damage to the country. It is an injury against which the people cannot protect themselves by individual effort. They must act collectively through their Legislature and governmental authorities. They must act in their several states, but the interests affected are not confined within state boundaries and some of the measures necessary do not come within State jurisdiction. A National policy of forest preservation is at least as important as that of irrigation of arid lands and the reclamation of swamp regions.—San Jose Times.

DAY OR NIGHT IRRIGATION.

The furrow system comes as near the ideal as any in use. It conveys water to the roots without compacting the surface soil to any great extent thus leaving it in fairly good condition to retain moisture. It does not tend to bring the alkali to the surface quite as much as flooding does. When once installed on a field and spouts or tubes are placed in the ditch banks but little attention is required and the cost of irrigation is small. Keeping the soil saturated with water to the exclusion of air for any length of time is injurious, so it is best to irrigate as quickly as possible, which may be done by making the furrows of reasonable length. Three hundred feet is generally long enough.

When the furrows are very long the upper part of the field has received too much moisture by the time the lower is done. When furrows are run lengthwise of a slope there is much trouble in keeping them from breaking. It is desirable to have the furrows at right angles to the head ditches and the laterals square with the world when ever the conformation of the ground permits it. The furrow system may be used for all crops. Alfalfa, however, is well adapted to free flooding when well established, but it is advisable to use furrows the first year. These will facilitate an even distribution of the water although flooding is practiced after the stand has been secured.

The chief objection to flooding is the greater cost of irrigation and the difficulty of irrigating well at night. It also compacts the surface soil and favors excessive evaporation and the rise of alkali, although the shading of the ground by crops to some extent offsets this. There are two stages in the growth of wheat and oats when an abundance of water is required—at time of jointing or sending up of stems and just before blooming. Large amounts of water tend to increase the starch content of wheat, while as the amount of water is decreased a large per cent of protein is formed. Irrigation water is warmest in the afternoon and does not become cold until several hours after sundown.

The subsoil, or that part of the soil where most of the roots are, becomes warm towards evening and retains its heat pretty well into the night. In fact, it is coldest at noon and warmest at midnight. In view of these facts, it is best in irrigating tender things to turn on the water late in the afternoon and allow it to run during the forepart of the night. It is claimed by some farmers that night irrigation gives better results even with field crops. The difference, if any, can be but slight. In practice, when water is turned on a field of grain or alfalfa, it is kept running day and night and shifted from one section of the field to another until the whole field has been irrigated, and this is the most expeditious way of irrigating ordinary crops. Day irrigation permits of better regulation and distribution of water. The evaporation is less at night and water percolates to a slight degree faster when the soil is cold than when it is warm. —Denver Field and Farm.

EUCALYPTUS SEED

Eucalyptus rostrata, the Red Gum
E. corynocalyx, the Sugar Gum
E. tereticornis, the Forest Red Gum
E. globulus, the Blue Gum
E. citriodora, Lemon-Scented Gum
E. cornuta, the Yate Tree
E. polyanthema, the Red Box
E. leucoxylon, Victorian Iron Bark
and Many Other Valuable Sorts

I shall be pleased to correspond with prospective buyers and give particulars as to prices on the seeds I am offering. Trial packets of any variety 15c each, 2 for 25c, or twelve for $1.25. Also young trees of many varieties for sale. Send for circular and cultural directions.

THEODORE PAYNE
NURSERYMAN AND SEEDSMAN
Home Phone A2480
345 S. MAIN ST., LOS ANGELES

Eucalyptus

We have made a specialty of eucalyptus for the past ten years. We are no mushroom concern. We are prepared to accept contracts for raising eucalyptus for next season's planting. Take advantage of our **Low Prices on Contracts. Do It Now.** Twenty of the leading varieties to be seen at our nursery.

Saint & Warner
Sycamore Grove Nurseries
4584 PASADENA AVE., LOS ANGELES

Australian Eucalyptus Seed

Our Mr. R. S. Webb (a native Australian) has just returned from that country with seventeen varieties of Eucalyptus seed, comprising the varieties that have been tried in Australia, and each variety is the best for the particular purpose for which it is used, or for the particular soil and climatic conditions where they grow.

The following are some of the varieties of Eucalyptus trees preferred by the lumbermen and manufacturers of Australia:

1. Iron Bark (Panniculata)
2. Microcorys (Tallow Wood)
3. Black Butt (Pilularis)
4. Turpentine (Syncarpis)
5. Resinefera (Mahogany)
6. Tereticornis (Red Gum)
7. Saligna (Blue Gum)
8. Corynocalyx (Sugar Gum)
10. Spotted Gum (Maculata)
11. Jarrah (Marginata)
12. Sideroxylon (Iron Bark)

We will have trees of the above varieties for sale about February 1st.

JOHNSON & MUSSER SEED CO.
113-115 N. Main St. Los Angeles, Cal.

For the Season of 1908-09

We Shall Have to Offer

Pedigreed Fruit Trees

SEVERAL NEW FRUITS AND NUTS OF IMMENSE VALUE TO CALIFORNIA

Eucalyptus Trees

BY THE 1000 OR 100,000
NO BETTER STOCK GROWN

Please send us your name and address, and you will get all particulars.

Leonard Coates Nursery Co. Inc.
Morganhill, Santa Clara Co., Cal.

100,000 Eucalyptus Rostrata
FOR SALE
For Early Delivery. Contracts Solicited.
Covina Floral Nurseries
P. O. Box 545 - Covina, Cal.

Eucalyptus Rostrata
Seed for sale $2.50 a pound, delivered
Fresh Choice Seed.
Encenitas Floral & Produce Co.
Encenitas, California

When writing advertisers, mention Cultivator.

EUCALYPTUS TREES

LARGE ORDERS SOLICITED

We can make you enticing prices, if order is placed now.

Our process of balling trees into the boxes insures a large percentage of live trees when planted in the field.

Orange County Nursery & Land Co.
Fullerton, California

The
Superlative Raspberry

Orders booked now for 2-year-old plants for December delivery. Send in your name and address for my 1909 Catalogue.

A. Mitting, Santa Cruz, California

SEEDS
Plants **Trees**
BULBS

We are Headquarters for

Garden and Field Seeds

Send for Our New Fall Catalogue

Those sending their names now will also receive our handsome new 1909 General Catalogue in December.

C. C. Morse & Co.
41 Jackson St.
SAN FRANCISCO, CAL.

SEED

We are now in our ***New Store*** and are able to serve you better than ever before. All seed ***Fresh*** and ***Full of Life.*** If you have had trouble with poor seed try ours and be satisfied.

We are headquarters on ***Eucalyptus—Trees and Plants*** — 6 pkts. of leading varieties, 50c postpaid.

Full line of Trees and Plants.

Morris & Snow Seed Co.
425 So. Main St., Los Angeles

Improved Berry Plants
Bred for Big Berries

We are NOT in the berry business but make a speciality of propagating strong healthy plants for the home garden or commercial plantation. We help our customers to succeed. EVERY order receives our special attention. Our catalog tells the rest.

G. H. HOPKINS & SON
Burbank, Cal.

Burbank Crimson Winter Rhubarb

Plants and Seed for sale in any quantity. Warranted the genuine article. Orders filled promptly

A. L. Fratt, Ventura, Cal.

Pacific Seed Co.
C. Bagnall, Prop.
GROWERS AND IMPORTERS OF
Grass, Vegetable and Flower Seeds
All Kinds of Bulbs and Onion Sets
609 J St., Sacramento, Cal.
Send for Catalogue. Please mention Cultivator.

Small Fruits and Vegetables

JERUSALEM ARTICHOKES.

THERE are two kinds of artichokes. The true artichoke is known as the French or globe artichoke, and the other as the Jerusalem artichoke, writes Prof. Berry of Washington, in The Farmer. In appearance the French artichoke resembles the common bull thistle. The flower buds only are used. The term "Jerusalem," as applied to the other artichoke, is a corruption for the Italian name for sunflower, and the term "artichoke" was given to this plant because of the similarity of flavor of the tuber to that of the true artichoke. In this country only the Jerusalem artichoke is grown and only this species will be discussed in the following lines.

The Jerusalem artichoke is grown almost exclusively for its roots or tubers. These resemble the potato, but are not so smooth and are generally pear-shaped. The leaves and stems are occasionally used for rough forage or silage, but if used thus they must be cut early in the season as they soon become too woody for food. Years ago artichokes were used to a small extent for human consumption, but their place in that respect has been taken by potatoes.

There are red, white, yellow and purple varieties, but in this country the red and white Brazilian varieties have given the best results. The chemical composition of Jerusalem artichokes indicates that they have about the same feeding value as potatoes and that they are superior to turnips and rutabagas. They are richer in protein but poorer in carbohydrates—starch and sugar—than sweet potatoes. The tubers are used almost exclusively for hog food, but there is no reason why they could not be used for dairy cows, the same as other roots. They do not seem to have the same succulence as other roots and are, on the whole, not as desirable for cows as other roots. Some trouble may occasionally arise in pursuading hogs to eat raw tubers, but taste for them is soon acquired.

Hogs will not thrive on artichokes alone, but grain should be made a part of the ration. It has been found that about five pounds of grain are required to produce a pound of pork, but when artichokes are fed only about three pounds of grain are required for the same gain. Artichokes, therefore, have a feeding value equal to two pounds of grain for each pound of gain in pork. The tops, if cut at the proper time, compare favorably in feeding value with green corn fodder.

Jerusalem artichokes will do well on almost any kind of soil, providing it is well drained. They will do well on poor soil. They will withstand drouth, and this makes them particularly adapted to the semi-arid west. They have done well for farmers near Connell, Wash.

Like the potato, the artichoke usually fails to produce seed. It is generally propagated by tubers. It is best to plant whole tubers, though cuttings with two or more eyes each may be used. They require more room than potatoes and should be planted either in hills not less than three feet apart each way or in wider rows, and 18 inches apart in the rows. They should be planted early in the spring, as they require a long growing season (five months.) They stand frost better than potatoes. If necessary, and conditions permit, they may be planted in the fall, or even in the winter. About four inches is deep enough to plant.

Artichokes should be cultivated like potatoes, but cultivation may cease when the tops are about two feet high.

Harvesting is nearly always done by the hogs, which will root out the tubers for themselves. If for other use, they are harvested like potatoes, They may be left in the ground over winter without harm. They will stand freezing in the ground, but not out of it. If stored over winter they should be handled like potatoes.

The yield of artichokes is greater than of potatoes. In Oregon 500 bushels per acre were secured. Near Pullman 740 bushels per acre were raised. A Connell farmer reports an excellent yield, which, however, was not measured.

The only danger which may arise from growing this crop is that it may become a weed. The roots live in the ground and continue to grow until harvested. There is not much to fear from this source, as the hogs will root them out thoroughly. They will not spread rapidly and are easily killed.

It is not likely that a large acreage will ever be devoted to artichokes, but to those who raise hogs, they may be a valuable adjunct to the ration. A few acres would probably prove profitable to hog raisers, especially since they yield heavily, require little cultivation while growing and are no labor to harvest.

Seed or tubers may be secured from any seedman who advertises in the columns of the Cultivator. It might be well to secure a few tubers from a neighboring farmer, if any have them. The yield from these could be harvested and the entire crop used for seed the second year.

SEAWEED AS MANURE.

The following appeared in a recent Estate Magazine published at Laudon, England. It has a value to a few of Cultivator readers who may be situated near the coast:

"Seaweed contains from 4 to 20 per cent. of potash as its chief manurial ingredient, and sufficient nitrogen and phosphates to make it a fair all-round manure. Some kinds yield an appreciable quantity of nitrogen, whilst others are very poor in this regard. However, the potash is the chief consideration, and it is this that makes seaweed a good manure for potatoes and mangels, whilst it also encourages the clovers and finer grasses in pastures. In addition to this, the organic material which it adds to the soil is of no small value, particularly on light land. The matter is not experimental, as seaweed has been used from very early times by the small crofters of the western coasts of Ireland and Scotland for their oats and potatoes. Their plan is to collect it as soon as possible after it is thrown up, and plough it in fresh at the rate of twenty to thirty tons per acre. In the Channel Islands, too, seaweed is valued as a manure. The rich pastures are top-dressed with it, and it is used for mangels and other roots, sometimes in conjunction with farmyard manure. The chief point in using it is to cart and plough in the weed whilst quite fresh, as it decomposes very quickly, greatly reducing in bulk and losing much of its nitrogen. For this reason and because of its bulk it is available only on farms near the shore, and there it might certainly be more extensively used. As its use gives good results in some districts, there is no reason why it should fail to do so in others."

You May Test

TRADE MARK
WILGROW
THE WIZARD OF THE FIELDS

Absolutely Free

We have sent to different parts of California over 300 samples of Wilgrow in response to our previous offer in the Cultivator. But the Cultivator has 13,000 readers and we want everyone of you to try this perfect, concentrated fish fertilizer.

We know what Wilgrow will do.

But you don't.

And you cannot benefit thru it until you have tried it.

Therefore, we want to send you a sample and let you test it—after that you can benefit by using it.

Remember, it is a

PERFECT PLANT FOOD

and produces the most pleasing results on every fruit, vegetable or flower.

It is a food, not a tonic.

And now, all you have to do to know for yourself what Wilgrow will do, is to fill in the coupon below and mail it to us.

Wilgrow retails in 1 1-2 lb. packages for garden, lawn or flower use at 25c.

For the ranch in 25-lb. bags at $2.00.

Originated and Manufactured by
The F. B. Carlisle Co.
Port Angeles, Wash.

W. P. Holliway, 3955 Menlo Ave., Los Angeles, Cal.
State Agent for California, Arizona, Nevada and Utah

The F. B. Carlisle Co.
Port Angeles, Wash.

As advertised in the Cultivator, please send me and my neighbors, whose names I give, a free sample of Wilgrow:

NAME

ADDRESS

NAME OF NEIGHBOR

ADDRESS OF NEIGHBOR

Burr Clover
Recleaned, Hulled
Burr Clover Seed

Quotations for Any Quantity Upon Application.

Canada Field Peas

E. L. Koethen Riverside Cal.

SEED GRAIN
Black and Red Oats, Wheat, Barley, Bean Screenings, Etc.
constantly on hand and for sale at lowest market rates
Bray Brothers Buyers of Grain and Beans Members Merchants Exc.
220 Clay St., San Francisco, Cal.
Established in 1855. Correspondence Invited.

About 75 cars of fresh deciduous fruits pass through Sacramento, eastward, daily.

The Ornamental Garden

INDEBTED TO CALIFORNIA.

IN a recent newspaper interview, Eugene Germain of Los Angeles spoke regarding California's native plants as follows:

Few people realize it, nevertheless it is a fact that the horticultural world is indebted to California for many of its most valuable plants. First and foremost may be mentioned the ever popular California poppy (Eschscholtzia Callfornica), or Copa de Oro, "Cup of Gold," as it was termed in early days by the Spanish. This flower is almost as eagerly sought after and prized by ourselves as by the tourists who visit our city. In cultivation there are as many as eight distinct varieties of it, including the yellow, orange, orange and yellow, white, pink, a semi-double form of the white and yellow, and last of all, the variety introduced by Mr. Burbank, which is a deep rose color.

Then there is the Matilija poppy (Romneya Coulteri) with its immense blooms, often seven inches across, of purest white with yellow centers. It often has been termed the "Queen of California" flowers, and surely is deserving of this title, for it has no rival. This plant has been largely cultivated in England and other countries, and is in great favor.

The Spanish Dagger (Yucca Whipplei) is truly a magnificent flower, raising its immense stem eight to twelve feet in the air, with flower spikes four and six feet long, composed of hundreds of large, creamy white flowers. There is something grand about these plants when in flower in early summer, as they stand like so many sentinels stationed on our hills.

Another flower which must be mentioned is the scarlet larkspur (Delphinium cardinale), with its long spikes of vivid scarlet flowers.

Bartonia ourea (blazing star) is a flower also much cultivated in Europe, but a native of our state. It has large, rich, golden-yellow flowers, almost as large as a poppy.

Two lilies of which we may be justly proud are Lilium Humboldti, the native tiger lily, a stately plant growing to a height or four or five feet, with large orange-colored flowers, spotted with maroon, and Lilium Parryi, which has lemon-yellow fragrant blossoms.

The baby blue eyes (Nemophila insignis) must not be forgotten, with its delicate sky-blue flowers.

The lupins, godetias, clarkias, gilas, collinsia and a great many more are all members of our flora, but space will not permit of their mention in detail.

WORK WITH ROSES.

EVERBLOOMING roses should be at their best during the fall months.

Tea-roses must be fed liberally: old, rotted cow-manure is best, but bone meal is good.

Dig several big spoonfuls of fertilizer about the roots of each rose plant this month, replacing the mulch.

Cut back the blooming branches as soon as the flowers fade; work the soil under them and give a good soaking with manure-water and you will have abundant bloom.

Sharp pruning and good feeding is the sure means of getting fall roses. Keep down all insect pests with spray, tobacco-soap or whale-oil soap.

A tendency to blight of buds at this season means insects at the roots. Dissolve a peck of fresh lime in a barrel of water and give the ground a good soaking with the solution, using only the clear water on top.

When pruning the roses, use all cuttings four or five inches long for rooting. Insert the cuttings in well worked soil, leaving one eye above the surface, firm the earth about them, give a good soaking, and turn over them a glass fruit jar, pressing it into the ground. Draw the soil up around the jar, but not over it, keep the ground moist, and leave until spring.

Rose cuttings may be rooted in moist sand in any warm place, but the sand must not be allowed to dry out at any time. When the rootlets are half an inch long, transplant to soil, and give good care.

Most cuttings consist of three or four joints, or eyes, with a healthy leaf at the top. Discard every cutting that does not hold the leaf until the plant begins to grow, as the falling of this leaf means a delicate plant, even if it lives and roots.—American Farm World.

WHEN AND HOW TO REPOT FERNS.

Your ferns, to be at their best next winter, should be repotted now. About two inches increase in the diameter of the pot is required. A compost can be secured from the florist or made at home.

A good garden soil mixed with barnyard or commercial fertilizer is all that is needed. Too little of the fertilizer is better than too much, which will burn the roots.

Broken bits of crockery must be placed over the hole in the bottom of the pot. Three inches of dirt is then placed over this and leveled ready for the plant.

In removing the plant from the old pot, care should be taken that the roots are not injured. To avoid this strike the sides of the pot lightly but firmly with a trowel. Then place the pot on the side and, holding the plant with the left hand, strike the edge with the trowel. A sharp blow on the edge should cause the soil and roots to come out together. The mold is placed at once in the new pot and given a thorough wetting.

The new compost is then put in around it until the pot is filled. It must be remembered that the plant should always be placed an inch deeper in the soil. The day after repotting, the plant should be kept away from the sun.

If ferns are planted in the garden now, cut off all the fronds to prevent evaporation.

Ferns should be planted in early spring or early autumn when not in growth, but may be planted in summer if properly pruned.—American Farm World.

BULBS.

The Morris & Snow Seed Company have in press a circular on the growing and caring for bulbs which will be ready for sending their patrons in a short time. This firm is making a large business of bulbs for fall planting and has found the business benefited by sending out these circulars with instructions regarding their care. The company is now located at their new quarters at 425 South Main, Los Angeles, which is more central and also much larger quarters than those formerly occupied by them at 555 South Main.

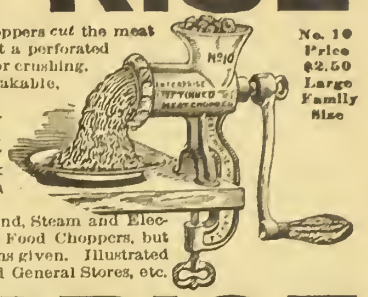
ENTERPRISE

Meat and Food Chopper

"Enterprise" Meat and Food Choppers cut the meat with a revolving steel knife against a perforated steel cutting plate without tearing or crushing. Easily cleaned. Practically unbreakable, and will last for years.

The No. 5 "Enterprise" Chopper costs only $1.75. No. 10, shown in cut, $2.50. They are standard family sizes, and not only save half the work at butchering time, but are useful in the kitchen every day in the year.

Made in 45 sizes and styles for Hand, Steam and Electric Power. We also make cheaper Food Choppers, but recommend the above for the reasons given. Illustrated catalog free. Sold at Hardware and General Stores, etc.



No. 10 Price $2.50 Large Family Size

ENTERPRISE

Sausage Stuffer and Lard Press

Lessens the labor at butchering time. Two machines in one. Well made and does its work quickly and surely. Cylinder is bored true and plate fits accurately. Pressure cannot cause meat to rise above the plate. The Patented Corrugated spout prevents air from entering casing, ensuring perfect filling and preservation of sausage.

Machine can be changed into a *Lard Press* in a minute's time. Can also be used as a Fruit Press.

Your dealer should be able to supply you with the "Enterprise" Sausage Stuffer and Lard Press. If not, order direct of makers.

No. 25—4 quart Japanned Price $5.50 4 sizes Tinned and Japanned

ENTERPRISE

Bone, Shell and Corn Mill

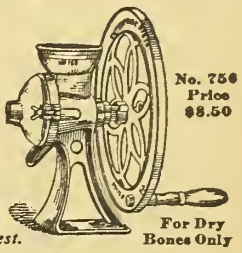
The "Enterprise" Bone, Shell and Corn Mill is a good, general mill for farmers, poultrymen, etc., and for compactness, strength and durability is unexcelled. Handy for grinding poultry food and making bone meal fertilizer. Mill shown in cut $8.50, weight 60 lbs., grinds 1¼ bu. corn per hour. Look for the name "Enterprise" on the machine you buy.

Grind up dry bones, oyster and other shells, corn, etc., for your hens and watch results.

Other famous "Enterprise" household specialties are: Coffee Mills; Raisin Seeders; Fruit, Wine and Jelly Presses; Cherry Stoners; Cold Handle Sad Irons, Etc., Etc.

Sold at Hardware and General Stores, etc.

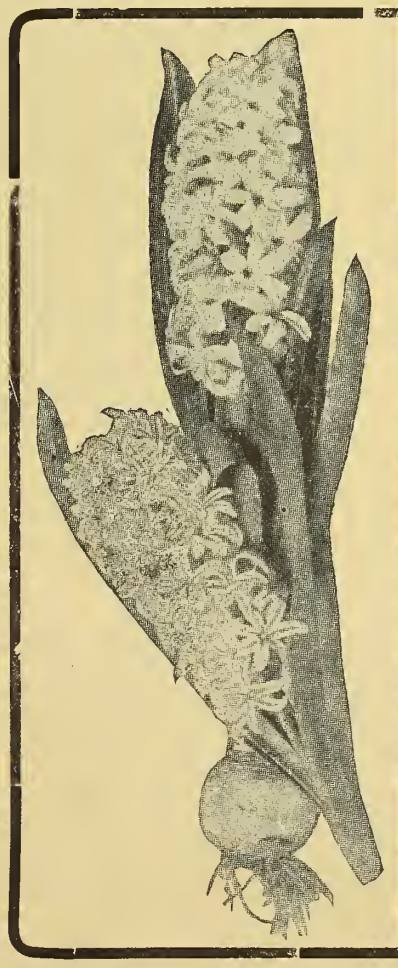
Write for "The Enterprising Housekeeper," a book of 200 choice recipes and kitchen helps. Free on request.



No. 750 Price $8.50

For Dry Bones Only

THE ENTERPRISE MFG. CO. of PA., 229 Dauphin St., Philadelphia, Pa.



Fall Assortment of

Bulbs

Send for our new 1908 Bulb Catalogue. It tells how, when and where to plant them.

GERMAIN SEED AND PLANT CO.

326-330 S. Main St.
Los Angeles, Cal.

SEEDS and TREES of

All Leading Varieties EUCALYPTUS Send for Special Price List

New Onion Sets, White Bermuda, any quantity.
Peas, Beans, Tomato Seed for late planting.
Tomato and ***Pepper Plants, Rhubarb Roots.*** Send for Catalogue.

Chas. Winsel, Seedsman

251 So. Main St. **Los Angeles, Cal.**

When writing advertisers, mention Cultivator.

Creamery Supplies

Cream Separators — Milk Cans
Combined Churns — Milk Bottles
Babcock Testers — Brushes
Butter Moulds — Wrappers
Engines and Boilers — Milk Coolers
PASTEURIZERS
MILKING MACHINES
Creamery and Dairy Supplies and Machinery of all Styles and Sizes

Send List of Goods Wanted and we will Quote Prices

O. J. WEBER CO.
555-57 S. Los Angeles St.
LOS ANGELES, . CALIFORNIA

CUTTER'S
Anthrax
and
Blackleg
VACCINES

Are given the preference by 80% of California stockmen because they give better results than others do.
Write for prices, testimonials and our NEW booklet on Anthrax and Blackleg
The Cutter Laboratory
Berkeley, California

SECOND HAND PIPE

Just bought cheap ten carloads of water pipe, sizes ½-in. to 6-in., which we offer cheap for cash: ½-in. 1½c. a ft., ¾-in. 2½c a ft., etc. Get the benefit of our close buying. All pipe guaranteed good as new and dipped in asphaltum. Write for complete price list.

WEISSBAUM PIPE WORKS
133 Eleventh St., San Francisco

PASPALUM DILATATUM

King of dairying and fattening grasses. The great Australian drouth resister. Primest heavy seed direct from the grower, 4 lbs. (ample for trial) post free, $2.00. Full information.

C. F. JULIUS
Central Bucca, Coffs Harbor, New South Wales

Live Oaks Farm

Frank A. Meacham, Proprietor.
Importer and breeder of RED POLLED CATTLE, SHROPSHIRE SHEEP, RAMBOUILLET SHEEP, HORNLESS AMERICAN MERINO SHEEP. Both sexes for sale. Take electric car at Petaluma or Santa Rosa for LIVE OAKS STATION. Address all mail to
Petaluma, Sonoma Co., Cal.

HOLSTEINS

We Have For Sale a Number of Registered Young Bulls and Heifers **$100**
All our stock comes from the celebrated herd formerly owned by the Pierce Land and Stock Co., the premium herd of Holstein Friesians in California. **Oakwoods Stock Farm Co., Lathrop, Cal**

VENADERA HERD
OF REGISTERED JERSEYS

I have for sale a number of richly bred young bulls, some of them from cows that have high official yearly records.
GUY H. MILLER,
Route 3, Modesto, Cal.

Berkshires--Shorthorns

My Berkshires took 9 First, 6 Second and 4 Third Prizes and both Gold Medals. 50 Head For Sale.
G. A. MURPHY, PERKINS, CAL.

THIRTY THOROUGHBRED
Poland China Hogs and Pigs
FOR SALE
W. R. McCaslin, R.F.D. No. 1, Roosevelt Ave, Sacramento

John Lynch Breeder of Registered **Shorthorns**
MILK STRAIN
Box 321 Petaluma, Cal.

PURE BRED BERKSHIRES
Young Stock For Sale
Wm. H. Bird Box 6, Compton Cal.

The Whiting Jersey Stock Farm Company
Is making the very best strains of blood fresh from the island of Jersey a specialty.
Whiting Jersey Stock Farm Co. Heber, Imperial Co., Cal

Live Stock and Dairy

MILK SUPPLY.

THE advance of medicine along the lines of knowledge in germ disease during the past twenty years has given control of many of the worse scourges of the human family. Then it was that the attention was called to bovine tuberculosis. While there is no doubt that much has been made of the consumption scare to bring gain to grafters, yet it will all result in good. There are other troubles needing attention as well as tuberculosis. The school authorities are, at last, awakening to the control of eye trouble, introduced by the Orientals into California. It is time that it was attended to, for we do not want our children to have the peculiar eyelids and lashes of the Chinese. So it is with a host of other troubles, Cuban itch, for instance, has prevailed in the cheap lodging-houses and made life a burden to many cleanly people.

Dr. Bangs.

There comes as a delegate from Denmark to Washington, to attend the Tuberculosis Congress, a man in whom the dairy world is greatly interested—Dr. Bangs. He has a paper written in layman style on "Studies in Animal Tuberculosis and What We May Learn From it as Regards Human Tuberculosis." Dr. Bangs, nearly fifteen years ago, brought the positive proof that animal tuberculosis in cows was not inherited. That it was contracted the same as any other diseases. Then he originated the system known as "Bangs" of eradicating it from a herd of pure bred cows without destroying the herd. The herd is first tested and all reacting cows separated, the stables are disinfected and only the healthy cows put into them. The rest of the herd, that is the reacting cows, are segregated, having different milkers and pails. When they drop a calf it is at once removed and never allowed to nurse. The milk from the diseased herd is pasteurized and used in feeding calves or pigs. The temperature to which it is raised should not be less than 175 degrees, this renders the milk safe, Dr. Bangs has found, for feeding and domestic use.

Tuberculin.

The wonders of tuberculin never cease to appeal to me like a romance. The milkers think it is magic and are quite superstitious over it. Take a vial of yellow-brown fluid and inject a small portion of it into the shoulders of a couple of cows. To all appearance the cows are equally fat and sleek; no one would ever suspect either of them of being diseased. Yet in a few hours one has reacted and is condemned, while the other one is passed as healthy. Stranger yet, of two animals one may react with great severity and the other very lightly, the first one, if killed, will show a mild form of disease, while the other one that acted lightly will be fairly dropping to pieces. I saw a cow that had the disease pronouncedly, but so thoroughly was her system saturated with the poison, that the injectiug of a little more did not matter and no reaction took place.

BALBOY, 44,597.

A Madera County product, a registered Percheron stallion, property of T. S. Osborn, Madera, California. Mr. Osborn has a fine 300 acre stock ranch and now has 125 mares and colts of Percheron breeding.

Pasteurized Milk.

In the United States we are drinkers of raw milk. We will not be educated to like cooked milk, that is the older generation will not. The babies are being raised on it largely. I look to see, in ten or twenty years, a taste formed for it. This is not impossible for it is not nearly so disagreeable as beer to the taste. The whole German people like beer because they are raised to drink it from childhood. I do not believe you can take many grown-up people that never drank beer and get them to say they like it. Now a taste for boiled milk is not impossible to create in this way by giving it to children.

Sanitary Milk.

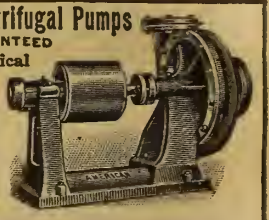
Nathan Strauss of New York has said in a recent speech, made in Germany, that he looked forward to the time when the pasteurizing of milk of cities would be part of the municipal duty, the same as a pure water supply. Great as Mr. Strauss's good work has been in furnishing pasteurized milk to the slum babies of New York, yet, when he claims that pasteurizing of milk has reduced the death rate of slum children fifty per cent., the claim is too great. There are other causes than milk for the death of children. The milk comes from the country and the country

Cream Separators, all sizes, all prices. O. J. Weber Co., 555-557 S. Los Angeles street, Los Angeles.

MICA
Axle Grease
Helps the horses.
Saves the wagon.
Pays the teamster.

Mica Axle Grease has a long wearing quality, which makes it the most economical of all lubricants. Especially adapted to heavy wagons and hard teaming. Ask your dealer for Mica Axle Grease.
STANDARD OIL COMPANY
(Incorporated)

American Centrifugal Pumps
GUARANTEED
Highest mechanical efficiency.
Saves 25% of power over all other pumps.
Give us your pump specifications.
Manufactured by



THE AMERICAN WELL WORKS
Aurora, Ill., U. S. A.
Branch Offices:
Chicago, Ill., First National Bank Building.
New York, N. Y., 2-4 Stone St.
San Francisco, Cal., 305 Market St.
New Orleans, La., J. H. Menge & Co.
Dallas, Texas. Joplin, Mo.

Geo. C. Roeding, Fresno, Cal, breeder of
Thoroughbred Holstein Bulls and Heifers
Thoroughbred Berkshire Boars and Sows

Thoroughbred Poland China Swine
Black Minorca and Barred Rock Poultry
High Grade Stock of Best Strains.
Young Stock For Sale
W. Bassett *Hanford, Cal*

When writing advertisers, mention Cultivator.

Your Eastern Trip

SOUTHERN PACIFIC

May be arranged so that you may travel by way of

New Orleans and the Sunset Route

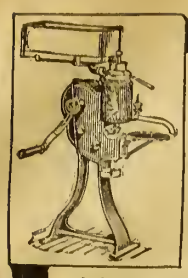
San Francisco and the Ogden Route

Portland and the Shasta Route

Enjoying the balmy air of the South or the cool and bracing air of the North.

Personally conducted excursions every day from Los Angeles via all routes without change to principal eastern points.

Southern Pacific



The 1908 Improved

U. S. CREAM SEPARATOR

Meets every emergency in the Dairy

It has a solid, low frame; waist low supply can without the back breaking low crank; simple yet thoroughly efficient bowl, holding World's Record for cleanest skimming; is thoroughly lubricated, as gears run in a pool of oil, and has ball bearings at high speed points, making it the easiest running separator made.

Do not delay longer in the purchase of a separator and buy no other until you have seen our catalogue No 20 sent to any address on receipt of a postal.

Vermont Farm Machine Co., Bellows Falls, Vt.

Prompt deliveries from 16 distributing warehouses in the U. S. and Canada

502

Prompt Delivery Assured

California Customers from San Francisco warehouse. No delays. Address all letters to Bellows Falls, Vt.

children drink of it and escape troubles. Over crowding in the houses and other bad food has much to do with destroying children.

Dairyman Duty.

The dairyman rises from being the humble server of the people to being a conserver of their health. His simple little duty is being clean and then, after everything is as clean as he can make it, go all over it again for safety. The dairyman, with a large herd, is more likely to furnish healthy milk to the consumer than the man with one or two cows. The very size of the money proposition, the money invested, makes the man with many cows very careful about his feeding, watering and stables. The cow's health is gain. The dairy that is large enough to have a steam boiler can be cleaner than it is possible to scrub cans, floor or utensils. The sterilization by steam is a complete one and the only one to be applied to milking pails, cream cans and separator. Why? Because the creamery using separated cream does not have the cream grow slimy or the butter fail to come. There is no bacterial growth possible where things are steamed. The buyer of milk should buy of the regular milk men if they wish clean milk, rather than from the neighbor's cow that is all right in herself, but where the cans may be all wrong.—M. E. Sherman.

DAIRYMEN

Your cows are either making money for you or eating their heads off.

Figure it out. Would it not pay to use less of high cost fodders and more sugar-beet-pulp at the low price of 50 cents per ton?

If it is milk you want you will get your money back with profit, besides you will improve the condition of the animals.

And don't wait too long before arranging to silo some of it for use after the factory closes down.

Write, Los Alamitos Sugar Company, Los Alamitos.

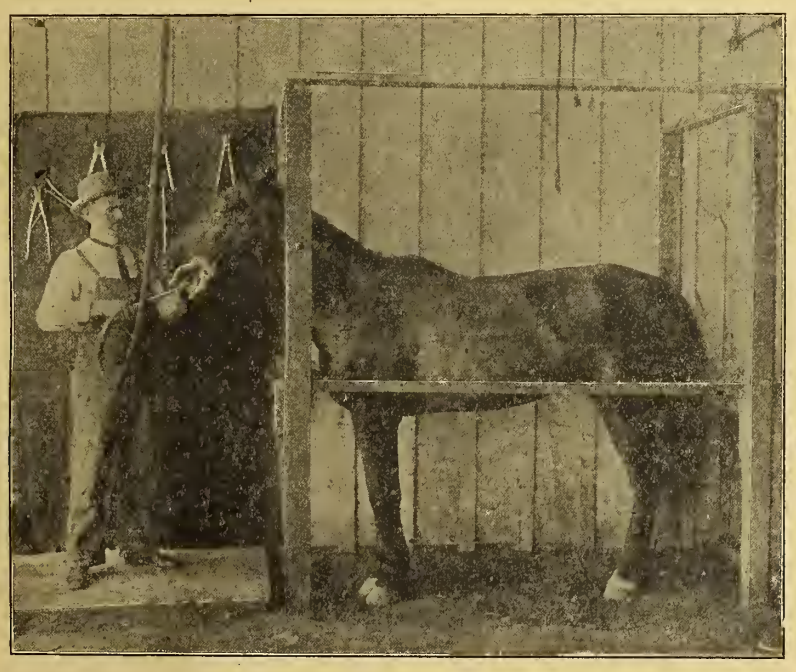
A VETERINARY HOSPITAL.

In these modern days specialists are given an advantage over those who distribute their energies over a broader field. For dealing with the ailments of human beings there are not only hospitals but physicians who make a life study of one particular line in those hospitals. For horses and dogs and others of our dumb servants, such perfection can hardly be expected and many may be surprised even to know that any hospital at all exists for their treatment. But every city of any size now has veterinary hospitals and the city of Los Angeles maintains as a part of its municipal machinery a regularly equipped horse ambulance in which diseased or injured horses may be placed and taken to hospital for treatment

The writer recently had the pleasure of visiting one of these hospitals and observing the up-to-date methods supplied for alleviating the suffering of horses, cattle, dogs and even cats.

This was the veterinary hospital belonging to Dr. R. T. Whittlesey, who answers the veterinary questions in the Cultivator. This place is put up with modern appliances for handling the animals and with liberal use of concrete in floors and walls is made practically as sanitary as hospitals for the treatment of human beings. The concrete floor has gutters leading to pipes carrying all matter to the sewer and these floors are flushed often to keep away all suggestions of odors.

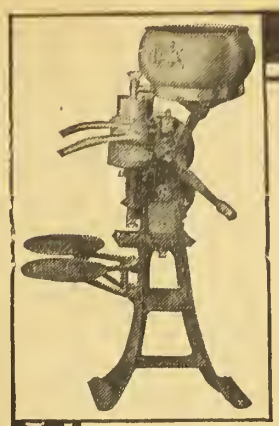
The operating table is not wanting,



for in a room at one side is an immense table on which a horse may be placed for treatment. The horse is led alongside the table and securely strapped to it, when with a worm gear an attendant lifts the entire table top which takes the horse from its feet and carries it over on its side. It is then so securely strapped that any operation may be performed without any danger to physician or attendant. It must not, however, be assumed that the horse is tortured unduly for anaesthetics are almost as common in animal practice as with human beings. A table for dogs in which the animal may be strapped and held in any position is also a feature.

The engraving given on this page is taken to show the use of the rotary electric dental machine, an invention of Dr. Whittlesey. It is similar to the dental machine used in practice on humans. The appliance which may be observed in the engraving which holds the mouth of the horse open without any inconvenience to it is for protection of the operator and his machine.

A material factor in Dr. Whittlesey's practise is his Chinese trade. Many horses from the Chinese gardeners who make no effort to doctor their own horses are brought to the hospital for treatment. To secure this trade the doctor has issued a circular in the Chinese language. The veterinary hospital is an interesting place to visit and is the means of saving many horses and alleviating the sufferings of more.



"No Trusts"
"No Catalogue Houses"

DE LAVAL CREAM SEPARATORS

First—Always Best—Cheapest

For Thirty Years

The World's Standard

As much better than other separators as other separaters are better than gravity creamers

Send for catalogue of 1908 Lates Improved Machines

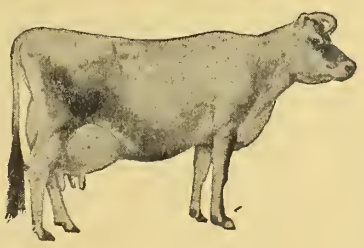
DE LAVAL DAIRY SUPPLY CO.

108 So. Los Angeles St. LOS ANGELES
42 E. Madison Street CHICAGO
74 Cortlandt Street NEW YORK

General Offices: 101 Drumm Street, SAN FRANCISCO.

107 First Street PORTLAND, OREG.
1016 Western Ave. SEATTLE
Box 1052 VANCOUVER, B. C.

PROTECT



Your Live Stock Against Death

From Any Cause By *Insuring* In

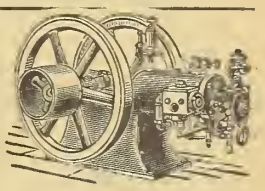
California Mutual Live Stock Insurance Association

An organization of the ranchers and stock men organized for the mutual protection of Live Stock. We insure live stock against death from fire, accident or disease, affording to the stock owner adequate protection at rates but little higher than those ordinarily charged for fire alone. Our policy holders are among the best and most representative stock owners of this State. All losses paid promptly upon receipt of proof of loss. For information regarding the condition and standing of this Association we refer you to the Security Savings Bank, Los Angeles, Cal., the National Bank of California, Los Angeles, the Bank of Germany, Oakland, Cal., or any good, reliable bank in the State. Address all communications to either

M. L. WRIGHT, Pres. and Gen. Mgr., Delta Bldg., Los Angeles, Cal.
or F. H. Hilliker, State Agent, 307 Oakland Bank of Savings Building Oakland, Cal.

A Gasoline Engine 35 H.P.

Used short time; in good condition.
For Sale at Half Price. A Bargain.



National Wood Pipe Co., 404 Equitable Bank Building Los Angeles, California

California Cultivator

ESTABLISHED 1889

Subscription Price One Dollar per year, payable in advance. Dates of expiration of subscription accounts appear each week on the address label. John Jones 7-08 means July 1, 1908. Notify us by mail if you desire to discontinue.

Thursday, October 8, 1908

Address All Communications to

CULTIVATOR PUBLISHING CO.
115½ No. Broadway, Los Angeles.
733 Merchants Ex. Bldg., San Francisco.

Copy for Change of advertisement must be in office on Saturday preceeding date of issue. New advertising copy should reach the office not later than Tuesday to insure insertion.

CULTIVATOR PUBLISHING COMPANY
H. A. PERKINS, EDITOR AND GEN. MGR.

C. B. MESSENGER - - - - Associate Editor
FRANK H. THOMAS - - Advertising Manager
H. G. HUTCHINS - - Subscription Manager

EDITORIAL CONTRIBUTORS:

J. W. MILLS - - Deciduous and Citrus
JOHN ISAAC - - - Horticulture
J. B. NEFF - Walnut Culture and Irrigation.
Mrs. M. E. SHERMAN - Live Stock and Dairy
Q. A. LOBINGIER - - Vegetable Garden
S. S. TWOMBLY - - - - - - Poultry
W. E. FOSTER - - - - Pigeons
L. M. FALL - - - Law Queries
RALPH E. SMITH - - Plant Pathology
S. A. PEASE - Plant Diseases and Injurious Insects

Entered at the Post Office at Los Angeles, California, as Second-class matter.

Contents

SHASTA DAISY GROWN IN CALIFORNIA, Cover.

THE TOMATO AND POTATO BLIGHT, 339.

CITRUS.—Juicy Grapefruit; Slight Increase in Orange Acreage; Farm Names, 340, 341.

DECIDUOUS.—Crops Between Trees, 342.

IRRIGATION AND FORESTRY.—Disastrous Consequences Illustrated; Day or Night Irrigation, 343.

SMALL FRUITS AND VEGETABLES.—Jerusalem Artichokes; Seaweed as Manure, 344.

ORNAMENTAL GARDEN.—Indebted to California; Work With Roses; When and How to Repot Ferns, 345.

LIVE STOCK AND DAIRY.—Milk Supply; A Veterinary Hospital, 346, 347.

EDITORIAL.—Is the Small Farmer Doomed; International Institute; Green Manuring; More Comfortable Homes, 348.

AGRICULTURAL NOTES OF THE PACIFIC COAST.—Northern, Central, Southern, The Coast 349.

POULTRY.—Inexpensive Poultry Houses; Sources of Revenue from the Poultry Yard; Year Old Hens Versus Pullets; Brevities; Yellow Legs; System of Changing Layers; A Dust Bath; Keeping the Yards Clean; Grit, Shell and Charcoal for Hens; Naked Poultry, 350, 351, 352.

BEES AND THEIR CARE.—Bees for Farmers; Short Notes; 353.

QUERIES.—Alfalfa and Eucalyptus; A Roup Experience; Preserved Figs; Packing Prunes; Sowing Bermuda Grass; Alfalfa on Alkali; Fruit for Poultry; The Other Side; Trouble with Kidneys; Crumbling Hoofs; Abscess, 354, 355.

HOUSEHOLD.—Wanted—Girls and Boys; Mr. Gnagg at the Breakfast Table; Recipes, 356, 357.

PRODUCE MARKETS.—Los Angeles Market; San Francisco Market; Citrus Markets, 358, 359.

IS THE SMALL FARMER DOOMED?

At the Whittier Institute held last spring at the time of the opening of the Pathological Laboratory, Mr. Reed, of Riverside, referred with much regret to the fact that the small orange grower of California was not, as a general thing, showing the intelligence in growing or bringing to market his product which the owner of the large orchard usually shows. The owner of the large orchard is often a syndicate, sometimes an Eastern capitalist, employing skilled superintendents to conduct the property along business lines. In line with true business principles these superintendents have put the orchards in their control on such a high grade producing basis and then have marketed with such intelligence that these orchards are proving far more profitable than the ones conducted by the small home owner. Mr. Reed then asked the question seriously, "Does this mean that within a very few years our small homecrofters are to give way to the larger estates?" Time only can answer his question but unless our small farmers awake to the necessity of their thorough mastering of the cultural problems we fear the tendency will be more and more to the large holdings.

We say we fear it because we do not think it will be for the best interests of the country that such a condition should be brought about. Certainly the independence with which the small farmer may conduct his little farm and the class of people who usually are drawn to that method of living are such that we believe the best interests of the nation would not be conserved if this condition should cease. In other words to quote an Eastern Exchange, "The United States is not suffering today because of the smallness of its farms nearly so much as on account of the smallness of our comprehension as farmers. The smallest farm is yet challenging the understanding of the scientist, the economist, the college, and the farmer."

INTERNATIONAL INSTITUTE.

After many years of effort and many rebuffs, Mr. David Lubin of Sacramento must have great pleasure in the near approach of the realization of his dream for a congress or institute, in which representatives of practically all the nations of the earth gather to discuss agricultural problems. The United States stands almost alone in gathering, publishing and disseminating a fund of information regarding the condition of crops and amount of output. Should this work be done by individual states it would be an aggregation of misinformation, rather than of information. That is, there would be no unity of method which would make the knowledge of value. The same would be true, should independent nations gather together as complete information as does the United States, were there not some provision made for some clearing house arrangement, whereby the various lines of information could be brought into harmony.

A noted English dealer in referring to the importance of the Institute said:

"The project is one of supreme importance to the commercial and industrial world. At the present time there are no reliable beacons to guide those engaged in the trade and manufacture of agricultural products, and merchants and manufacturers are, consequently, subjected from day to day and from hour to hour to fluctuations, oftentimes violent, in the prices of raw materials brought about by contradictory and unreliable reports emanating from interested or ill-informed sources.

"I need not tell you, who are so familiar with American agricultural reports, of the immense importance that is attached to the monthly reports (imperfect as they are) issued by the United States Government. For days before these reports are published it is common to hear merchants say:

"'We will do nothing till we hear what the bureau report is.'

"You can easily imagine with what intense interest the whole business world would await the reports of the international institute.

"It is of the highest importance that every one charged with the administration and direction of the institute should be an expert in some branch or other of the institute's work, and that those who are responsible for the publication of the reports should be trustworthy to the highest degree. Any leakage or premature publication of the information would inevitably ruin the institute's reputation."

GREEN MANURING.

One of the most expensive factors in growing a crop is the maintaining and increasing of the soil fertility. As expensive as it is, it is essential to the best results. The cost of irrigation, cultivation and general maintenance are practically the same on poor soil as on that which has abundance of the necessary elements and is in the best of mechanical condition. How to secure this fertility at the lowest possible cost has been a mooted question for years and will doubtless continue with as much diversity of opinion as it has in the past. However, on one point there is almost unanimous opinion, and that is that the securing of nitrogen and the making available of other plant foods locked up in the minerals of the soil, besides the bettering of the mechanical conditions, are all facilitated by the plowing of a green manuring crop. Whatever theories one may have in this matter some remarkable examples of success have been secured by those who follow green manuring which are sufficient to convince the most skeptical. Formerly many claimed that only that which was taken from the soil is returned. If for the sake of argument we may admit that for the moment, in that case the effect upon the mechanical condition of the soil is such that even if the same elements are returned to the roots of the trees they seem to be in a more available and acceptable condition, the ground has secured the addition of a supply of humus which retains moisture better than formerly, the "putty-like" condition has been broken up and the irrigator finds his soil takes in water better.

But we have a very decided belief which is now generally accepted as a fact that while the potash and phosphoric acid which was used is only returned in a somewhat more available form, an additional supply of nitrogen has been secured from the atmosphere. This may be in small quantities but sufficient to encourage further planting of green manure crops for the sake of the addition of this one element if for no other advantages.

MORE COMFORTABLE HOMES.

More and more comfortable homes with well kept and attractive spaces for lawns, with liberal displays of flowers and shrubbery, are appearing in California rural life. The wide veranda with its swinging hammock and even more comfortable places for the "hands" are more general. This is not imaginative, but will be noticed by any observant person driving along California roadways which every year become more attractive. This indicates two things, first, the prosperity of California farmers has developed the means of securing more than mere bread and butter, and besides the taste for better things has been encouraged until it, too, has become more discriminating. This is gratifying to all and especially satisfactory to the farmer who is the most benefited by it. May it continue and may every owner of a rural home in California demand for himself and his family such betterment to as large a degree as possible to command.

The Pasadena Gardeners' Association is arranging for its first annual flower show to be held in Pasadena on October 22, 23 and 24. Some fear this will be a little early to secure the best of showing from chrysanthemums and some other fall flowers, but the Pasadena gardeners will no doubt make a magnificent exhibit.

Shop Talk

CLUB RATES FOR 1909.—As was done a year ago, the **Cultivator** will in a short time present some very attractive clubbing combinations for the benefit of subscribers. Inquiries have already been received regarding our plans along this line for the coming season, and we take this opportunity of saying that it will pay to watch carefully the "Shop Talk" column in the near future for particulars. Arrangements are now being perfected whereby very attractive prices will be offered on clubs of not less than two magazines when ordered with the **Cultivator.**

It is our intention to include in our list the best and most popular magazines published and there is every reason why **Cultivator** readers should take advantage of the opportunity when offered. We wish to say also that we are in position to order any publication, whether advertised or not, and will gladly answer all inquiries. Keep it in mind and place your orders through the **Cultivator.**

"I like the Cultivator. Its articles, not too pedantic for the general reader, yet always promoting scientific agriculture, are the leaven urging us to better things. It does not devote its pages to telling how $5 in time can be spent in constructing a makeshift to save a dollar. A long and useful life to you." W. R. Livingston, Oxnard.

L. L. Wilcox, Julian, says: "Your publication is worth many times the price. You are surely filling a great want."

"The Cultivator should be in every farmer's home in the state." W. A. Ross, Anaheim.

Agricultural Notes of the Pacific Coast

Northern California

Humboldt county's tax rate will be $1.90.

Grape growers of Biggs are considering the building of a co-operative winery.

The Mendocino county tax rate is fixed at $1.85, which is 5 cents less than last year.

The creamery at Livermore, Alameda county, has closed because of lack of milk supplies.

Seventeen tons of almonds raised near Orland have been sold at about 10 cents per pound.

The Sonoma Tannery was recently destroyed by fire, involving a loss in plant and hides of $50,000

The recent sale of the H. P. Eakle stock of Shorthorns, at Woodland, is said to have been very satisfactory.

A good roads convention, held at Sacramento recently, was largely attended by delegates from Sacramento Valley.

The Petaluma Egg Exchange is in full operation and will work in harmony with the Sonoma County Poultry Exchange.

The Thermalito chestnut growers have produced a fine nut this year and anticipate good prices and big profits from their output.

Buck's Flat cattlemen, in Tehama county, are standing pat upon securing their prices and are refusing to sell to buyers at offers made up to this time.

Tehama county sheep owners have driven their sheep long distances for summer pasture, some going into the mountains as far as 120 miles. They are now returning from the mountain ranges.

The poundmaster of Sacramento recently impounded 1200 sheep which were being driven through the city and endeavored to collect a fee of $2 each. An appeal to the courts, however, succeeded in releasing them on a $40 fine.

Secretary Filcher is urging the uniting of the various agricultural societies of this state under one head, that is the State Horticultural Society, the State Agricultural Society, Veterinary, etc, should all be under the management of the State Agricultural Society.

Weather observers who have been connected with the measuring of the Sacramento and San Joaquin rivers are studying the water gauge system and the rainfall stations throughout Northern California and hope to improve the system of measurement of discharge of the river.

The Sonoma County Pomona Grange recently resolved that it is the duty of the members of that grange to support only those nominees at the coming state and national elections who will advocate and vote for the policies suggested by the state and national government.

Extensive preparations are being made for the Annual Institute to be held at the State Farm at Davis, next week. Several speakers from the University and some of the best farmers of the state will add to the interest of the occasion. The Institute begins next Thursday morning and will continue until Saturday afternoon.

Central California

The cannery at Sanger paid for cling peaches $22 to $23 per ton.

Prices on Tokay grapes are ranging from $1.10 to $2.15 per crate.

Old crop raisins are gradually being cleaned up, leaving a good condition for the new crop.

Work horses at Marysville have been troubled with the contagious disease, "pinkeye."

Sanger shipped about 200 cars of fruit for which canners paid the farmers about $45,000.

A company has been organized at Porterville for buying land and planting eucalyptus trees.

Florin Tokay growers are quite chesty over having secured the highest price for Tokays this season.

This state will produce about 300 cars of almonds this year. They will command about $3000 a car.

California will ship about 1800 carloads of lima beans which will probably average about $1600 a car.

A packing house at Lodi was burned recently and a large quantity of grapes and packing boxes went up in smoke.

The Woodbridge, San Joaquin county, winery is crushing about 160 tons of grapes per day. They will handle about 5000 tons.

Apple growers near Watsonville are pleased at the prospect of having the biggest apple crop ever shipped out of that valley.

The Santa Clara County Poultry and Pet Stock Association will hold its annual bench and bird show at San Jose November 9-14.

The thunder shower which recently visited almost the entire San Joaquin valley did considerable damage to raisins on trays and to table grapes.

The output of apricots this year will be not far from 1000 cars and about the same of dried peaches These will command from about $2500 to $3000 a car.

A farmer at Lodi is making a special study of the scientific side of fruit raising and maintains the added quality of the fruit is sufficient to justify most intelligent care of the fruit crop.

A barbecue was held at Jolon, Monterey county, recently, in celebration of the successful work done by forest rangers and their helpers in controlling a fire which was raging in the National Forest.

A Turlock grape juice company has been incorporated and $75,000 of its capital has already been subscribed. Several lots have been purchased for constructing the buildings, work on which will be begun in a short time.

The Armsby Company claim that the returns for California farm products which have been sent out of the state by that firm aggregate $41,000,000. These products include salmon, canned fruits, nuts, beans, dried fruit, raisins. It does not include any citrus fruits.

Hollister will have somewhat below the average output of hay this year, but considering the season it will be an exceptionally good yield. The total for the valley will be about 27,000 tons while in a good year 30,000 tons is normal. Growers are receiving about $13 per ton.

Southern California

A small tornado did several thousand dollars worth of damage at Indio last week.

Corn in the neighborhood of Brawley is promised to run about 40 to 50 bushels per acre.

Riverside Trust Company of Riverside will plant 100,00 eucalyptus trees within the coming season.

The Orange County Carnival of Products will be held in Santa Ana next week, October 15-16-17.

Public schools at Capistrano were closed for several days to allow children opportunity to gather walnuts.

Imperial valley has a great quantity of alfalfa hay stored and heavy shipments to Los Angeles are anticipated.

Brawley people have subscribed $10,000 as an inducement to a company to establish a condensed milk factory.

The Lake Hemet Water Company is to sink fifteen new wells to add to the water supply of Hemet and San Jacinto.

Claremont Pomological Club held its first meeting after the summer vacation at Ganesha Park at Pomona last Monday.

Westminster district in Orange county is contemplating a drainage project which will add valuable land to its tillable area.

It is now thought the output of walnuts of Southern California this season will not exceed that of last year by more than 10 per cent.

Highland reports about the heaviest rain for September of any section, aggregating almost 3 inches, which is the heaviest in its history for that month.

A packing house containing 7000 gallons of olive oil, 300 cases of extracted honey, a quantity of raisins and other fruit was burned at Escondido recently.

At the recent annual meeting of the Whittier Citrus Association the report of the secretary showed the shipment during the past year of 516 cars of citrus fruit.

The Waters cannery at Pomona Los Angeles county, has had a very successful season, employing during the entire summer 300 to 400 hands. It is a valuable asset to Pomona.

"California Dixie" is the latest title to be given to the Imperial Valley, which it claims because of its possibilities in cotton culture which is receiving a great impetus this year

Robert Smith of Riverside predicts that the coming orange crop of California will be 1200 cars short of last season while James Mills of the same city predicts about the same output as last year.

People of Lancaster and of the whole Antelope valley are planning for a great rabbit drive on October 17th. An excursion train will be run from Los Angeles and an effort made to cover as big a scope of country as possible.

Ventura county bean growers will save much from their crop of beans which were wet in the recent rain. They observed greater care in threshing than last year when many beans were threshed too soon after the rains and molded in the sacks.

The Coast

Portland, Oregon, butter quotations are now 32½ cents, second grade running two cents less.

Gresham, Oregon, has built a pavilion and is holding a live stock exhibit and grange fair.

Beekeepers at Walla Walla, Washington, will have a honey output of over 50 tons this season.

The sixth annual Agricultural and Industrial Fair was held at Nelson, British Columbia, last week.

Threshing has all been finished at Pullman, Washington, and the season has been the shortest in its history.

One farmer at Conconully, Washington, had his entire crop of wheat burned just after threshing recently.

Yakima valley will have an output of 1800 carloads of apples. The average price expected is about $2 per box.

A Colville, Washington, farmer lost over 80 tons of hay because of small boys smoking cigarettes near the stack.

The Spokane fair, which is being held this week, is to have an auction of hogs and sheep, which is a new feature.

The Oregon State Fair had 1335 head of live stock entered for premiums. The poultry exhibit numbered about 1000.

Harvesting and threshing has been finished at Athena, Oregon, and practically all of the wheat has been sold and shipped.

One New York firm has bought 80,000 boxes of Hood River apples, the purchase price being in the neighborhood of $90,000.

Prune pickers and packers are in demand in the prune sections of Washington and some loss will be caused by shortage of help.

Western Washington will produce about 3500 bales of hops this season. The entire state will produce about 10,000 to 11,000 bales.

The prune gathering season near Salem, Oregon, is more than ten days later this year than last. The prunes will run exceptionally large.

A La Crosse, Washington, farmer has prepared an exhibit of over 50 varieties of wheat which he has grown for exhibition at the state fair.

Spangle, Washington, has a new hybrid wheat which yielded this year 46 bushels per acre alongside other varieties which ran much less than that amount.

Wenatchee wheat growers who had formed a pool recently sold 175,000 bushels of wheat at 93 cents, which is the highest price received by growers there for years.

The milking contest which was conducted at the Salem, Oregon, fair between several of the best milch cows of the Northwest was won by the Holstein, though by an exceedingly close margin.

In accordance with a decision just announced by Assistant Forester A. F. Potter, 35.000 sheep and 19,000 head of cattle will be allowed on the Verde reservation, Arizona, during the coming winter.

According to a bulletin issued by the Department of Agriculture, Portland holds second place in the United States as a grain shipping point, New York only exceeding her, and that by a very small margin.

PER 2 BUSHEL SACK **$1.90** PER 2 BUSHEL SACK

Buy the World's Famous Egg Food No. 4

MIDLAND

IF YOU WANT EGGS
YOU WILL FEED NO OTHER.

Used by the largest and best breeders in the country. Thousands of poultrymen are using it, and it is the acknowledged standard of the world. Haphazard feeding is no longer profitable. Try Midland Food and be convinced.

Petaluma Incubators and Brooders

The acknowledged standards of perfection. All poultrymen who have used these machines have supreme confidence in their ability to hatch and breed. Hence their ever increasing popularity. Winners of the Gold Medal at the St. Louis World's Fair for the greatest hatch, with 40 different makes of incubators in competition. How's that?

St. Louis, Mo., Dec. 8th, 1904.—Petaluma Incubator Co., Petaluma, Cal: My dear Sir—The awards have been held up owing to a controversy between the Exposition officials and the national commission, but today I am able to state the award of a gold medal on your Petaluma Incubators has been confirmed. You are at liberty to make use of this in any way you see fit and in due time the diploma will be issued and the medal obtainable. Congratulating you upon this evidence of the merits of your incubators, in which there was very great competition, I beg to remain, yours very truly, J. A. Filcher, Commissioner.

And Now Comes New Reward for Merit

Read the following telegram received from the Lewis & Clark Exposition at Portland:
"Petaluma Incubators and Brooders just awarded Gold Medal at Lewis & Clark Exposition."

WRITE FOR CATALOGUE 47—A BEAUTY

Petaluma Incubator Co.

Main Office and Factory, Petaluma, Cal., Box F.
Los Angeles, 636 South Main Street.
San Francisco Office and Salesroom, 83 Market St.

Coulson's

No. 3 Condition Powder

Is just the thing for molting hens. It acts as a tonic and digestive. Keeps the hens laying longer into the molt and quicker after it. Our FREE Booklet, "THE RIGHT WAY" gives full particulars and special offer. Manufactured only by

Coulson Poultry and Stock Food Company
Petaluma, California

Poultry Supplies

Best of All Kinds at Lowest Prices

West Coast Seed Co.

707 So. Spring St., Los Angeles, Cal.

Mammoth Bronze Turkeys

Unusual success with this years early hatched birds enables us to furnish the finest lot of breeding stock (both hens and toms) ever offered before. If you are a turkey raiser improve your flock with one of our large handsome toms raised on free range and hardened to all kinds of weather. If you are not a turkey raiser start now with one or more hens and a tom, as of all poultry, turkeys are the biggest PROFIT MAKERS. Order early as the first orders take the pick of several hundred birds. Prices on application.

After January 1st. we can furnish hatching eggs from our S. C. White Leghorns, the best laying strain in Southern California. Let us book your order now.

STUHR-WILLIAMSON POULTRY COMPANY
378 Bandini Ave. Home Phone 1490 Riverside, Cal.

Starbuck & Son's Heavy Laying Barred Plymouth Rocks

We now unhesitatingly make the proud boast of the best laying strain on the coast, if not in the world. We will publish prices later.

Do you want to hear about our beautiful prize-winning Buff Orpingtons and Silver Wyandottes. We have something to crow about.

Wm. Starbuck & Son, Fullerton, Cal.

Profit in the Poultry Yard

We solicit short articles of a practical nature from the fancier and utility breeder, giving their experience with poultry. All inquiries pertaining to feed, management, disease and its prevention will be answered through these columns.

INEXPENSIVE POULTRY HOUSES.

MANY people who would like to keep a few hens to supply home needs are deterred by the expense incurred in putting up poultry buildings. It is easy to put up a poultry house for 50 hens that will cost $200, and it is equally easy to house the same number, with all due regard to the health and comfort of the birds for less than one-fourth the sum indicated above. Again many renters both in country and village would like a poultry house that can be easily moved when the location is changed. Such a house suitable for California conditions can be built at small expense.

It is a good rule to adopt in starting in poultry to put less money into quarters and more into good stock. In this connection I wish to make a few suggestions regarding inexpensive colony houses that may be helpful to those contemplating starting in poultry. One mistake in constructing colony houses is the use of too much lumber. It adds to the cost and makes the building heavy to move. A small colony house that two people can handily move is a very convenient form of house to have. It may be of various sizes providing it is not too large, 4 x 5 feet, 4 x 6, 6 x 6—and even 6 x 8.

A PRIZE WINNER.

As to form it may have either shed or gable roof, the walls may be various heights to suit the individual taste or conditions. For frame buy good 2x4 pine scantling; have the mill rip these into 2 x 2 stuff. These do for corner posts when cut to desired length. Have pine boards ripped into strips two inches wide. These answer for other portions of the frame such as rafters skirting about the base etc.; the wall can be covered with burlap obtained from second-hand grain sacks and the roof with roofing paper. Stretch two inch mesh poultry wire over which the roofing is laid. If one prefers roofing paper on the walls it can be used at somewhat greater cost. A house 6 x6 feet will comfortably house 12 or 15 hens and can be built at small cost for material. If one prefers, the house may be put on runners made of 2 x 4 and moved with a horse. This would be advisable providing the size was increased from 4 x 5 feet, 5 x8 or 7 x 12. The window should be covered on the inside with wire netting to keep cats out. The window frame may be covered with muslin to advantage instead of filled with glass. This window which is hinged at the top can be kept open during the milder portions of the year, even at night, thus furnishing abundant ventilation. A small door in the end may have the frame covered with muslin also. The roosts should be made of 1 x 3 inch strips, movable and placed about 12 inches from the floor. The floor, if one is needed, should be made removable. Such a house makes a very comfortable home for two broods of chickens and the mothers until maturity. The mother teaches the chicks to roost when old enough and later on the cockerels and mother hens may be removed and this house may become the permanent home of the pullets.

SOURCES OF REVENUE FROM THE POULTRY YARD.

If one is to be successful with poultry at the present time every thing must be turned to account. If the owner has a garden or fruit trees the manure can be made to increase the income but its influence in this respect will depend in a marked degree on the care that is taken of the droppings to prevent loss of the plant food. While poultry manure is rich in fertilizing constituents, if exposed to the weather without preservatives it soon loses a large per cent. of its value. The sprinkling of the droppings boards with superphosphate of lime sold by the fertilizer firms preserves the plant food, adds to the fertilizing value and checks odors. If one cannot use the poultry manure himself orchardists and gardeners are only too glad to buy it especially where well cared for. As manure it is worth from 6 to 8 dollars per ton. Well preserved hen manure from 100 hens is worth some $25.00 per year. It is good business policy to look well after this valuable by-product of the poultry yard.—S. S. T.

YEAR OLD HENS VERSUS PULLETS.

Young hens make profitable winter layers if they molt early and quickly. If a hen molts and comes to laying in 60 or 70 days she will be as profitable as a pullet even though she lay but 75 per cent. as many eggs as the pullet. It takes five months to grow a pullet so there is three months feed and time saved. If the year old hens are slow to molt or poor layers then they should be sent to market, but a hen that has produced a goodly number of eggs during the breeding season will in all probability do well after the molt providing she molts early.—S. S. T.

POULTRY BREVITIES.

A dozen eggs at Thanksgiving are worth two dozen in April. Eggs are always high in fall and early winter.

* * *

Eggs are the foundation of the poultry business. Very few of the birds bred to win in the shows are also bred to lay.

* * *

It is a waste of time to treat a fowl badly affected with roup. If it recovers it will never be anything but an expense.

* * *

Where poultry yards run parallel to one another it is wise to have a board partition two feet high at the bottom of the division fence. This serves the

double purpose of a wind break and a means of keeping cock birds from fighting.

* * *

The profits from poultry keeping at the present prices of feed where this feed must be bought, are very small, much work for little money.

* * *

Turkey breeding on a small range seldom proves profitable. Their proper place is on a grain ranch where they pick up a large proportion of their food.

* * *

Birds in confinement need a moderate amount of exercise although they need not be kept on the jump from morning till night as is advised by some writers.

* * *

It costs no more to keep a good hen than a poor one, and it is as easy to make $100 from 80 pure bred hens as to make the same amount from 100 mongrels. If you are going to keep hens, keep good ones.

* * *

Line breeding simply resolves itself into getting as near an ideal bird as you can and breeding progeny very close to it, that is breeding in and in as long as the results are good and the stock vigorous.

* * *

Those who have been in the business of raising poultry the longest and have given it the closest study are a unit against the erection of elaborate buildings. Simplicity and comfort are the chief considerations.

* * *

Yellow Legs.

Can you tell me what causes the legs of my white Wyandotte hens to turn white after they are a year or more old? These same hens as pullets had deep yellow legs.—E. M. H.

It is a very common thing for the legs of adult white Wyandottes to bleach as they get older, in fact this is true of any of the yellow legged varieties.

The best means that I know of keeping the legs yellow is to provide alfalfa range if possible and to feed corn liberally—plenty of bright straw in the scratching sheds is helpful.—S. S. T.

* * *

Systems of Changing Layers.

Can you give me any method or system by which laying hens can be distinguished from non layers? We have a flock of 100 and a large per cent of them are non layers as the egg returns during the past year have not been satisfactory. Are the methods advertised for sale reliable?—Mrs. E. H.

An experienced poultryman can distinguish more or less accurately the hens in the flock that are laying or about to lay. The condition of the comb and the actions of the hen are relied on to give this information. There are so called systems in which the point relied on to give information as to the laying qualities of the hen is the width between the pelvic bones. This is an ancient test and not very reliable.

If one goes about early in the morning before the hens are off the roost he can tell whether the hen will lay that day or not by passing the finger into the egg duct. If this hen is put in a separate yard with others of similiar character and examined again the next morning it will be easy to determine how many eggs such a hen is laying in three succeeding days. In my experience this is the most practical method of getting at the laying qualities of a hen. Of course the most reliable method is the trap nest.

Gridley, Butte county, farmers are entering more and more into the dairy industry.

Excelsior Egg Food

Is an Egg Producer and a Money Maker. It keeps poultry in most healthy condition.

Excelsior Scratch Food

Is just what you have been looking for. Give it a trial and you will never be without it.

EXCELSIOR

None Others So Good

No others "just the same." Insist on **Excelsior** or write to us direct. Mention Cultivator.

Excelsior Cereal Milling Co.

242 Central Ave.
Los Angeles, Cal.

F. E. Baldwin's
WHITE LEGHORNS

THEY LAY
THEY PAY
At Every Pop
THEY SHOW
THEY GO
To the Very Top

First Prizes Everywhere Shown.
Bargains *now* to make room. Send for Prices and Free Booklet.

46 Washington Ave. - San Jose, Cal.

GUTTING'S SUPERIOR WHITE ROCKS

Won 9 firsts out of a possible 10 and all specials and many other prizes at the great L. A. C. P. A. and P. mona Shows last winter. Place your order now for exhibition birds for the winter shows. Eggs now $3 per setting. Send for circular.

E. GUTTING 134 W. SLAUSON Los Angeles, Cal.

Black Minorcas
Exclusively
"Birds That Lay and Win"

Winnings at Los Angeles, 1908: Cocks, 1, 2, 4, 5; Cockerels, 1, 2, 4, 5: Hens, 1, 2, 3, 5; Pullets, 1, 2. 3, 4, 5 Pens, 1, 2; Cup for highest scoring Minorca male in show. Stock and eggs for sale. Catalogue free.
H.A.Wheeler. Box 123, Lordsburg

Now is the time to hatch **BANTAMS**

Golden Sebright, Buff Cochin, and Light Brahma Eggs, $2 per 15. Prize winners.

M. E. Dillingham Box 67, San Gabriel, Cal.

White Wyandottes Exclusively

Good, White, Typical Birds. Stock and Eggs For Sale.
W. A. SEYMOUR, R. F. D. No. 1, Anaheim, Cal.
Take Santa Ana Electric Line to Harper Station

A DUST BATH.

By a dust bath the fowls scour off the scurf and scales from the skin and rid themselves of vermin. The finer, lighter, dryer the dust the better, because the dust must be light and fine to get into the breathing pores of the lice to kill them. Sandy loam is often better than sand or some kinds of road dust which are cold and heavy. Wood ashes and coal ashes lighten it up. The best place for the dust bath is in the open air of the scratching shed. Here the dust quickly settles and the hens that are not dusting are not compelled to breathe it. Fowls are apt to stand upon the edge of a dust box and befoul it. The interior arrangement of a poultry house should not occupy the floor space. The hens need it all. The floors are more easily cleaned.—Poultry Houses and Fixtures.

ORIGIN OF THE HEN.

"Which did the Lord make fust, Brudder Johnson, de hen or de egg?"

"De hen ob cose—de egg comes from de hen."

"Yais, but de hen comes from de egg, too."

"Now, see yar, Brudder Johnson, if de Lord made de egg fust, he'd had to make an incubator to hatch it, a sawmill to get de wood fo' de incubator, a tin mine for de tin, a winder glass factory fo' de glass, a cotton mill fo' de cotton battin,' a drug store fo' de thermometer to tell de temperature, besides gettin' de permission o' some walkin' delegate to operate dem industries an' takin' chances on de eggs hatchin' at dat. No, no Brudder Johnson de Lord dun simply make a hen fust and ah reckon he didn't make a colored man fo' a year or two after."—Puck.

70c Eggs

Will they sell for that this season? Some say so. Will you get your share of this good money? More reason than ever with feeds so high that you should feed a scientifically balanced ration.

Egg-More

is not a strong tonic and stimulant, but a highly nitrogenous, concentrated Poultry Food, very rich in protein. A little fed daily with good grains will keep hens healthy, make them molt early, feather out quickly and lay lots of eggs. Have you tried it? Many have and are pleased. Here is just one:

F. W. Healy, the well-known banker and fancier of Pasadena, writes: "After hearing others praise Egg-More, I determined that if there was anything to keep hens laying through the fall and winter months, I wanted it. I bought a package of Egg-More and fed it and the improvement was very marked. Keeping on with it I soon proved the truth of your statement that 'you can't put all your eggs in one basket if you feed Egg-More.' I have raised poultry nearly all my life and for twenty years in California, but never did my hens lay so well as since I began to use Egg-More. I consider it the best egg producer on the market, and I do not intend to be without it."

You better try it. For sale by many dealers. If not by yours we will prepay freight on 12½ lbs., $1.00; 25 lbs., $1.90; 50 lbs., $3.60; 100 lbs. $7.00

Are you in the race for any of our

$50 Cash Prizes

$20 first, $10 second, $5 third, fifteen $1 each. Easily earned in an hour or more by any boy or girl, man or woman, but only one in each family, without any cost to you, and no peddling or canvassing. And to each one competing we will also give a useful article. Send postal for particulars, mentioning this paper.

West Coast Mill

707-709 So. Griffin Ave., Los Angeles, Cal.

Do You Want a Good Incubator?

WE WANT A GOOD LIVE AGENT

In every locality in the U. S. Send today for free illustrated catalogue, it contains useful information, poultry lectures, prices, description, etc. We positively can sell you a better Incubutor for less money than any other concern. Prices prove it. Investigate, that is all we ask. Success Incubators are used by Pioneer Hatchery Co., Los Angeles, the largest chick dealers in the world. Write to day for catalogue anyway.

E. E. McClanahan, 108-10-12 E. 8th Street, Los Angeles, Cal.

Black Langshans Well, we won again at Los Angeles. Two firsts, one second, one third on five birds shown. Best stock ever in show room in California. Eggs, $2.00 to $5.00 per 13, $10.00 to $20.00 per 100.

White Rocks Large and vigorous Improve your stock with a setting or get a fine flock with an incubator lot. Eggs, $1.50 to $2.50 per 13, $8.00 to $12.00 per 100.

S. C. White Leghorns Order eggs now, we have plenty of them. Have had all winter, great big white ones. Eggs, $1.00 to $2.00 per 13, $6.00 to $10.00 per 100.

Phone East 915 **Foster's Poultry Yards, 128 W. Avenue 41, Los Angeles**

Trap-Nested White Wyandottes

That won 22 ribbons out of 25 and 6 Silver Cups and a carving set and a cut glass vase. All the National White Wyandotte Club Ribbons. Second on 10 pullet pen, contest open to all breeds. Mammoth Bronze Turkeys, winners of 5 blue ribbons, all at Los Angeles County Poultry Association Show, December 7, 1907. White Wyandottes were judged by H. Berrar of San Jose, Cal., and W. W. Browning of Ogden, Utah. Stock for sale. Write for prices.

MISSION VIEW POULTRY RANCH, MRS. C. D. HUBBARD, SAN FERNANDO, CAL.

High Priced EGGS

Are what all poultrymen like to get during the fall and winter; but without the very best of health in the flock and a good variety of sound, wholesome feed it is hard to get such eggs.

Nature requires that hens have a rest just prior to and during the molting period; the result is a scarcity of eggs, with higher prices, and a larger profit for those who can overcome the difficulty. The one that can get eggs during the fall will be just that much ahead of his neighbors and others who fail to do so, which in the end is the difference between success and failure.

COULSON'S EGG FOOD is the feed that will turn failure into success by enabling you to secure eggs in the fall and winter while prices rule high.

Improvements have been effected in the composition of the **EGG FOOD** during the past year, so that it is now richer in the various nutrients required by the laying hen, and is a better feed than ever before. Coulson's balanced ration poultry foods are guaranteed to contain nothing but wholesome ingredients.

"THE RIGHT WAY," our booklet fully describes **COULSON'S IMPROVED MASH EGG FOOD** and other balanced rations for poultry and gives full particulars of guarantee and directions for feeding and care of poultry from the time they are hatched. If you have no copy of it, you should drop us a line today; a postal card will bring it to you.

We have agents selling our poultry foods in nearly every town in California. If you cannot obtain what you want from your dealer, write to us and we will tell you where to get it.

Coulson Poultry & Stock Food Co.
Petaluma, Cal.

Germain Seed Co., Los Angeles
Distributing Agents for So. Cal.

KEEPING THE YARDS CLEAN.

To keep the poultry yard clean and in wholesome condition is the first step toward maintaining the health of the flock and attaining success. Even where fowls have the run of a farm, the immediate surroundings of the poultry house become polluted in the course of time; and where the runs are limited it takes but a few months for the top soil to become so foul that it is a constant menace to the health of the flock.

In a damp location it requires constant effort to keep the soil in proper condition and great care should be taken to prevent water from standing in the yards at any time as this will leach the droppings into the soil and cause it to elaborate gases which will be dangerous to the health of the fowls.

Where land is plenty, the yards should be so arranged that they can be changed from one place to another every year, or plowed and planted to some rank growing crop which will absorb the poisonous products of the droppings and change them into green food of considerable value.

The late T. E. Orr followed a method which has always seemed good to me. He had his yards divided into two parts. In the spring one half was sown to rape, while the fowls ran in the other half. Within six weeks after the rape was sown a heavy crop of leaves covered the ground. The hens were then turned into this and the other half was sown to rape. This treatment was continued during the season and the hens had a plentiful supply of green feed of the best kind, while the soil in the yards was kept always clean and sweet smelling.

Another good plan is the one followed by Wallace P. Willet, Orange, New Jersey. He kept more fowls on a given plot of land than any other poultryman we ever knew. His method was intensified poultry-keeping carried to the limit. We have seen more than four hundred fowls on less than one-third of an acre of ground at his place and every one of them seemed to be doing well.

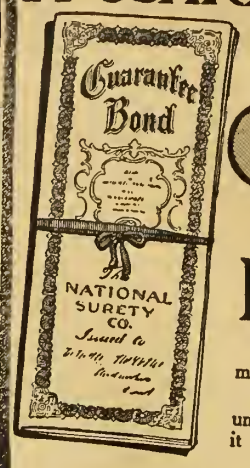
His plan was to dig out the top soil to the depth of a foot each year, using this as a fertilizer. In the place of the soil so carted away, clean sand was hauled in to remain for a year. By this system Mr. Willet made some very rich land and kept his poultry yards in perfect condition.

A good many who have started in with a show of making a success of poultry-keeping have, after three or four years, found disease their worst enemy, simply because they have forgotten that cleanliness about a poultry-yard does not consist altogether in keeping the house clean and feeding clean feed. If the soil becomes filled with leachings of the droppings and the dampness causes the droppings to decay thus liberating foul odors, as much damage may be done as would arise from the direct introduction of disease germs through the blood.

Where fruit trees are growing in the poultry yard they will keep the soil in good condition for a long time, especially if the ground is kept cultivated. The roots of the trees take up the phosphates and ammonia in the droppings and convert them into wood, leaves, and fruit, at the same time purifying the land.

This matter of clean soil is so important that beginners should not neglect it. If they get the habit of watching the condition of the soil in their poultry yards, they will soon learn to detect any appearance of foulness and take measures to restore it to a properly healthful condition. Fowls are peculiarly liable to become affected with the ammoniacal fumes which arise from the droppings and they should not be compelled to breathe them at any time. If a poultry yard is covered with a coat of droppings, no matter how fine they may be or how innocent they may appear, a little rain and a few hours of hot sunshine will fill the air with fumes that soon plant the seed of disease in the flock. At this time in the year this matter should not be neglected a single day. Do not be content with simply cleaning the poultry house. Clean the yards also.—Poultry.

A GUARANTEE BOND with EVERY ROLL of CONGO "NEVER-LEAK" ROOFING



The Surety Bond Guarantee back of Congo makes it the most attractive roofing proposition on the market.

We have claimed right along that 3-ply Congo was an unexcelled Ready Roofing at the price, and we now back it by the National Surety Company's Guarantee Bond.

This Bond covers a period of 10 years.

It is broad, liberal protection to the purchaser. It means we have faith in Congo. It protects you absolutely!

A good many roofings carry guarantees of different characters, but not a single one of them gives the purchaser a *Surety Bond*. That's the only kind of guarantee worth having!

We know Congo is the surest protection against weather, climatic changes, heat and cold, for it is absolutely not affected by any of these. It never dries out, cracks or melts, and so perfect a roof protection does it make that it is aptly called the "Never-Leak" Roof. If we were not *sure* of these facts we wouldn't dare give a Surety Bond with every roll.

Send for a sample and further information to-day.

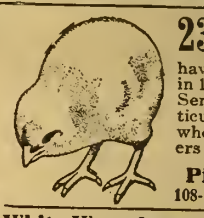
SPECIAL NOTICE—If any Congo rolls that you purchase do **not** contain Guarantee Bonds, write us at once, telling us where and from whom they were purchased, and we will at once mail you the missing bonds.

United Roofing & Manufacturing Co.
Successor to BUCHANAN-FOSTER CO.
Chicago and San Francisco — ***West End Trust Building, Philadelphia***
Blake, Moffitt & Towne, Los Angeles, Agents

GRIT, SHELL AND CHARCOAL FOR HENS.

These materials are all essential to the good health of market or laying stock but do not mix them together. The handiest and best way of placing these things before the hens is to have a small box three or four inches deep, about a foot and a half long by six inches wide. In this have three partitions, one place for grit, one for shell, one for charcoal and one for granulated bone. Have the box made so as to hang it on the wall by spikes a few inches above the floor, then no litter or dirt will get into it.

A poor practice is to feed this material in with the other food. The fowls know better than ourselves how much they want of this stuff, and it is better to let them pick it out as wanted than to compel them to eat more than is good for them, which they are very apt to do if mixed with the mash. It is all right to mix sand or fine grit in the food for small ducks but with other poultry it is better not to feed it in this way. When placed before them I have never known fowls to over eat of either grit, shell, charcoal or bone, although they will sometimes partake freely of it at first if it has been denied them for a time.



230000 Chicks
have already been sold by us in 1908. We hatch 19 kinds. Send for price list and particulars. We ship everywhere. Largest chick dealers in the world.
Pioneer Hatchery
108-112 E. 8th St., Los Angeles

White Wyandotte Cockerels For Sale
A few choice ones from best strains. Cheap—must be disposed of this month to make room in my yards.
Wm. C. Parker, 111 Pacific Ave., Santa Cruz, Cal.

A good many people who keep poultry and lots of it, look at these supplies as unnecessary and uncalled for by the poultry, but it has been proved time and again that the hens do better when provided regularly with these materials.—Successful Poultry.

NAKED POULTRY.

Any naked hens or chicks conspicuous on your farm? They began to molt during hot weather but after shedding did not put on their clothes again. That won't do because winter is coming, and the nights are already too cool for bathing suits.

The thing to do is to make them grow feathers. Feathers are made of protein and you must give the naked fowls abundance of protein foods so they can clothe themselves again. Put the naked ones by themselves in a comfortable place and see that they get plenty of skim-milk, oil meal, or similar feeds rich in protein. Give liberally of corn, too, for they need heat to keep them warm and the carbohydrates in the corn will supply it.

Next summer see that the fowls have proper feed early so that they will complete the molt before cold nights come.—Successful Poultry.

One cubic foot of water equals 62½ pounds.

Bees and Their Care

BEES FOR FARMERS.

To get the very best results from bee keeping, one should provide liberally for the bees; that is, the bees should have plenty of room when needed, and have plenty of stores to feed upon, if not provided with stores to be fed, because no colony of bees will breed up rapidly and have plenty of bees when the honey season opens unless they have plenty of stores to raise young bees upon. If they have to wait until they can gather new honey before breeding up to have large numbers of bees, the first honey season is half or more gone before the bees are ready to do much.

Too Small.

Perhaps 75 per cent. or more people who buy hives get the eight-frame hive and only a story and a half hive at that. This is too small a hive for the bees to do their best, and in such a hive in a good season bees will take it out in swarming mostly, whereas if they had been in a large hive they would not swarm so much, but store more surplus honey. The eight-frame hive may be large enough for the bees to commence at the beginning of the season, but just as soon as they get well to work, they should be supplied with another super so as to make plenty of room. This would be what is called a full two-story hive; the supers are only half bodies, that is, just one half as deep as is the regular brood chamber. For our own use we use the ten-frame hive and a two-story hive at that; in fact, when the honey flow gets well on, we put on a third story and have used the fourth story and had the colony to fill them all.

Well Ripened.

Honey should be well ripened before taking it off. Honey when first gathered is thin and watery, but if left in the hive until the bees evaporate the honey down until it is thick, it is then well ripened and as good as it will ever be. We extract our honey from the combs and by replacing the combs we get them filled several times in a season and thus are able to secure a larger crop of honey.

Bees should never be placed into an empty hive, but if one does not have combs already built out, the frames should be filled with foundation; this not only gives the bees a good start, but gets all the combs straight and also keeps the bees from building drone comb. If many drones are in a hive, one need not expect much, if any, honey from that hive, as the drones will eat it all up. We know that few will buy foundation, thinking that the bees can provide for themselves, but these parties do not seem to know that it would be the very best thing for them to have provided for the bees and so they get but little from the bees, and often they find that bee-keeping does not pay them.

Enough Room.

We have secured 200 pounds per colony in three different seasons and last season, which was rather a poor season, in many places, our bees paid us a little more than $10 per colony and we increased one-third, so we not only had what we started with, but the increase besides. However, by our management, we secured about four times as much as any one else around here. In talking with some, they seem to think it is in the location, but we are sure that many others having bees have as good and we sometimes think a better location than we have. We hardly think it necessary to warn any one not to provide too much room at first, but give the bees added room as it may be needed; if too much room was in the hive when not needed, it takes too much of the energy of the bees to keep the hive warm enough for the bees to raise young bees well, although we had rather err on the side of too much room than not enough.

Forehanded.

One should have supplies ready when needed, as it is poor policy not to be ready when the bees are. We have known of some that have neglected to procure needed supplies until they needed them badly and not being able to get them as soon as needed, suffered quite a loss in honey on that account.

We doubt if anything one has on a farm will pay as well for the investment as do bees, as they are not only needed to well fertilize fruit bloom, but pay immensely in honey also; it may be from 200 to 500 per cent. on the investment and then have all the first investment one started with and any increase obtained besides. We know that on account of the very high price of lumber supplies are higher in price than they used to be, but for this very reason any one keeping bees should have the best results from keeping bees, and so make out of it a good return for any investment one may have in keeping them. We have hives we have had over 20 years, also combs that long, so if one will take care of the fixtures after the first cost they last nearly indefinitely, and so do not cost much after all, considering the time that they will last.

It is a most fascinating study to observe the habits of bees and for one to make them do their best, and it is said that a lover of bees is most generally a good citizen.—St. Jo Fruit Grower.

The three principal conditions that induce swarming are a crowded hive, lack of ventilation and a good flow of honey.

By giving plenty of bottom ventilation and storage room, swarming can be very largely controlled, though there are times when the bees will come out in spite of all we can do.

Each hive must have a shade board over it.

Many swarms may be saved by seeing that the wings of every queen in the apiary are clipped.

Nothing is better for this purpose than a pair of curved manicure scissors, and all danger of clipping off a leg is avoided.

You need not even touch the queen with your hands; simply lift out the comb on which she is, give a quick clip on her gauzy wings, and the trick is done.

Then when the swarm comes out later on, she will be found hopping about on the grass; and when the swarm returns to the hive, which it will always do, never absconding without the queen, she can be dropped into the hive, all queen cells cut out, ventilation and added storage room given, and in most cases swarming for that colony will be over.

If not at work in the apiary each day, it will be well for the beekeeper to examine the trees and nearby bushes each afternoon, as often swarms that have come out in his absence will be found hanging, and can be hived and thus saved.

The Angle of a Hoe

Grasp a Keen Kutter Hoe as you would in the field—better yet, put one to actual service, and see how well it fits its job. The angle of the blade is *just right.* If you strike at a weed, you are sure to cut it—if you "hill" a plant, it carries a full load of earth each stroke and does it all in the *easiest position* you can assume.

KEEN KUTTER

hand tools for the farm—Forks, Hoes, Rakes, Scythes, etc., are fitted by *model* and *temper* for great service and long wear.

Keen Kutter bench tools are the best to be had. The list includes Planes, Saws, Axes, Hatchets, Hammers, Adzes, Augers, Drawknives, Chisels, Gouges, Bits, Braces, Gimlets, Squares, Bevels, Files, etc., besides every possible tool and cutlery for the household. Look for the trade-mark—it guarantees *quality.* If not with your dealer, write us.

"The Recollection of Quality Remains Long After the Price is Forgotten." E. C. Simmons.

Trademark Registered.

E. C. SIMMONS KEEN KUTTER TRADE ST. LOUIS MARK U.S.A.

SIMMONS HARDWARE CO. (Inc.), St. Louis and New York, U. S. A.

Save from $1 to $2 per horse

that you now pay for clipping by doing it with this splendid

Stewart No. 1 Horse Clipping Machine

New and improved *1908* Model Ball Bearing and all enclosed gears running in oil. The price at your dealers' all complete, is ONLY $8.50

Every Horse should be Clipped Clipped horses look better, feel better, work better, and are easily cuffed. No machine ever made runs so easily, clips so fast, and lasts so long as this *Stewart No. 1.* It is fully guaranteed and must please or the purchase price will be cheerfully refunded.

All leading dealers have it. Ask to see it!

It is the greatest clipping machine of all time. If your dealer hasn't it, write to us about it.

Chicago Flexible Shaft Co. Dept. H, Chicago

Here They Are.

The newest styles from the country's leading factories. Good, or they wouldn't be here; low priced, or we wouldn't be telling you about them. Just think of the kind of vehicle you want and depend upon finding it here. Whether you buy or not your time will be well spent here. We make it part of our business to treat visitors right.

ARNOTT & CO. (Inc.)

112-118 So. Los Angeles St.

LOS ANGELES

Queries and Replies

Questions to be answered in this department should be received at this office one week before reply is expected. Write plainly on one side of the paper and sign full name and address. Unsigned communications receive no attention.—Ed.

Alfalfa and Eucalyptus.

Will alfalfa do well with a row of eucalyptus planted along the north side where I have plenty of water for both? Would Eucalyptus tereticornis make a wind break? What shape does it grow in?—Subscriber, San Luis Obispo.

With plenty of water which you say you have applied to the alfalfa there is no reason why you should waste but very little land in growing trees along the border of your place. We should surely recommend the blue gum or E. globulus rather than the E. tereticornis. Blue gum is more rapid in growth and has been tested both as a windbreak and as a producer of good hardwood. The tereticornis has, however, an excellent red colored timber, very hard and good, used in Australia for building purposes, ship building, wheel wright work, posts, fencing, etc. The tereticornis attains a height of about 100 feet with a trunk often 6 feet in diameter. The tree has a more branching habit and is not so tall growing as the blue gum.

A Roup Experience.

Perhaps my experience with "roup" may be of some benefit to E. H. P. or other readers of your paper. My flock seemed to be afflicted with very bad cold, which developed into swelling of the eyes and head.

A friend told me a film of coal oil on top of the drinking water would prevent further spread of the disease and every day for five days after beginning the use of oil I found worms in the drinking trough.

The water needs to be three or four inches deep so they can dip their nostrils well down. The symptoms of "cold" disappeared immediately and several with badly swollen heads are almost well now.—S. L.

Preserved Figs.

Please give recipe for preserving figs such as those found on the market in glass jars.—A. G. A., San Rafael.

See recipe column on Household page of this week's Cultivator. We cannot say that either of the recipes given are the same as used in the trade, for such goods as sold by the grocers, but we are assured these are excellent recipes.

Packing Prunes.

Will you kindly inform me through the Cultivator as to cost of packing prunes in boxes?—E. W., Geyserville.

We believe the cost is generally considered to be about 12½ cents per packed 25 pound box. But as a rule it is considered that the increase in weight which comes from the dip practically balances the cost of box and packing. We assume you mean this not to include the cost of drying, which will not exceed $15 per dried ton.

Sowing Bermuda Grass.

A subscriber at Merced refers to our recent answer to a query as to sowing Bermuda grass, as follows:

I beg your pardon, but in the Cultivator of Aug. 27, you made a little mistake in regard to the propagation of Bermuda grass. It is the root that is cut up, (there must be one or more joints to it) then harrowed in. In the South, on the black, waxy land we were not afraid of it, but on this sandy soil, when a horse can carry it on his feet all over the place, we should not want it.

We are glad to receive the correction above but we still understand that in some sections of the South the method of running the grass through the cutter and using the clippings is successfully practised.

Alfalfa on Alkali.

What is best time to re-seed alfalfa on alkali ground? The field is badly infested with love-vine. Can I get rid of it? There are some spots of black alkali in the field where I started young vines,and I am told that gypsum is beneficial.—Subscriber, Selma.

The best time to seed alfalfa on alkali ground we are told by an old alfalfa raiser is not to seed it at all. There are other crops which will stand alkali much better, especially sugar beets. However, if necessary, thorough preparation and seeding this fall will give a start if heavy rains are given during the winter season. If the alkali is black, treatment with gypsum will be very advantageous. Dodder, or love-vine, is best removed by piling straw over the infested spot and burning it. You may destroy part of the alfalfa but it is a bad pest and requires vigorous treatment. The gypsum surely will aid the young vines.

Fruit for Poultry.

I note a query under this head in the Cultivator of Sept. 24:—"Will it injure chickens to be fed tomatoes, watermelons, etc.?" answered in the negative. Now, my experience with that of friends and neighbors is that while the flock greatly enjoy those things and may keep healthy on them, such feed is fatal to egg production. Many will develop a looseness of the bowels and you may see no more eggs till spring. It seems the seeds of melons and pumpkins have a specific effect on the kidneys in cattle and what corresponds to those in hens, away from production of milk or eggs. And fruit acids probably prevent formation of egg shell.—B.A.R.S., Arroyo Grande.

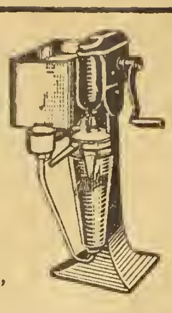
The Other Side.

On page 304 of the Sept. 24th number, I see an article from the Imperial Standard giving the cause of the great loss sustained by the melon growers and the remedy for the future. I learned this lesson from my brother-in-law, a Presbyterian preacher who gave me advice on a subject that he knew nothing about but thought he did. I lost out. Since, I never take advice from any but practical experienced persons and I judge from the article that the Standard people are neither. I can not see why another expense should be put on an already losing industry and where would you find better judges of what was suitable to ship than we had at Holtville? There were three inspectors of years of experience who faithfully examined

Anthrax Cure, Milk Fever Outfits. See O. J. Weber Co., 555-557 S. Los Angeles street, Los Angeles.

For Mehring Foot-Power Milking Machines see O. J. Weber Co., 555-557 S. Los Angeles St., Los Angeles, Cal.

A Small Leak Will Sink a Ship



To save the ship, stop the leak.

The same applies to your dairy, don't think because you are employing the pan setting methods or gravity systems, that you are getting all the cream; because you are not—in reality, you are losing from 9 to 40 pounds of butter per cow in one year.

Stop the leak by using a **separator,** but stop it **well** and **for all time** by using a

Tubular Separator

because it gets all the cream and delivers it in a smooth and gentle manner, as well as saving labor, time, attention and paying for itself within a year.

A trial convinces—Catalog 260 tells why. Write for it.

THE SHARPLES SEPARATOR CO.,
West Chester, Penna.
Toronto, Can. San Francisco, Calif. Chicago, Ill.

The Ball Bearing Columbia Special

From Factory to You
Fully Warranted for Ten Years

Possesses More Valuable, Visible, Tangible Improvements and Time-Saving Features Than any Other Medium Price Machine on the Market.

A $40.00 Machine for $19.85
WITH TEN YEARS GUARANTEE

Columbia Commercial Co.
314 East Second St., Los Angeles, Cal.

300,000 Feet Water Pipe Cheap

ALL SIZES

150,000 feet of this shipment is second-hand pipe, practically as good as new, and is now on sale at a big discount by the Adams Pipe Works, 2025 Bay street. Sizes and prices: ¼-inch 2 cents per foot; ⅜-inch, 2 cents per foot; ½-inch, 2¼ cents per foot; ¾-inch, 3 cents per foot; 1-inch, 4¾ cents per foot; 1¼-inch, 6 cents per foot; 1½-inch, 7 cents per foot; 2-inch, 9¾ cents per foot; 2½-inch, 15 cents per foot; 3-inch, 19 cents per foot; 3½-inch, 24½ cents per foot; 4-inch, 30 cents per foot.

Oil well casing prices and sizes: 2-inch, O. D. 7 cents per foot; 2-inch, I. D. 9 cents per foot; 3-inch, 13½ cents per foot; 3¼-inch, 16 cents per foot; 3½-inch, 17 cents per foot; 4-inch, 20 cents per foot. All pipe is carefully inspected, new couplings and new thread are put on every piece, every joint is guaranteed to be first class, serviceable pipe. Mail orders promptly filled. To reach the Adams Pipe Works in Los Angeles, take car marked Pacific Boulevard, starting east on Seventh street from Broadway. Ask conductor to let you off at Bay street and go east half block. Phones, F1917, Broadway 1264.

Tacoma, Washington, received 403 cars of wheat last week.

TREES

Season 1908-9

Order Now for Future Delivery

If your trees are purchased from the Fancher Creek Nurseries they will be true to name well developed, with good roots.

FOR 25 YEARS we have been engaged in growing reliable nursery stock. Our thorough knowledge of every branch of the business makes it possible for us to raise and deliver stock that meets the demands of this country, and gives satisfaction to growers.

Last year we did the largest business in our history. This year our stock of

Deciduous, Citrus and Ornamental Trees, Grape Vines and Rose Bushes

is more complete and better than ever.

We are sole propagators and disseminators of

Luther Burbank's New Creations

Valuable Burbank Booklet illustrated in colors mailed for 25c.

SALESMEN WANTED

PAID-UP CAPITAL $200,000.00
FANCHER CREEK NURSERIES INC.
Geo. C. Roeding Pres. & Mgr.
Box 12 Fresno, California, U.S.A.

Do you want a
Ranch Superintendent?

A first class man with 18 years practical experience in California horticultural work, capable of taking charge of a large Citrus or Deciduous Orchard, a Nursery or Nursery Work, well acquainted with all the details of irrigation, fertilization, cultivation, budding and pruning of trees, etc., wishes a position as superintendent of some large fruit ranch. First class references. Would go in partnership with some one with means in establishing such a ranch in Southern California or Old Mexico. Address, "Superintendent," care Cultivator Office, Los Angeles, California.

When writing advertisers, mention Cultivator.

Warranted to Give Satisfaction.

Gombault's

Caustic Balsam

Has Imitators But No Competitors.

A Safe, Speedy and Positive Cure for Curb, Splint, Swseny, Capped Hock, Strained Tendons, Founder, Wind Puffs, and all lameness from Spavin, Ringbone and other bony tumors. Cures all skin diseases or Parasites, Thrush, Diphthsria. Removes all Bunchss from Horses or Cattle.

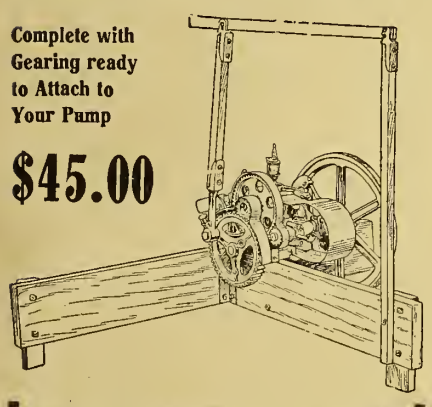
As a Human Remsdy for Rheumatism, Sprains, Sore Throat, etc., it is invaluable. Every bottls of Caustic Balsam sold is Warranted to give satisfaction. Price $1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. ☞Send for descriptivs circulars, testimonials, etc. Address

The Lawrence-Williams Co., Cleveland, O.

Aermotor Gasoline Engine

Complete with Gearing ready to Attach to Your Pump

$45.00



Will pump all the time, wind or no wind, and deliver as much water as an 8 ft. Aermotor in a good wind.

From 225 to 1600 gallons per hour, depending on height water is to be raised.

Air cooled, uses Gasoline or Distillate.

A reliable, durable engine at a very low price. **Can You Afford** to be without one.

Send for Special Circular.

Tanks Towers Pumps Distillate Engines

Smith-Booth-Usher Co

Machinery and Supplies

Successors to

S. J. Smith Machinery Co. and L. Booth & Sons

212-214 S. Los Angeles St., Los Angeles

Home, Ex. 1090—Sunset, Main 1090

Peckham Says:

What are you going to do with the boys? Keep them to work for a small salary all their lives? Why don't you

Send Them to Corcoran

Where each of them can become independently rich in a few years?

The Corcoran district is big—the opportunities are equally big. It is growing faster than any other section in California.

Thousands of acres, the richest in the State, are waiting for hustling young fellows—and it's easy to make there—all that is necessary is a willingness to work and intelligence to grasp the many opportunities that are waiting on every hand.

Come with us and let us show you the coming farming section of the State—where you can make $2000 a year—and bring the boys—let them see for themselves. It won't cost much to do it, or send for a copy of Profitable Realty, our magazine, which tells the story.

George C. Peckham & Company

203-4-5 Union Trust Bldg., Corner Fourth and Spring Sts., Los Angeles Cal. Phones: Main 3221, F5392.

Sonoma County Pomona Grange had a successful meeting at Glen Ellen recently.

every load and allowed none but perfect melons to go—perfect in shape, netting and neither too green or ripe or they were promptly condemned.

We have worked hard here for tarce years to make a reputation for the Cocopah brand; we made money two years but this year have lost it all and the crop was handled by the same people (Lyons Bros. & Co.) What puzzles me is why the first on the market brought nothing.

What we need is co-operation not only in raising but in selling, we need a market with fixed prices at the R. R. station and then not raise more than is needed at a reasonable price.

Just see what the valley has lost this season, there were about 2,000 cars shipped containing about 700,000 crates; these cost to pick and pack 30c each and the crate 20c each making 50c cash that we lost on every crate shipped; besides we stopped picking and left as many more in the fields because they were not bringing the cost of shipping, say nothing about the cost to raise, rent of land, cost of water, seed, etc., etc., so we gave six months labor and $350,000 to those who are fully organized. The ice man got his money, the R. R. got its and the commission man his. We should have received $1.00 per crate for all we raised which added to what we are out would amount to one and one half million dollars but as it is we have the empty bag to hold (money bag) so I say first, last and all the time to co-operate.—W. W. Shepherd, Holtville.

Veterinary

Dr. R. T. Whittlesey, veterinarian, of 714 East Seventh street, Los Angeles, will answer questions in this department. In writing of sickness or injury to any animal be explicit in giving symptoms and particulars. Always enclose full name and address, but if assumed name or initials are preferred they will be used.

If an immediate mail reply is wished enclose $1.00 for such service, but for replies in paper only, no charge is made if the answer will be of general interest.

Please address all questions that are to receive gratuitous replies through these columns to California Cultivator, 115½ N. Broadway.

All communications to Dr. Whittlesey direct should contain a great big dollar.

Trouble with Kidneys.

Have an 8 year old mare. She got her hind leg caught in her halter rope about 3 days ago, and somehow she worked the rope up on her thigh, and it chafed her quite badly. Twelve hours after she got caught, she commenced to sweat and kept it up for about 10 or 12 hours. Ever since that time she has been passing water in small quantities and as often as four times in one hour. The water seems to be all right, but she sweats easier than she used to. I am working her in sandy loam soil with another horse, plowing. She eats her barley hay all right and drinks regularly. She has no fever. Her pulse is normal, like other mare. She has regular movements of the bowels.—W. E. G., Anaheim.

I think the mare has inflammation of the kidneys and bladder.

Give her one ounce of turpentine in six ounces of raw linseed or cottonseed oil. Three times daily.

Are you sure she has no fever? No one can tell unless a thermometer is used. You can't tell by feeling her pulse.

Do not work a horse that is in her condition.—R. T. W.

Crumbling Hoofs.

I have a 4 year old horse, whose right front foot for ⅜ inch on the inside next to the outside wall crumbles away like bread crumbs so much so that there is a cavity about 1⅛ inches deep. There is also a hole in one side of the frog about as large as a half dollar. He is quite lame. He stands in stall with ground floor during day and is in pasture at night. I have not worked him.—M.H.G.

I shall have to know more than this. Is there a cavity inside the walls as if it was separated from the foot? When you cut away the dry, crumbly horn is it dry all the way or does it run into a foul smelling warty growth?

There will be no harm in your cutting away the outside wall as far as there appears to be any diseased condition.

Abscess.

We have a mare that is in the habit of pulling on the halter that has the appearance of poll-evil. Is very tender back of ears; also the cords on side of her neck seem very sore and rigid. She cannot turn her head without turning her whole body. When she stands still, hangs down her head and lops ears. Has been this way about two months. We have blistered her a little on top of head and back of ears, but not severely. There is no opening or discharge of matter. Can you tell us what to do?—M.H.G., Lemoore.

There is an abscess forming on the top of your mare's neck, I think, and in time will be a case of "poll-evil." You should turn her into a lot or box stall, do not tie her with a halter. If you drive her at all use a halter instead of a bridle, fasten the bit to it and slip crown piece well back off the sore. Use a poultice instead of a blister.

As to treatment, it is useless for me to lay out any course, it is a difficult thing for the best of veterinarians to treat, let alone a rancher. Get the best veterinarian you can find. Try Dr. Frank Griffith at Hanford.—R. T. W.

STATE CAPITOL REMOVED.

I fully agree with your editorial against the removal of the State Capitol from Sacramento and the State Grange, at its session in San Jose a year ago, condemned it as follows:

"Whereas: the California State legislature at its last session introduced and passed a bill known as the 'Capitol Removal Bill' submitting to the vote of the people the question of changing the seat of government of our State, and

Whereas: believing that the change proposed will impose a heavy and wholly unnecessary burden of taxation upon the farmers of the State, therefore, be it

Resolved, that the California State Grange, in annual session assembled, is materially opposed to changing the capitol of the State."—John Tuohy, Tulare.

Wood Soled Boots and Shoes. Boots, $3.25; Shoes, $2.00. O. J. Weber Co., 555 South Los Angeles St., Los Angeles, Cal.

Classified Liners

Rates 1½ cents per word per issue. No ad accepted for less than 25 cents. Our classified columns are the clearing house for the readers of the Cultivator. Here you can insert an ad for the small sum of 1½ cents per word per issue, and be sure that it will be read by thousands.

MACHINERY.

WE CARRY A GENERAL LINE OF MACHINERY, gas engines, air compressors, boilers, engines and pumps. 40 car loads of screw pipe and casing can be cut to lengths, also all kinds and sizes of fittings. Several hundred iron fence posts. R. KELLY MACHINERY CO., corner of Mission road and Macy street, Los Angeles, Cal.

FOR SALE—
All sizes new Union gasoline engines; also a large stock of second-hand as well as other standard makes, from 2 to 80-h.p.; see us before buying. BAILIE & BRANDT CO., two stores, 210 N. Los Angeles st., and 943 N. Main st., Los Angeles.

FOR SALE—RENT OR EXCHANGE, BOILers and engines, gas engines, pipe and oil well casing, pumps, all sizes and makes; get our prices before you buy. A. CANNADY & CO., 691 N. Main st., Los Angeles, Cal.

FOR SALE—MEHRING MILKING MAchine with extra parts and covered pail, all in good order. WM. H. BIRD, Box 6, Compton, Cal.

FOR SALE—ELECTRIC MOTORS, COMplete stock, new; also from 5 to 40-h.p. second-hand, both A. C. and D. C.; also generators. BAILIE & BRANDT CO., 943 N. Main st., L. A.

BARGAIN—200-EGG OLD TRUSTY INCUBAtor, new 1908 model, perfect condition; splendid hatcher, used twice, cost $22; yours for $17; reason, am buying larger machine. Write CHAS. JONES, Soledad, Cal.

FOR SALE—WINDMILLS, TANKS, PIPES and engines. Bore wells for 85c per foot and up. JOHN Q. MASTIN, San Gabriel, Cal.

CHEAP FOR CASH, SMALL PUMPING plant, in good working order, complete engine, pump and fittings. 117 BRUNO ST., L. A.

FOR SALE—40-H.P. GASOLINE ENGINE, Fairbanks-Morse make, as good as new, at a very low price. N.W. COR. MAIN AND BRUNO STS., L. A.

FARM LANDS FOR SALE.

DAIRY AND RANCH—ONE-HALF INTERest in thirty acres within one mile of courthouse, set to alfalfa; well flows fifty inches; necessary buildings; twelve cows; milk wagon; route paying $200 per month. $2000 buys my equity. Am compelled to sell on account sickness. This is one of the best buys around San Bernardino, and any one looking for a home as well as an investment should not miss looking up this place. Address GEO. S. BURROWS, CARDIFF AVE., San Bernardino, Calif.

RANCH FOR SALE—105 ACRES AT $40 AN acre; 85 acres in cultivation; nearly all of remainder can easily be put in cultivation; 45 acres level land; 800 full bearing apricot trees; 5-room dwelling; good large barn; fruit drying plant; 5 miles north west from Moorpark; half mile of school; land sulted to beans, hay and corn. For further information apply to WM. ROBINSON, Moorpark, Ventura county, California.

FOR SALE—165 ACRES IN VENTURA CO., 4 miles from Moorpark; 90 acres under cultivation, suitable for beans, corn or hay; balance pasture land, all fenced; ½ mile from school; 10 acres in fruit, full-bearing peaches, apricots, pears, apples, prunes, grapes; price $3000. Inquire or write to owner, W. C. MAYHEW, Moorpark, Cal.

FOR SALE—1 TO 10-ACRE TRACTS ON CAR line, between Riverside and new cement works; good for chicken ranches, alfalfa or gardening; will sell on easy terms; plenty of water on each tract. C. C. POND & N. R. BELL, Riverside, Cal.

ORANGE GROVES.

FOR SALE—ORANGE LAND, 60 ACRES, 2½ miles east of Strathmore Station, 6½ miles from Lindsay, same distance from Porterville. Nearly all "dry bog" soil and very little leveling; a splendid well, double cased to bottom; price $125 per acre; $3500 cash, balance to suit purchaser. A. C. AMERINE, Lindsay, Cal.

FOR SALE—AT COVINA, THE BEST OR-ange district in California; 5 acres, ½ Valencias and half navels, in full bearing; only $5000; I also have a number of other bargains that I think will interest you. JEROME REYNOLDS, Covina, Cal.

POULTRY

SPECIAL SALE—TO MAKE ROOM FOR my young growing pullets I offer at common stock price all my this year's breeding pens, including many prize winners. This is a rare opportunity to get first class breeders cheap. At the last L.A.C.P.A. show my birds won all specials, all first prizes, and all seconds but one, that were offered on Barred Rocks. CHAS. E. SMITH, Gardena, Cal. San Pedro car via Gardena to Smith's Crossing.

BUFF ORPINGTONS—WOULD YOU LIKE the very best at the price of common stock? Sullivan's COMMONWEALTH STRAIN you may have at HALF PRICE FOR THE BALANCE OF THE SEASON. Write us and learn the reason; get record and illustrated catalogue FREE.—MR. & MRS. W. S. SULLIVAN, Agnew, Santa Clara Co., Cal.

FOR SALE—BARRED ROCK PULLETS AND cockerels. M. F. COVELL, Escondido, Cal.

BEES.

FOR SALE—OR TRADE, ON THE BASIS OF $3200; 330 stands of bees in Imperial Valley, fully equipped and shaded power extractor; 3-roomed house, farm implements and 10 acres of land. A bargain. I have a fine location but poor health. Address H. PERKINS, Calexico, Cal.

DOGS.

SABLE AND WHITE COLLIE PUPPIES—Sires, Brandane Wishaw Squire and Glen Fana Bounder, litter brother to Anfield Model. Dams, Ormskirk Gloriana and Presidio Nellie. $10 to $25; 2 to 8 months. GLENALPINE KENNELS, Grandville, Cal.

WANTED—MALE HELP.

NINETEEN JOBS GOING AT PRESENT—Electricity, plumbing, bricklaying taught in few months; tuition back after two months advanced students paid wages. Free catalogue. UNION TRADE SCHOOL & CONTRACTING CO., 120-126 F 9th St., Los Angeles, Cal.

WANTED—EXPERIENCED BUTTER MAKer and herdsman for dairy of 150 cows; must understand testing cows and running steam plant; board furnished. Address with references and wages desired, A. L. SAYRE, Madera, Cal.

TREES.

FOR SALE—1,500 EUREKA LEMON TREES and 1,000 Washington navel orange trees, true to name. Also street and ornamental trees. Clean, healthy stock only offered. GEO. B. WARNER, SANTA ANA, CAL.

SHOPPING BY MAIL.

SAVE MONEY AND GET A BETTER choice by shopping in a large city. We will do your shopping for you. Send for our free book. It tells you how. LOS ANGELES PURCHASING CO., 506 Bradbury Bldg., Los Angeles, Cal.

HOGS.

REGISERED BERKSHIRE AND POLAND China hogs, both sexes. C. A. STOWE, Stockton, Calif.

PHEASANTS.

FOR SALE—FIFTY CHINESE RING NECK Pheasants in lots to suit the purchaser. Cocks $3.00 to $5.00, hens $1.00 to $2.00. Mrs. R. S. Spaulding, 533 WALNUT St., Woodland, Cal.

What MORE Could You Desire In A Savings Bank?

20,000 Depositors
Strong Directorate
Capital and Surplus Over
$900,000
Resources
$10,000,000

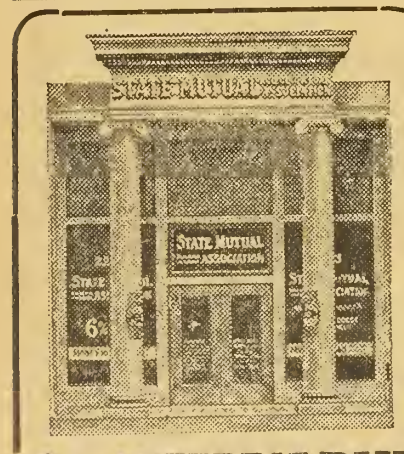
GERMAN AMERICAN SAVINGS BANK

Tallest Building in Los Angeles

SPRING & FOURTH STS.

Heart of the Business Center

Model Banking Facilities



6% INTEREST PAID
STATE MUTUAL
BUILDING & LOAN ASSN.
223 S. SPRING ST., LOS ANGELES, CAL.

ESTABLISHED 1889
Largest Association in California
Assets [Jan 1, 1908] $2,002,111
No Admission or Withdrawal Fee
Only 30 Days' Withdrawal Notice
Money to Loan for Building

OFFICERS AND DIRECTORS

DR. W. G. COCHRAN, President
A. E. POMEROY, Vice President
J. M. ELLIOTT, Vice President
W. D. WOOLWINE, Vice President
C. J. WADE, Secretary

D. M. CUTHBERT, Loan Inspector.
Send for Booklet and Statement
Mention This Paper

Come to Oakland for Business Training

Polytechnic Business College and School of Ehgineering,

306 Twelfth Street, Oakland, California.

offers by far the best facilities ever devised in the West for highgrade business training. This large institution is like a series of large business offices where students are trained in actual business practice. Every graduate of the complete business course of this college is employed. Pleasant, homelike places in private families, for young men and women, are reserved, practically at cost.

Courses in Business Training, Shorthand and Typewriting, Telegraphy, also Civil, Electrical, Mechanical and Mining Engineering.

FREE College Journal and one doz. Cards with your name written thereon will be sent any one upon request.

PIANOS Slightly used Steinways; 1909 Model Lyon & Healys, and other remarkable Bargains. **Lyon & Healy, 80 Adams St., Chicago.**

World's Largest Music House

Our Great Re-Building Sale is Now in Progress!

EDISON PHONOGRAPHS, VICTORS, ZONOPHONES

Records and Supplies, delivered at your nearest railroad station upon receipt of full retail price. Write for particulars and ask for catalogue. Peter Bacigalupi & Sons, 1113-15 Fillmore St. San Francisco

Household Department

WANTED—GIRLS AND BOYS.

"I'm making up my list of boys
And girls," said Father Time,
"To rule and lead and help the world
In every land and clime
A quarter century from now,
I've room for hundreds yet,
And I go hunting everywhere
A larger list to get.

"I find that every boy I meet
Would like to see his name
Written in golden letters, high
Upon the roll of fame;
But, some are fond of cigarettes,
Some gamble on the sly,
Some drink, some keep bad company,
Some shirk, and others lie.

"The girls would all delight to see
Their names upon the roll.
But, some are fond of finery,
And some cannot control
Their tongue; while others, with a laugh,
Throw all their chance away
By idle folly, or are spoiled
By temper's angry sway.

"And so my list has many gaps,
And many names I need,
Since none except the strong the pure
The self-controlled should lead.
So I go searching everywhere;
The time is short, you see;
I need a thousand boys and girls,
Alas! Where can they be?"

—Priscilla Leqnard.

MR. GNAGG AT THE BREAKFAST TABLE.

IS this stuff supposed to be coffee? Tastes like shellac mixed with gum arabic and gutta percha. Has a suggestion of garlic, too. What d'ye pay a pound for it?

Forty cents? Oh, you do, eh? I thought so. It isn't the fault of the coffee. It's because the pot it's made in is only scrubbed out about once every eight years.

Oh, never mind showing me the pot. I won't look at it. That's your old scheme. Every time I say a word around this plant it's your system to try to crowd me into a corner and bully me out of my statement.

What d'ye call these things? Corn muffins? I thought they were baseballs. All they need is the seams and a little more roundness and they would be baseballs.

It's no wonder I feel like a sick caterpillar every morning when I get to the office, with this kind of truck in me. I'll be breaking down one of these days, and then I s'pose you'll be whimpering around because we can't keep up a ninety dollar flat and because you can't hike out and buy thirty-eight dollar hats that make you look like something at the funny end of the Mardi Gras, and all that.

That's the trouble with you women. You want it all. You fire a man off to his work with an impossible mess of vile, hurry-up food in him, and then you expect him to work like a lumberjack in a long drive to get the money so's he can run home and dump it in your lap. If I—

Look here, my dear, why don't you comb your hair before you come to the table? Oh, don't tell me that you have combed it. I s'pose you'll admit that I'm not blind, won't you? Why, it's flying around like the hair of a witch riding through the air on a broom.

But that's the way with you women. "What's the use of running after a street car after you've caught it?" is the maxim of all of you. You get your man by titivating and primping up and make a life business of preening and pluming and all that sort of thing, and a little while after you've got him and he has no chance on earth to accomplish any decent kind of a getaway, why, you promptly degenerate into slovens, and then your attitude is, "What are you going to do about it?"

Oh, don't tell me. I don't pretend to know much about a lot of things, but if I don't know women like a book, why, then I'd like to see the bug wagon back up to the door and take me away.

But you make a mistake, let me tell you, in showing up before your husband with your hair flying all over the place and with an old house jacket—What's that? A fresh kimono that you just put on this morning?

Oh, is that so? Well, if that's a fresh kimono all I've got to say is that you'd better change your washer woman. It looks as if it had been worn for three or four weeks by somebody down on Delancey street.

These eggs are as hard as bricks, and yet you know perfectly well that I can't eat eggs unless they're soft boiled. How's that? They were boiled only a minute and three-quarters by the watch hanging in the kitchen? There you go again! Always there with some kind of a wriggle. That's like a woman. They make a perfect business of trying to convince their men that they are stark, staring, raving crazy and ought to be in a lunatic asylum.

These eggs are not only the hard boiled kind like you get at a railroad eating house but they've got a taste that reminds me of the smell of a pond I used to fish for tadpoles in when I was a kid.

Very best eggs in the market, are they? Well, it's a hundred dollars to a bum cocoanut that I paid the best price in the market for 'em, but that doesn't dope it out that they're fit to eat, unless I'm a maniac, and I guess I'm not exactly that yet, although it's a cinch I will be if things around here don't begin to break a little bit better pretty soon.

How's that? The electric light bill has got to be paid today? D'ye mean to tell me that you havn't paid that electric light bill yet? Didn't I hand you the money to pay that bill six days ago? Oh, I didn't, hey?

Oh, well, I'm a paretic all right, then. I've got dementia flattiana, that's what's the matter with me. I just think I gave you the money to pay the electric light bill, while as a matter of fact I handed you a nickle to go get a bottle of arnica.

Great! First thing I know you'll have me imagining that I'm Peter the Great or John the Piper's Son, and then you'll be so tickled to death that you'll go around tra-la-laing like a little birdie perched on a brier bush.

How much is the electric light bill that I dreamed I paid? Six seventy-eight?

Whee! What is this place we're running around here, a parlor for electrical vibratory treatment or a Tenderloin ginmill? Six seventy-eight!

Look here; do you keep the electric lights—all the electric lights in the place—burning all day long? As soon as I get out of the house do you make the rounds and turn on the electric lights just for the sake of giving the bill a boost? Because if you don't there must be something mighty queer about—

How's that? Oh, I am to remember, am I, that I had four poker sessions in the dining room last month and

Oldest and Largest in the Southwest

SECURITY SAVINGS BANK

Los Angeles, California

CAPITAL AND RESERVE $1,200,000.00
TOTAL RESOURCES OVER $20,000,000.00

We Pay Interest

4% on Term Savings and on Six Months Certificates of Deposit

3% on Ordinary Deposits

By special arrangement 'Ordinary' accounts may be checked against without presentation of a pass book, and 3 per cent. interest will be paid on the minimum monthly balances.

LOS ANGELES PACIFIC CO. BALLOON ROUTE ELECTRIC RAILWAY

Los Angeles Pacific Co

Electric Lines

The Shortest, Quickest and Best Line

LOS ANGELES to the OCEAN

VISIT
VENICE, OCEAN PARK
REDONDO, SANTA MONICA
PLAYA DEL REY

Fish at Long Wharf, Port Los Angeles

Try a Trip on the BALLOON ROUTE DAILY EXCURSION, One Whole Day for ONE DOLLAR. Car leaves at 9:40 A. M.

Los Angeles Stations:

Hill Street Between 4th and 5th — **Fourth Street** Bet. Hill and Broadway

FARMERS' BOOKS

Order Through the Cultivator

FEEDS AND FEEDING.—By Prof. W. A. Henry. Is a thorough, accurate and reliable handbook for students and stockman, giving most practical and useful knowledge on plant growth and animal nutrition, feeding stuffs, feeding animals and every detail pertaining to this important subject, indispensable to every owner of live stock. 658 pages. 6x9 inches.
Cloth $2.00

AMERICAN GRAPE GROWING AND WINE MAKING.—By George Hussmann of California. With contributions from well known grape growers, giving wide range of experience. The author of this book is a recognized authority on the subject. Illustrated. 269 pages. 5x7 inches.
Cloth $1.50

STANDARD OF PERFECTION.—By the American Poultry Association and used as the standard for judging all shows. The thing for dealers in fancy stock.
Cloth $1.50

PERFECTED POULTRY OF AMERICA.—This is the most recent publication, and is one of the finest poultry books ever issued. It contains full page illustrations of all breeds and varieties of poultry, turkeys and water-fowl. On many of its pages are represented the feathers from each section of the fowl. Gives the information necessary for the selecting of the best specimen in your flock.
Cloth $2.50

A. B. C. AND X. Y. Z. OF BEE CULTURE.—By A. J. and E. R. Root, the leading authority on Bee Culture Its reputation is known to all Beekeepers. 536 pages.
Cloth $1.50

CAMPBELL'S SOIL CULTURE MANUAL.—By H. W. Campbell. The originator of the "Campbell System of Dry Farming." A complete guide to scientific agriculture as adapted to the semi-arid regions. Of great value to all Western ranches. 320 pages.
..... $2.50

THE NEW AGRICULTURE.—By F. Byard Collins. A new and authoritative work dealing with the changing agricultural conditions. Why "Back to the Soil" is calling millions from the cities to the farm. The debt which agriculture owes to science. Irrigation, fertilization, machinery, etc.
Illustrated, 374 pages, cloth.....$2.00

Cultivator Publishing Company

that we played until four or five in the morning, with all of the dining room electric lights burning? Oho! So you throw my little occasional game of poker into my teeth, just like that, do you? Well, what d'ye think o' that!

A rap right on the point of the jaw at the breakfast table because I have a few friends once in a while to sit into a piffing little game of fifty cent poker! Well, if that doesn't beat me! Getting bawled out at the breakfast table because I—

How's that? You didn't say a word about my poor little miserable poker game? Oh, no, you didn't. You made the observation that the weather indications were that maybe it wouldn't snow in August. That's what you said. Then you said that these skyscrapers are sure to fall down some of these days if an earthquake drifts around and hits 'em an underground wallop.

Oh, never mind that wriggling stuff again. You know just as well as you know you are alive that you said, in so many words, that I was becoming a slave to the poker habit, and that it would ruin me if I didn't watch out, and that you'd noticed I was neglecting my business on account of it, and that I ought to know that there was a gambling streak in my family and to be afraid of it, and a whole lot more just like that. That's your old game to flare out and say just what you want to say and then to come right back and deny saying anything after you know that all of your barbs have struck.

Oh, well, what's the use? The man who expects a woman to have any sense of reason or logic is a pinhead who deserves all he gets and a blamed sight more. I won't play poker any more, seeing that you make such a shriek about it.

I won't play anything. I'll just work, work, work, all the time, and let you do all the playing. I could pick up a few more dollars by sticking around the office until midnight, and you could devote the extra money to more hats and matinee tickets and things, and I could—

Here's $10. Pay the electric light bill out of that. It's the last money I've got, except forty cents in change, and I can get my lunch out of that, besides riding downtown and back. After you pay the six seventy-eight electric light bill you might as well drop down to Twenty-third street and stake yourself to a hundred yards or so of that nickle val. lace that you'll find on the bargain counter somewhere or other.

Never mind me. Us male dubs were only brought into the world for the purpose of working the flesh off our bones for you women, and it's all right. I've got no kick coming. I'm only a part of the system, that's all, and no one man can change a system.

By the way, what's become of that gray suit that I had last year? I wish you'd dig it out today and send it to the cleaner's and have it—

Huh? You've SOLD it! SOLD IT! Wait a minute. Let me hang on to myself. I don't want to go nutty if I can help it.

How's that? I wore it when I went fishing last fall, and it was all worn out and unfit to be fixed up again? Madam, be so good as not to sit there and tell me things like that. Kindly don't do it. I can stand a heap, but there's a heap that I cannot and will not stand.

Just a minute. Do you mean to tell me that you have deliberately, maliciously, malevolently gone to work and sold that suit of clothes for 85 cents or something that I only wore about ten times last year?

That was the finest suit of summer clothes I ever owned in my whole life and I was so careful of it that—Well what d'ye think o' that! If I wore that suit more than fifteen times at the very outside last summer then I belong in Bloomingdale.

Why, I wouldn't take fifty dollars for that suit as it was on the day when I last took it off, and here, just because you happened to want sixty cents for caramels or something, you deliberately dragged it out and handed it over to a grinning old clothes man, without ever so much as giving me a thought! Well, well, well! And me looking forward to wearing that suit for two or three years yet, off and on!

How's that? I told you that suit never fitted me, and I threatened to sue the tailor because he wouldn't refund me my money on it, and I changed my tailor on account of it, and—

Oh, what's the use? WHAT IS THE USE? What kind of a ten cent dream book do you get all this stuff out of these days, anyhow?

Oh, there you go, sniveling, of course. That's the weapon you all use—tears.

As soon as you play all the hob you can, and perpetrate every infernal injustice on a man that you can think of, and he says a little word about it, you pull that tear stuff on him, and you're just crafty enough to know that it will win in about nineteen cases out of twenty.

How's that? I am unjust, and I pick on you dreadfully? Oh, of course. Of course I pick on you. I'm the abysmal brute. All I ask is a little bit of common consideration at your hands and you come out and say I pick on you

That's a pretty hard stab to take at a man, I'm telling you that. I'd rather have anything else in the world said about me except that I'd pick on a woman.

Oh, shucks, hon, cut out that crying business! There's no occasion for it. Everything's all right. Of course if you say you didn't say anything to me about my little game of poker, all right. It goes. It's got to go.

There, there. Come on now, buck up. I'm late for the office already. Say, it makes your nose as red as the dickens to do that, and I'd like to have you show me a woman that can make a hit with a red nose.

All right. I'll be back for dinner the regular time. And please have something fit to eat, won't you? That steak last evening was punk. All right. Good -bye.

O' course I wish I had that suit of clothes, but as long as it's—well, never mind, I'm going! Go dry your lamps—they're leaking!—New York Sun.

RECIPES.

The fig is one of our most healthful fruits and should be used more in cooking. It is easily grown in every section of California.

Preserved Figs.

Gather the figs with the stems on just before they are ripe enough to be eaten. Scrape off the skin carefully and drop the figs into a kettle of clear, boiling water, and leave half an hour. Then take out; allow to cool with the stems up. Make a sirup of a pound and a half of sugar and a half pint of water to each pound of fruit. Boil the sirup until nearly roping; put in the figs carefully and keep them under water while cooking. If other than natural flavor is desired, put a clove in the blossom end of each fig or cook them with a sliced lemon from which the seeds have been removed, adding a little ginger. The preserves keep well if made with an equal weight of sugar and figs.

Fig Preserves.

Gather the fruit when fully ripe, but not cracked open; place in a perforated tin bucket or wire basket and dip for one moment into a deep kettle of hot and moderately strong lye (some prefer letting them lie an hour in limewater, and afterwards drain;) make a sirup in proportion of one pound of sugar to one pound of fruit, and when the figs are well drained put them in the sirup and boil them until well cooked; removing, boil the sirup down until there is just enough to cover the fruit; put the fruit back in the sirup, let all boil, and seal while hot in glass or porcelain jars.

Lock the barn before the horse is stolen

Roof the barn with REX Flintkote Roofing before the hay gets wet, before stock gets sick, before a falling spark or firebrand sets the building afire. Get REX protection before, not after, you need it.

REX FLINTKOTE ROOFING

is made of long-fibred wool felt, treated with water-proof materials and fire-resisting compounds. The cost per year is so low that you simply can't afford to use any other. "Look for the Boy" trade mark.

We Send Free Samples

to show you how strong, how pliable and how fire-resisting it is, with a booklet to give you points on roofing. Thousands of roofs of all sorts, sizes and ages all over the country, prove the water-proofness and durability of REX Flintkote Roofing.

J. A. & W. BIRD & COMPANY, 89 India St., Boston, Mass.

Pacific Coast Agents: W. P. Fuller & Co., San Francisco, Sacramento, Oakland, Stockton, Los Angeles, San Diego, Portland, Seattle, Tacoma, Spokane

When writing advertisers, mention Cultivator.

Angle Lamp

The Light That Never Fails

Thousands in use all over the country. A good light is the greatest pleasure and the first necessity of every home.

The only lamp on the market that is sold under an absolute guarantee.

Remember, the light from Kerosene is the light science has agreed upon as being the purest and best, because it is soft and mellow and restful to the eyes.

Here are a few of The Angle Lamp Merits:

NO UNDER SHADOW. NO SMOKE, NO ODOR, LITTLE HEAT. GREAT ECONOMY—COST LESS TO BURN than an ordinary lamp. As easy to operate as gas or electricity, and better than either. ABSOLUTELY SAFE under all conditions. Lighted and extinguished like gas. Burned HIGH or LOW like GAS without a trace of odor. And a BRILLIANT, soft, steady, shadowless light—but this you will have to see to appreciate.

The lamp as shown in cut burns 22 hours on 3 quarts of oil.

Send for Illustrated Catalogue with Prices

Boesch Lamp Co., (Est. 1869) 1135 Mission St., San Francisco

A Business Training for Young Men and Women

COMPLETE INSTRUCTION IN THE FOLLOWING SUBJECTS: BOOKKEEPING, CORRESPONDENCE, GRAMMAR, SPELLING, SHORTHAND, TYPEWRITING, PENMANSHIP AND ACTUAL BUSINESS PRACTICE IN OUR FULLY EQUIPPED OFFICES.

Students assisted to permanent and profitable positions.

SAN JOSE is an ideal city for study. It is rapidly growing and there is great demand for competent young people.

Catalogue and Brass Edge Ruler Free. Write for Them Today.

Pacific Coast Business College, San Jose, Cal.

ARNOTT HARNESS $10.00 to $80.00

Everything guaranteed. Money back if not satisfactory. Factory in Los Angeles. California leather for all uses. Send for No. 10, eighty page FREE Catalogue.

ARNOTT & COMPANY 112–118 So. Los Angeles St. Los Angeles, Calif.

When writing advertisers, mention Cultivator.

The Produce Markets

Los Angeles Markets

LOS ANGELES, Oct. 7, 1908.

Butter.

Butter is in fair demand at practically last week's prices.

Creamery ex per roll........67½
Firsts........................60
Dairy.........................25
Eastern Extra.................30
Ladles........................24
Cooking.......................24
"Butterine"................16@20

Cheese.

Southern California Anchor......16@18
Northern fresh...............14½@15
Longhorn......................19
Eastern singles...............18
Cheddars......................17
Imported Swiss................28
Swiss.........................18
Daisy.........................19
Oregon........................16
Limburger.....................18

Eggs and Poultry.

Owing to liberal receipt, "case count" eggs have been shaded a cent. Others remain as last week.

Eggs local candled............40
Eggs case count buying price......34
Firsts fresh..................37
Storage selected..........26@27
Storage, short time.......28@30
Eastern fresh.................28@30

Wholesale prices:

Hens per pound...............13½@14
Young roosters per lb.........16
Fryers........................18
Broilers per lb...............20
Roasters......................20
Old rooster...................8
Turkeys.......................16@18
Geese.........................12
Ducks.........................11½
Squabs.....................1.25@1.75

Live Stock.

The following quotations are f. o. b., Los Angeles, on all stock.

Hogs from 175 to 200 pounds........6¼
Prime steers...............4¼
Heifers.......................3½@3¾
Calves per lb..............4½@5
Sheep ewes per head........3.25@3.75
Lambs per head.............2.50@3.00
Wethers................4.00@4.50

Potatoes.

Wholesale prices are:

Sweets per ctl.............1.25@1.45
Sweets red....................1.15
Burbanks choice...............1.00
Northern Burbanks fy..........1.50
Local Burbanks.............1.15@1.35
Highland fancy................1.25
Coast.........................1.00
Salinas.......................2.00

Onions.

Wholesale quotations are:

Silverskin new................1.25
Australian Browns.......90@1.00
Danvers.................90@1.00
Garlic....................9@10

Vegetables.

Asparagus per doz.............80
Artichokes per doz Northern.......60
Artichokes local per box......40
Beets per doz.................30@40
Bell peppers per lb large......3@4
Bell peppers box..............20@30
Beans limas per lb............3@3½
Beans string..................5
Brussels sprouts per lb.......9
Cabbage sack..............1.25
Cabbage red per lb........2
Celery per crate..........1.75
Celery ex fy..................3.00
Chili per lb..................20@30
Corn per box..................50
Corn per box..................40
Chicory per bunch.........10
Cucumbers per box.........40
Cauliflower per doz...........90
Carrots per doz...........30@40
Egg plant per lb..............1½@2½
Green onions doz bunches......20@30
Horseradish...................12½
Lettuce per crate.............75
Okra..........................6@8
Peas sugar per lb.............6@7
Parsley.......................20@30
Parsnips..................35@40
Rhubarb per box...............85
Radishes per doz..........15@20
Summer squash per box.........40
Spinach per doz...............15@20
Turnips doz bunches.......30@40
Tomatoes lug box..............25@35
Tomatoes yellow...............50@65

Citrus Fruits.

Valencias..............2.30@2.50
Grapefruit seedless.......3.00
Grapefruit seedlings....1.75@2.00
Lemons fy.................3.00
Lemons choice.............1.50

Fresh Fruits.

Wholesale prices on the market are:

Astrachans....................1.00
Astrachans packed box......1.35@1.50
Bellfleurs.................1.00@1.10
Alexandria 4-tier..........1.00@1.10
Gravenstein 4-tier.........1.15@1.25
Skinners 4-tier............1.15@1.25
California Jonathans..........2.00
Red Pearmains.................1.25
Crab apples...................1.50
Apricots cold storage.........50
Cantaloupe locals large crate..1.50@1.75
Casaba crate..................1.50
Figs per fig box..............75@85
Christmas melons per doz......1.75
Figs blk per fig box..........85
Guavas per lb.................5
Muscats per lug box...........60@65
Grapes Malaga.................50@75
Grapes Concord per lug box....75
Grapes Tokay..................60@65
Grapes Red Emperors...........75
Cornichons....................1.00
Rose of Peru..................70@75
Grapes Black Hamburgs.........50
Nectarines....................1.25
Pears per box.................1.60
Pears lug box.................1.10
Pears Winter Nellis per box...60
Plums Kelsey..................60
Peaches per box...............65
Peaches clings................50
Pineapples per lb.............7
Persimmons per lb.............10
Pomegranates per box..........1.50
Quinces.......................75
Raspberries per box...........11
Strawberries per box..........5@6
Extra fancy...................10
Blackberries per box..........7
Huckleberries per crate.......1.20
Watermelons per crate.........1.25

Dried Fruits.

Wholesale prices are:

Apricots......................8@9
Evap. apples fy per lb........8@9
Figs loose white..........6
Figs blk......................4
Peaches.......................8@9
Pears.........................9@10
Nectarines....................9@10
Prunes........................4@4½

Beans Dried.

Wholesale prices:

Limas per ctl..............5.00@5.25
Lima, new crop.............4.50@5.00
Pink No 1.....................3.50
Lady Washington............4.25@4.50
Small white................4.25@4.50
Black eyes....................4.50
Garvanzas..................4.80@5.00
Lentils.......................9@10
Bayou.........................5.50

Nuts.

Almonds IXL per lb............14
Almonds choice................10@12½
Pecans polished...............16
Peanuts Virginia..............8
Peanuts California............8
Walnuts No 1 SS...............12½
Walnuts No 1 HS...............12
Walnuts No 2 both hard and SS..8½
Walnuts all less 1½ per cent to trade

Honey.

Wholesale quotations:

Extracted Water White.........7½@8½
Extracted Amber...............6@6½
Comb W W......................16
Comb white....................15
Beeswax.......................27

Hay.

Prices paid to producers f. o. b. Los Angeles are as follows:

Barley No 1...............13.00@15.00
Barley No 2...............10.00@13.00
Alfalfa northern per ton..11.00@12.50
Alfalfa local.............12.50@14.00
Plain oat No 1............15.00@17.00
Wheat No 1................13.00@16.00
Wheat No 2................12.00@14.50

Grains.

Wholesale selling price f. o. b., Los Angeles.

Wheat new per ctl..........1.85
Wheat in 100-lb sacks......1.90
Kaffir corn...................1.80
Corn Eastern sacked...........2.00
White oats....................1.90

Feed Stuff.

Selling price F. O. B. Los Angeles as follows:

Cracked corn..................2.05
Shorts........................1.80
Bran..........................1.65
Oil cake meal.................2.50
Feed meal.....................2.10
Rolled barley.................1.50

The Peter Henderson Company of New York is now sending out its annual fall bulb catalogue, which with its profuse illustrations of almost every bulb grown will prove a matter of great interest to flower lovers.

San Francisco Markets

SAN FRANCISCO, Oct. 6. 1908.

Butter.

There is little of note in the butter market. Prices have been stationary. All better grades meet with steady inquiry and a healthy tone prevails. Storage has advanced ½ cent.

California extras per lb......30
California firsts.............26
California seconds............22½
California thirds.............20
Eastern extras................27
Fresh packing stock...........23
Packing stock No 2............20
Storage Cal. ex...............25½

Cheese.

California young American fy....12½
Firsts........................12
California flats fy...........12½
Firsts........................11½
Young America fy..........14½
Eastern fy....................16½
Oregon fy.....................13

Eggs and Poultry.

Eggs dropped a half cent after last weeks quotations, but recovered on Saturday and have now passed the former figure by ½ cent; present tone is satisfactory.

Official quotations of the S. F. Wholesale Dairy & Produce Ex. are:

Fresh ranch extras............45
Eggs firsts per doz...........39
Eggs seconds..................26½
Eastern selected..............22
Eastern firsts................25½
Eastern seconds...............23
Storage.......................30

Hens per doz...............4.00@5.50
Hens extra.................7.00@9.00
Young roosters.............5.50@6.50
Old roosters...............3.50@4.50
Fryers per doz.............4.50@5.50
Broilers per doz...........3.00@4.00
Geese per pair.............2.00@2.50
Goslings per pair..........1.75@@2.00
Ducks young................6.00@8.00
Hen turkeys per lb............21@24
Gobblers live.................21@24
Pigeons young..............2.00@2.50

Live Stock.

San Francisco prices gross weight:

Steers No 1...................3¾@4
Do second quality.............3¼@3½
No 1 cows and heifers.........3
Second quality................2¾
Hogs 100 to 150...............6
Hogs 150 to 250...............6¼
Rough heavy...................4¾@5¼
Calves per lb.................3½@4¾
Lambs spring..................4@4½
Wethers No 1..................3¾
Ewes No 1.....................3¼

Potatoes.

Frosts in the Northwest have caused a sharp demand for California potatoes. Prices have not advanced but a firm condition prevails.

Wholesale market quotations:

River whites fy...............70@85
River whites poor.............50@70
do per box.................1.00@1.15
Early Rose new................75@85
Salinas Burbanks...........1.25@1.60
Sweets crates..............1.25@1.80

Vegetables.

Wholesale quotations:

Asparagus per lb..............7@8
Asparagus No 2................4@5
Bell peppers per box..........40@50
Celery per doz............35@50
Cucumbers per box.............40@65
Cucumbers pickle...........1.00@1.25
Cucumbers pickle No 2.........65@85
Chili peppers per box.........30@50
Corn per sack..............1.00@1.50
Egg plant per box.............40@50
Green peas per lb.............2@5
Lima beans....................3@5
Squash per box................40@65
Onions green per box......70@75
Okra per box..................25@50
Rhubarb per box...........50@65
Tomato River large box........40@75
String beans..................2@5
Wax beans.....................2@5
Garlic new....................6@7½

Onions.

Onions yellow per sack........50@55

Citrus Fruits.

Valencias fy...........2.00@3.50
Grapefruit seedless........2.00@3.50
Lemons ch..................1.50@2.00
Lemons fy..................3.00@3.25
Limes......................4.00@5.00

Fresh Fruits.

Apples per 4 tier box......1.00@1.25
Apples per 4½ tier box.......75@1.00
Apples unwrapped..............60@75
Crabapples....................50@60
Blackberries per chest........3.00
Figs per crate one layer......75@85
Grapes seedless...............75@85
Grapes Muscats................50@65
Grapes Rose of Peru...........40@50
Grapes Tokays.................50@65
Grapes Isabellas crate........60@65
Grapes Cornichon..............65@75
Huckleberries per lb..........12½
Loganberries...............4.00@6.00
Cantaloupes River nutmegs.....40@60
Muskmelons...................75@1.00
Nectarines red...............75@1.00
Nectarines white..............50@60
Pears Bartlett per box........15@50
Pears other varieties........90@1.00
Plums & Prunes per small box..40@50
Plums & Prunes crates.........75@90
Peaches lug box...............40@75
Peaches Mountain..............50@65
Pomegranates per box.........75@1.25
Aligator pears per doz.7.00@9.00
Quinces per box...............50@75
Raspberries per chest......5.00@7.00
Strawberries per chest.....5.00@7.00
Longworths per chest.......6.00@8.00
Watermelons per doz........1.25@2.50

Dried Fruits.

Prunes 4-size basis...........3½@3¾
Santa Clara...................3½@4
1908s contracted for..........4@4½

New crop contracts, 25-lb. lots—Apricots per lb.: Choice, 6@8; fancy 9@10.

PEACHES—Choice 5@6; fancy 6-7

Apples evaporated.............4@6½
Pears.........................5@7½

RAISINS—1907 crop f. o. b.; Clusters and layers. 30-lb bxs—Imperial Clusters, 6-crown, $2; Dehesa Clusters, 5-crown, $1.75; Fancy Clusters, 4-crown, $1.40; London Layers, 3-crown, $1.10; do, 2-crown, $1.05. Seeded, 25-lb bxs—Fancy bulk per lb, 6½@7c; Choice bulk, 6½@7c. Loose Muscatels, 50-lb bxs— Standard, 4-crown, 5½c; do, 3-crown. 4¾c; do, 2-crown, 3¾c; Seedless, 4¾c. Seedless Sultanas— Unbleached, 4¾@5c. Thompson Seedless—Unbleached, 5½@6¼c. Dried Grapes, 4c.

New Crop Raisins—Preliminary prices are named as follows: Cluster—Imperial 6-crown, $2@3; Dehesa, 5-crown $2.50; London Layers, 2-crown, $1.25; 3-crown, $1.35; 4-crown, $2. Thompson's Seedless, 5¾c. Loose Muscatels, 5¾c. for 4-crown, 5c for 3-crown, 4½c for 2-crown and 4¾c for seedless.

Nuts.

Walnuts S S No 1 new crop...12½@13
Walnuts No 2..............10@10½
Almonds nonp..............11@13
Almonds IXL...............10@10½
Ne Plus Ultra.............10

Beans Dried.

Limas......................4.40@4.50
Pink.......................2.50@2.75
Small white...................4.40
Large white................2.75@3.00
Lady Washington............3.45@3.60
Black eyes.................3.00@3.25
Red kidneys................3.00@3.50
Garvanzas..................1.75@2.00
Bayo.......................2.50@2.75
Horse beans................1.50@2.00

Hops.

Hops new crop.................9@13
Hops old stock................3@6

Honey.

Clear white comb..............15½@16
Amber.........................12@14
Extracted W W.................6@7
Extract light amber...........6½@7
Beeswax No 1 per lb...........25@27
Beeswax No 2 per lb...........24@25

Hay.

There has been a marked diminution in hay shipments during the week ending today, the total showing 2590 ton in comparison with 3670 ton for last week. This was to be expected for the fields are being rapidly cleaned and very little hay can be marketed to advantage from the warehouses. The market naturally has an upward tendency at the moment for prices must advance at least $1.50 per ton immediately in order to cover storage and insurance charges on warehoused goods. Fancy wheat hay has been taken from storage for two or three weeks past and marketed here in small quantities to good advantage. The great bulk of the hay remaining in the country is not choice and it may be that we will have to wait some little time before prices will advance sufficiently to warrant holders in shipping average grade hay here. In all probability shipments will be withheld from the market sufficiently to stimulate prices and many speculators will probably hold until spring, hoping that some unforeseen condition may bring about a very material advance in prices. Should stocks of hay be plentiful during February and March it is quite probable that a material decline in prices will occur then.

Choice wheat hay..........17.50@18.50
Good wheat hay............15.00@17.00
Other grades same.........11.50@14.50
Wheat and oat.............11.00@17.00
Tame oat..................11.00@16.50
Wild oat..................11.00@15.00
Stock hay..................9.00@10.00
Alfalfa....................9.50@13.50
Straw, per bale...............45@70

Grains.

Wheat No 1................1.67½@1.70
Barley new.................1.30@1.35
Corn large yellow..........1.80@1.85
Oats white.................1.45@1.70
Oats gray..................1.65@1.70

Rye new crop.... .....1.45@1.52½

Feed Stuff.

Bran per ton..... .....30.00@31.50
Feed cornmeal per ton.....37.00@38.00
Cracked corn per ton.....38.00@39.00
Rolled barley per ton.....29.00@30.00
Oil cake meal per ton.....37.00@38.50
Cocoanut cake per ton.....25.00@26.00
Middlings..... .. ..33.50@35.50

Citrus Market

LOS ANGELES, Oct., 7. 1908.

Valencias are even better than last week in market tone and the few yet to go will probably be cleaned up in the next week or ten days.

Lemons are also stronger and selling very satisfactorily at present with good indications for the future.

Shipments.

Total shipments of citrus fruits since Nov. 1, '07, 29,022 cars of which 4651 were lemons. To same date last year 27,308 of which 3354 were lemons.

NEW YORK, Oct. 5.—Six cars Valencias and one mixed car of citrus fruit sold. The market is strong on good quality fruit. Weather clear, cool and favorable.

VALENCIAS—	Avge.
Stag ACG Ft Ex.....	..$4.35
Pointer ACG Ft Ex.....	.3.65
Pet SA Ft Ex.....	.3.65
Bunker Hill fy C C **	.3.00
Canyon Crest W American Ft Co..	2.95
Summit xc W American Ft Co.....	2.95
Old Mission C C Chapman.....	5.75
Old Mission C C Chapman.....	4.80
Golden Eagle C C Chapman.....	3.90
Orchard or National O Co.....	4.20
Standard or National O Co.....	3.30
Swastika L V W Brown.....	3.45
Plain Ends L V W Brown.....	2.15
GRAPEFRUIT (Halves)	
Cerrito seedless L V W Brown....	4.05

PHILADELPHIA, Oct. 5.—Four cars Valencias and one car lemons sold. Weather clear, favorable. The market is steady on good stock Valencias and strong on lemons. Three cars on track.

VALENCIAS—	
Pico Ft Ex Whittier.....	2.69
Picnic Ft Ex Whittier.....	2.11
Defender Altland Ft Co.....	3.57
Topaz Cal Cit Union....	3.45
Buscada Altland Ft Co.....	3.30
Square Deal.....	2.85
LEMONS—	
Homer Ft Ex Corona.....	3.18
Camel Ft Ex Corona.....	2.88
Orchid Altland Ft Co.....	3.51

PITTSBURG. Oct. 5.—Three cars sold, four on track. Weather cool. Market is firm on good stock.

VALENCIAS—	
Golden Sceptre or Rialto O Co....	3.85
Goldfinch SS Ft Ex El Modena....	2.80
LEMONS—	
Pride of Corona QC Ft Ex Corona	2.55
Corona Beauty QC Ft Ex Corona..	2.45

BOSTON, Oct. 5.—One car sold. Weather cool. The market is strong on Valencias. Three cars on track.

VALENCIAS—	
Stag ACG Ft Ex Azusa.....	4.15
Pointer ACG Ft Ex Azusa.....	3.35
Hunter ACG Ft Ex Azusa.....	3.30

CINCINNATI, Oct. 5.—Weather warm. Market is steady. Three cars sold. Nine cars on track.

VALENCIAS—	
Volunteer SA Ft Ex N Pomona....	3.45
Greyhound SA Ft Ex N Pomona...	3.00
LEMONS—	
Silence Flagler Ft Co.....	3.85
Cry Baby Flagler Ft Co.....	3.65
Pyramid O R Strachan Ft Co.....	3.50
Papoose O R Strachan Ft Co.....	

CLEVELAND, Oct. 5.—Weather favorable. Market is steady. One car sold, one on track.

VALENCIAS—	
Pet SA Ft Ex San Dimas.....	3.60

ST LOUIS, Oct. 5.—Weather cool. Market is steady. Two cars sold, four on track.

VALENCIAS—	
Floral SB Ft Ex Colton.....	3.50
Rancho SB Ft Ex Colton.....	2.85
LEMONS—	
Naralimo.....	3.00

FARM NAMES.

Continued from Page 341

should be the one chosen. Every one of your names suggested is excellent. And the only criticsm that could be offered is that three names enter into each one suggested, though by constant use it might be that Meadow Brook, Willow Brook, etc., could be considered one word The personal preference of the writer would be the second one mentioned, except to leave off the word Home at the end and then make "Meadowbrook" one word. It is quicker spoken and more often referred to If it be a simple name and not too long drawn out. Other suggestions might be "The Willows," "Meadowbank." We will be glad if Mrs. Lanini will inform us as soon as the ranch name is decided upon.

FISH FERTILIZERS.

In the purchase of fertilizers every grower should be careful to assure himself, first that the fertilizer really contains the food elements properly prepared so that it becomes immediately available for the feeding of the plant; secondly, that he gets plant feed properties exclusively and not a large percentage of dirt which may be used to cheapen the cost of production of concentrated fertilizers. The fish fertilizer known as Wilgrow and manufactured at Port Angeles, Wash., while a comparatively new fertilizer in the California market seems to be meeting with unusual success.

Twice in the last three months the Fertilizer Control of California has taken samples of different sections of the State from the stock in possession of local retailers. In each instance the fertilizer under state test has been shown to contain a higher percentage of concentrated plant foods than was ever claimed by the manufacturers or required by the Control. It was also found that Wilgrow did not contain any alloy products; in other words there was no dirt or other product used to cheapen the cost of production; it was found to contain nothing but straight fish products and potash in their proper proportions.

TO SOUTH AFRICA.

Mr. Taft, of the Petaluma Incubator Company, while in Los Angeles recently, gave some points regarding the magnitude of the business of that big California institution. For instance, he mentioned a recent shipment of forty 48 ostrich egg machines to South Africa. The Petaluma Company claims to have a practical monopoly on ostrich egg hatching machines and the South African order is only a repetition of many which have been received before. Shipments to Japan, Australia, and other countries across the Pacific have been a yearly occurrence for several years. Notwithstanding the financial depression of the past few months the factory at this time is crowded to its utmost capacity.

A GOOD CULTIVATOR.

One of the best orchard and field cultivators amongst the many good ones that have been brought out in California is the Williams Goosc-neck cultivator manufactured and patent applied for by Williams & Son of Orange, California. This cultivator is especially adapted to orchard work, as thorough work can be done under trees, even under orange trees loaded with fruit, without injury to either fruit or limb. Orchardists will see the advantage of a cultivator with draft light enough for two horses which will extend well beyond the tree and cultivate close to the tree. Two horses will draw this implement with a nine foot cut and do so all day with ease. Its manufacturers say they believe no other cultivator has these advantages. A card addressed to Williams & Son will secure further particulars.

THE RISE OF THE GAS ENGINE.

The American public is so used to startling developments, that when one presents itself which involves a process of evolution, even though sweeping in its effect, the people must be educated up to a realization of what is doing before giving it any general recognition.

The latent energy of fuel has been used in so wasteful a way as to alarm scientists. No greater change making for the conservation of such energy has engaged the attention of the engineering world than the gas engine.

An illustration of the economics possible through the use of a gas engine driven pumping unit, when replacing steam, is the Poughkeepsie (N. Y.) pumping plant, rebuilt in 1905, with a 10-inch centrifugal pump, belted to a 35-horse power gas engine.

In the three months, January, February and March of this year, the steam plant pumping to filters used 223.59 tons of coal for 199.7 millions of gallons of water filtered, equal to 1.12 tons per million gallons. In the five months, July to November inclusive, the gas plant used 78.16 tons for 317.8 million gallons filtered, equal to 0.24 ton per million gallons—a saving of 0.88 ton per million gallons. As an average of 63.5 millions of gallons were filtered per month, the difference in favor of the gas plant was 55.88 tons per month, costing in the shed $3.26 per ton or $182.16 per month.

The total cost of this plant—gas engine, producer, pump, foundations, piping, etc.—was $3940.

It will therefore be seen that the coal saving alone paid for the entire plant in twenty-two months!

A similar result to this is found in numerous plants now in successful operation throughout the United States and Europe.

The development of the gas engine has progressed much farther in America than in Europe in the marine types. A company has built engines of 500 horse power, one in the schoone Northland, of 4000 tons capacity, and one in the excursion fishing boat Arion, which has a speed of 18 miles an hour.

The gas engine is the logical means for generating power for marine uses in the future, and from the steps already taken to equip vessels of different classes, it is only a question of time before the suction gas producer is universally adopted for both land and sea.—American Industries for September.

T-T-TWO OF A K-K-KIND.

A tall man, impatiently pacing the platform of a wayside station, accosted a red-haired boy of about 12.

"S-s-say," he said, "d-d-do y-you know ha-ha-how late this train is?"

The boy grinned but made no reply. The man stuttered out something about red-headed kids in general and passed into the station.

A stranger, overhearing the one-sided conversation, asked the boy why he hadn't answered the big man.

"D-d-d'ye wanter see me g-g-get me fa-fa-face punched?" stammered the boy. "D-d-dat big g-g-guy'd tink I was mo-mo-mocking him."—Everybody's Magazine.

PROOF.

Reggy—And is Gussie weally so effeminate?

Willie—Is he? Why, he actually steps off a street car backward.—Chicago News.

Thoughts that great hearts once broke for, we breathe cheaply as the common air.—Lowell.

PLUMBING

Plumbing Materials

WATER SEWER PIPE

ALL PLUMBING REPAIRS

We contract to furnish all the materials and do the work or furnish the materials only.

GET OUR PRICES

JAMES H. HELLMAN

Hardware, Stoves, Etc.

157-161 NORTH SPRING STREET

LOS ANGELES, CAL.

TREE AND VINE CATALOGUE

S. W. Marshall & Son of Fresno have just issued their catalogue for 1908-09. It is filled with descriptive lists of deciduous fruit trees, nut trees, citrus fruits and vines. A department is also given over to ornamentals which is a most valuable feature. One interesting feature is an engraving showing 320,000 gum trees growing in an immense lath house. This immense number of trees will doubtless find a ready sale in a year like this when the eucalyptus is attracting so much attention.

OVERLAND.

The editor of the Overland Monthly recently remarked that he wished to make that historical magazine a "live wire" out here in the West. It certainly has accomplished many things in its long and useful life which already entitle it to the claim of being a very live proposition. Many literary productions like Bret Harte's "Heathen Chinee," some of Mark Twain's most noted writings and other gems of literature have first appeared in that magazine. It has now been singing the praises of this western slope for more than forty years and we trust will continue to make itself as live a factor as it has in the past.

ANOTHER BIG CONTRACT.

We are advised by the sales manager of the Pioneer Roll Paper Company, Los Angeles, California, that it has recently completed a contract on the Santa Fe round house at San Bernardino, California, on which Pioneer Rubber Sanded Roofing was used.

This round house is the largest in the west, the roof containing 70,000 square feet of surface space—requiring 700 rolls of roofing to cover.

The Pioneer Roll Paper Company will be glad to send their booklet "Roof Talk," free upon request.

CALIFORNIA BULBS TO EUROPE.

We note the following in a Santa Cruz paper. California uses some Dutch bulbs. We are glad to see the Dutch reciprocate.

A. Mitting has received from Holland a big advance order for Calla lily bulbs, which he will send to the continent the coming year.

He has an order for 2000 calla lily bulbs from M. Veldhauzzen, Van Zanten & Zonen of Lesse, Holland.

AN HEIRESS.

"You say you wish to marry my daughter. But she is only a mere school girl as yet."

Count Nocash—"I understand that sir. I came early to avoid the rush."—Judge.

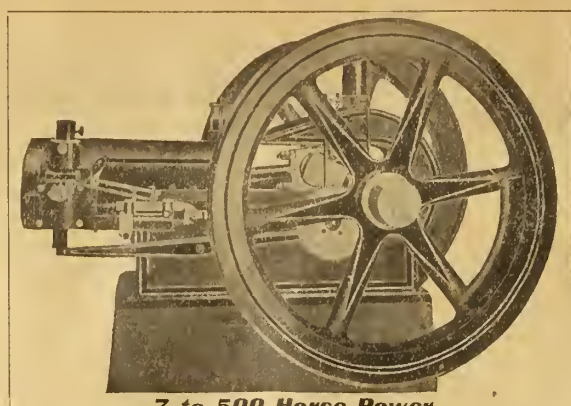
The Popular

Western

Built In the West Best For the West

FACTORY AT YOUR DOOR

LONGEST LIFE LEAST FUEL FEWEST PARTS ALWAYS GOES



7 to 500 Horse Power

Irrigation Plants Designed Constructed Installed

U. S. GOVERNMENT TEST

35 H.P. Western Engine Been Run 2 Years

RAN 87 DAYS DAY AND NIGHT

With One 20-Minute Stop to Lace a Belt

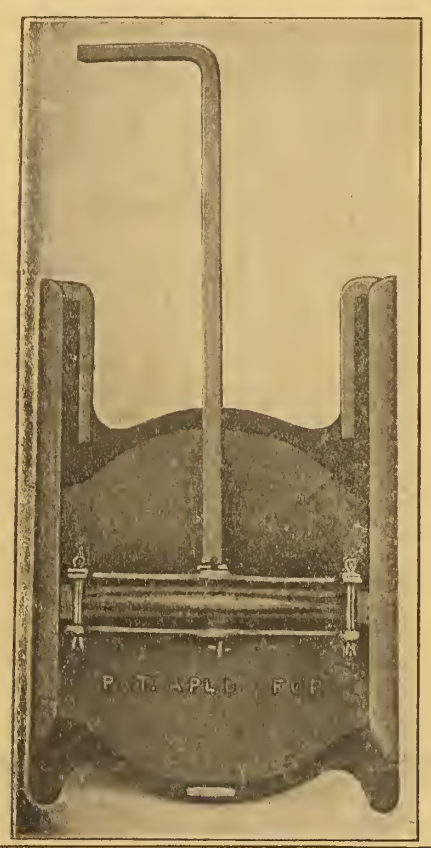
Send for the Copy of Test

Western Gas Engine Co.

Works and Office:

908 to 932 No. Main St. Los Angeles, Cal.

Send for Catalogue.



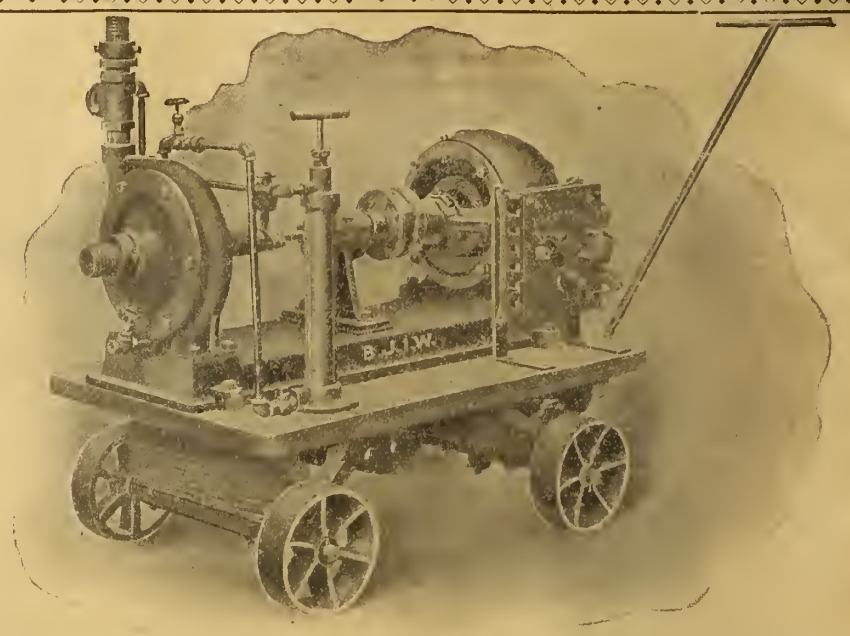
Pomona Pressure Gates

A Great Aid in Irrigation

These gates are made similar to the ordinary slide gates except that there is a locking device interposed to lock the cover in any desired position or to press the two faces together to make a WATER TIGHT joint, from either direction when closed. The parts are very simple, only a tapering screw with a split tapering nut socket. By turning the handle to the right tightens, and to the left loosens the cover or it may be removed entirely.

Pomona Mfg. Co.

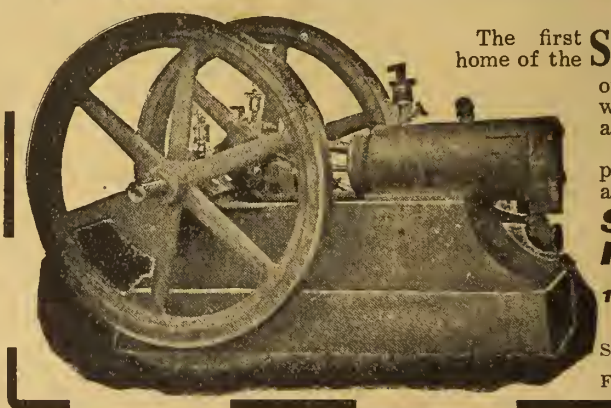
Pomona, Cal.



Jackson Wine Pump Direct Coupled to Motor and Mounted on Truck. Write for Bulletin 25.

Works: Carlton Station West Berkeley **Byron Jackson Iron Works** Branches: San Francisco Los Angeles Portland

Samson Gasoline and Distillate **Engines**



The first home of the **SAMSON** engine is a large one. It's second home, which is everlasting, is a happy one.

They may be compared with the sea—always ready to roll.

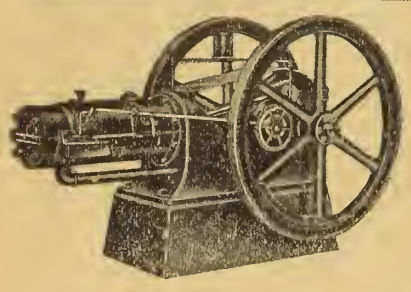
Samson Iron Works

Office and Factory: 1100 to 1198 Aurora St. Stockton, Cal.

BRANCHES:

San Francisco, Cor. Market and First Sts.

Fresno, 920 J St.



For the Land's Sake!

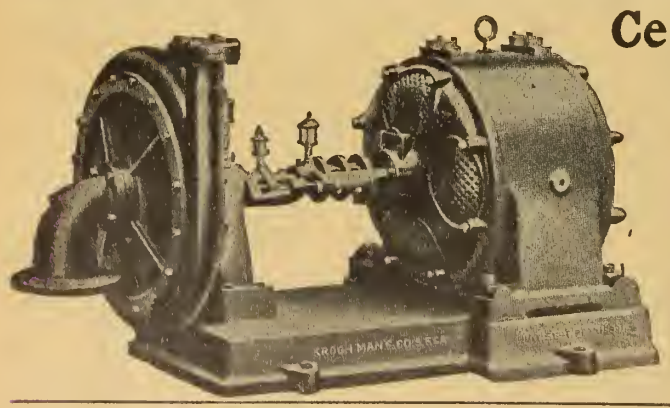
IRRIGATE WITH A

Commercial Gas Engine

SEND FOR BULLETIN NO. 11 AND YOU WILL

Commercial Engine Company

953-955 No. Main St. - Los Angeles, Cal.



Centrifugal Pumps

For high or low heads

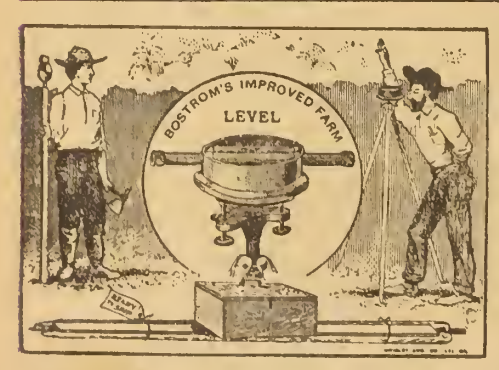
Direct Connected or Belt Driven

Highest obtainable efficiency

Krogh Man'f'g. Co.

127 to 123 Beal Street SAN FRANCISCO, CAL.

Send for New Catalogue No. 50 just issued.



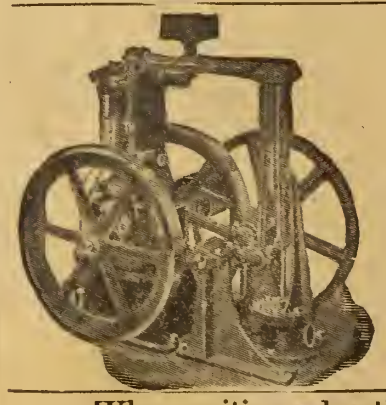
BOSTROM'S IMPROVED FARM LEVEL

Used for irrigation and dralnage work. Cheapest and best level yet invented for farm use. Has the latest patented improvements in simplicity and usefulness. Can be operated by any one. Price including telescope tripod and target rod $15.00.

PALACE HARDWARE COMPANY

581 Market Street, San Francisco.

Coast Agents. Send for Circular.



A Handy Little Engine

Just the thing to run the feed cutter, the pump, the churn, the grinder, or anything on the ranch. It's well named

The Little Wonder

Write or call on

Wm. Gregory

602 No. Main St. Los Angeles, Cal.

When writing advertisers, mention Cultivator.

30.5
CA

California Cultivator

Published Weekly — One Dollar a Year

Los Angeles — October 15, 1908 — San Francisco

California State Agricultural Farm

Where the State Farmers' Institutes Are Held Annually

SOME OF THE YOUNG STOCK. ALFALFA FIELDS AT RIGHT.

A Farm of 780 Acres of Magnificent Sacramento Valley Land

PLANTING SEED BY STUDENTS.

AN IRRIGATION DITCH ON THE FARM.

Nearly a Dozen Buildings Constructed and Creamery Already in Operation

CREAMERY, PAVILION AND COTTAGE NO. 1.

Short Courses Now Under Way, With Twenty Taking Instruction in Dairying

The Oldest Savings Bank in California

FOUNDED IN 1857

The Savings and Loan Society

101 Montgomery St., Cor. Sutter St., San Francisco

CAPITAL FULLY PAID $1,000,000.00

Exclusively a Savings Bank whose policy is for ***Conservatism*** and ***Safety*** the result of ***50 years experience.***
Deposits may be made and withdrawn by mail.

San Francisco Savings Union

Founded June 18, 1862 **Northwest Cor. California and Montgomery Sts., San Francisco**

Conducts a Savings Bank Business Exclusively

Capital Paid Up, $1,000,000.00 Surplus, $1,183,632.00

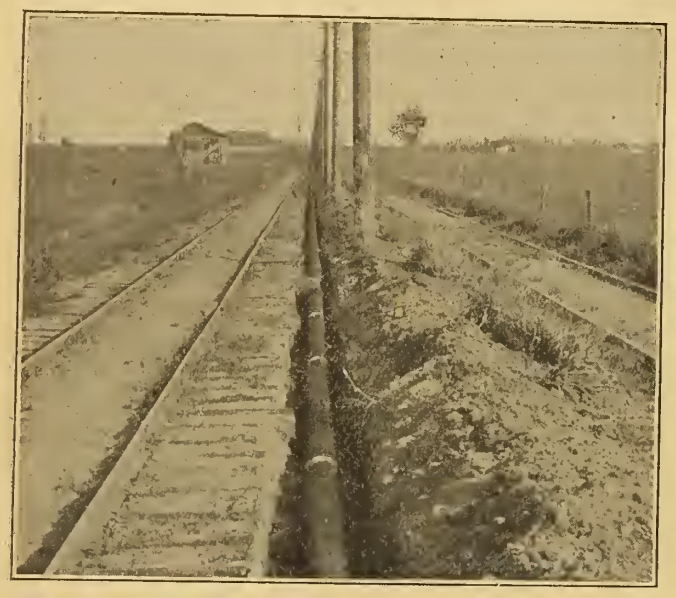
Total Assets, $27,508,850.00

E. B. POND, President.

W. C. B. de FREMERY AND C. O. G. MILLER, ... Vice-Presidents
LOVELL WHITE, Cashier. . . . . R. M. WELCH, Asst. Cashier.

Directors: John F. Merrill, Wm. A. Magee, W. C. B. de Fremery, H. C. Breeden, Jacob Barth, Fred H. Beaver, Wakefield Baker, C. O. G. Miller, E. B. Pond.

Every facility afforded for opening accounts and making deposits and withdrawals by mail. Correspondence inviteed.



Wood Pipe

Made from California Redwood or selected Washington Douglas Fir

2 Inches to 10 Ft Diameter

National Wood Pipe Company

San Francisco Office
318 Market Street
Los Angeles Office:
404 Equitable Bank
Northern Office:
Olympia, Wash.
Salt Lake City:
Dooley Block
Address Nearest Office as Above.

$16.30 buys this handsome six-hole Nickle-Trimmed Cast Range direct from the Manufacturer

without high shelf. With high shelf, just as shown in the cut, $19.97; large oven, six cooking holes, best quality of iron. Burns coal or wood. Handsome nickle trimmings. OUR TERMS are the most liberal ever made. You can pay after you receive the range. You can take it into your own home and use it 30 days. If you don't find it exactly as represented, the biggest bargain you ever saw you won't have to keep it.

Write today for our beautifully illustrated Stove Catalogue No. 101-C. A postal card will do it. Don't buy until you get it.

P. F. Ross & Co.

268 Market St. San Francisco, Cal.

Red Cross Wind Mill
Is built right. Works right. Runs in light wind. Has ball bearing turntable and outer thrust. Easy mill to set up and take care of. Built upon honor.

Woodin & Little Pump House

70-72 Fremont Street, San Francisco

PUMPS FOR EVERY SERVICE AND USE

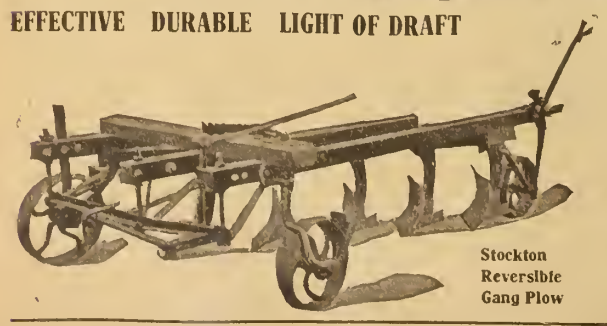
Pumps for Irrigation, Road Sprinkling, Electric Motors, Gasoline Engines, Spraying, Whitewashing, Wine Pumping, Wind Mills, Hand and Power Use, Steam, etc.

Gasoline Engines Wind Mills
Tanks Pipe Pipe Fittings

SEND FOR CATALOGUE

The Cheapest Way

EFFECTIVE DURABLE LIGHT OF DRAFT



Stockton Reversible Gang Plow

This is our regular Plow with Land Shifter and Rear Lever. Land Shifter simple and durable. It is in easy reach of operator and there is no danger of wheel running over foot.

Houser & Haines Mfg. Co
Stockton, Cal.

When writing advertisers, mention Cultivator.

Garden Tools

Lightest
Strongest
Neatest and
Best

The Most Accurate Seeders and the Simplest and Most Easily Adjusted Seeders are possessed by

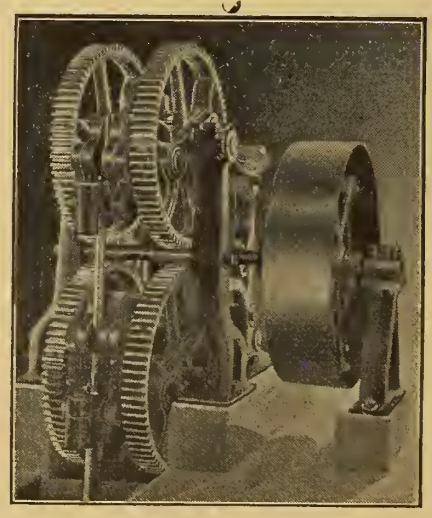
Iron Age Garden Tools

Send for Profusely Illustrated Booklet

Newell Mathews Co.

200 North Los Angeles Street
Los Angeles, California

New Pomona Double Plunger Deep Well Pump Head



Most Efficient Deep Well Pump in the State

It Is Made in California

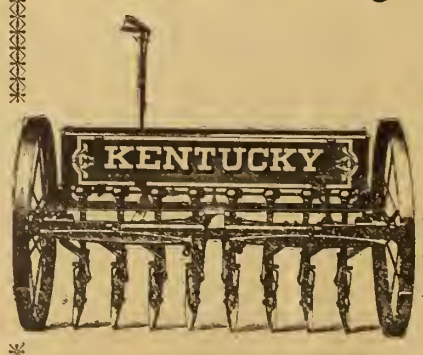
Built in Three Sizes—from Ten to Forty Horse Power

It is the smoothest running deep well pump because there are no dead centers, no jerk or jar, and no danger of breaking the pump rods. Be sure and write for our big catalogue. Watch this space for further information.

Pomona Manufacturing Co.

Pomona, Cal.

Kentucky Disc Drills



meet every requirement of particular Farmers. Constructed on correct mechanical principles, of the best material obtainable, they are strong and lasting. KENTUCKY Conical Disc Bearings are unique. Of fairly large diameter, they are narrow, giving greatest clearance between discs. Dust proof, oil retaining and adjustable. Over 250,000 in use, giving perfect service, have demonstrated the superiority of the Kentucky Disc Bearing.

Write us for Catalogue of the complete

KENTUCKY LINE

Pacific Implement Co. 135 Kansas St. San Francisco

California Cultivator

Vol. XXXI.—No. 16 Los Angeles, California, Thursday, October 15, 1908 Subscription $1 a Year

The State Farmers' Institute at Davis

Editorial Observations Made at the State Farm, Where the University is Whipping Into Shape an Institution Which Will Be a Factor in California Agriculture

"THE discussion of these questions at this Institute, but more particularly the agricultural school conducted on these grounds, will enable coming generations to be greater than the present or past generations. We should be willing to make sacrifices that the coming generation may be great."

The above is a remark made by President Wheeler of the State University in his opening address at the second annual State Farmers' Institute held at the State Farm at Davis, in which he said he could not decide whether it was a welcoming address or a response to the welcome which had been given by other speakers. Probably the main thought in the addresses and discussions was the impressing upon the minds of those attending the great advantage to be had by young people of the present day if they will but avail themselves of the opportunities for agricultural education which this state is offering freely. Especially was emphasis placed upon the worth of the State Farm in this education. President Wheeler said that this is a new venture, there being no other in the United States exactly like it, and we trust it will aid greatly in educating our young in their lack of and need for an agricultural education.

To give special impetus to this work, President Wheeler said that the regents of the State University would take from their general fund this year more than $10,000 in excess of the amount which has been appropriated for the Agricultural College. The idea will be to make the school so broad in its scope that all features of agricultural science may be given their due attention and the President wished it understood also that the curriculum would contain instruction in the making of pumpkin pies, "one that can be eaten from the palm of the hand and like that our New England mothers made a generation ago."

Meager Attendance.

The attendance at the Institute was disappointing, although there were representatives from various sections of the state. But the attendance of the local people, that is, those of Yolo, Solano, and Sacramento counties, was by no means what it should have been when it is considered that a vast fund of information was there for the asking.

Prof. E. J. Wickson called the institute to order on the morning of the first session. The forenoon was given up to the addresses of welcome by G. W. Pierce of Davis, and Leroy Anderson, Superintendent of the Farm School. Members of the State Grange who were in attendance at the annual session at Sacramento were present in a body. One of the first responses to the welcome was that by F. H. Babb, Lecturer of the State Grange. President Wheeler, J. I. McConnell of Woodland, and others responded to the welcome.

Recent Advancement.

The afternoon session opened with an address by Judge Peter J. Shields, which we hope to give more largely from in a later Cultivator. In fact, among the many good things given at the Convention are papers which will either be quoted in full, or nearly so, in the Cultivator for the next few weeks. Judge Shields referred to the great advances of the past few years in agricultural knowledge, referring to the fact that many of the older ones present were born at a time when the farmers were cradling their grain and threshing it out with the flail used by the Egyptians at the time when Moses led the children of Israel to the Promised Land. The advancement in these points being within the memory of the oldest of our farmers of today cannot help but make us ask the question what will the next five or fifty years show in this agricultural advancement? It hardly seems that it can be so great along mechanical lines, but intellectually it should be greater than even the last fifty years have shown.

C. F. Curtis, director of institute and experiment station work of the Agricultural College at Ames, Iowa, was introduced by Professor Wickson as one of the best judges of live stock and promoter of agricultural education there is in this country. He had introduced Judge Shields as a Superior Judge of Sacramento county. He said he would now introduce Mr. Curtis as a superior judge of live stock.

In Iowa.

In speaking of the work of this state school, Mr. Curtis said that the Iowa school started in with a very small enrollment, which it had increased so that it has now more than 1,000, and the courses have been increased until there are now fifteen various courses. The attendants vary in age from 16 years to old, gray-headed men. One particular case he referred to where an old man who had decided to retire and move to town, became interested in the more scientific breeding and production of corn and is now one of the most enthusiastic corn breeders in the state of Iowa. Mr. Curtis said he did not know the California farmer yet, but he was greatly mistaken in his estimate of him if he did not take advantage of the opportunities offered by this school just opening and advance his own material prosperity by using the information which might be gained through it.

He deprecated the fact that the young man of the family who may have chosen to be a lawyer or physician or a preacher, is always granted the very best education which the means of the family can secure. While the boy who intends to stay by the farm is given only the hard work with no opportunity of culturing his mind so as to enable him to grasp the problems which are more difficult than those which confront the professional man. He urged that the short course be taken advantage of by the older men now engaged in farming, but for the younger men the full four year course should be given. "Do not expect the farmer to learn as much or more in one year than the professional man requires four years to learn."

It is impossible to give in the space at command a report of each of the excellent addresses made there, but as noted above we hope to give most of the addresses in full during the next few weeks. It is, however, in order to give somewhat of a description of the State Farm.

Ride Over the Farm.

Through the courtesy of Professor Clarke, a ride was taken over the farm and the improvements already made observed and points wherein additions are to be made to the equipment pointed out. Besides the old farm house and barns that were found on the place when it was bought by the state, there have been constructed nine buildings, which are now in use or will be in a short time. The dormitory for boys is nearing completion and will probably be accepted within the next few weeks. The dairy barn is completed but has not been accepted owing to some defective matters which the contractor has yet to correct. The barn is not built as a model for farmers, but with a view of being used for experimental purposes, and to that end has been more expensively constructed than most farmers will ever be able to provide for themselves. Floors are all cement with the manger of cement so arranged that it may be flooded and thoroughly cleansed. The gutters back of the cows are arranged so that perfect saving of waste is possible.

AUDIENCE IN PAVILION,, STATE FARM.

Box stalls are provided for calves and for bulls. The silo is not yet a factor. The barn is, however, filled nearly to the roof with alfalfa hay grown on the farm. No dairy cows have yet been added to the features of the farm, but, of course, will be as soon as the barn can be accepted and provision made for them.

A number of young heifers are in the corrals at the old barn, but these are being used to make a series of tests or experiments on tuberculosis. Half of these young stock have been made "immune" while the others are not immunized. With these young stock are a number of tubercudiseases may be conveyed from one to the other. lous cattle, all herded together in a way that the The idea is to determine whether these that have been immunized are less susceptible to the disease than the others.

Continued on Page 366

The Right Kind

CANTON
Scotch Clipper Plows

CAN ALWAYS BE FOUND IN THE CELEBRATED

Canton Clipper Line

Wood and Steel Beam Walking Plows
Sulky and Gang Plows
Subsoil and Road and Grading Plows
Orchard and Vineyard Plows

ALL SIZES AND PATTERNS FOR ALL KINDS OF WORK

Send for Catalogue

Pacific Implement Co.

133-153 Kansas St. San Francisco, Cal.
General Agents
B. HAYMAN, Agent, Los Angeles, Cal.

IRRIGATING HOSE

12 oz. canvas, coated or plain; good for several seasons. 1¾ inches, 2½ inches, 4 inches, 6 inches, 9 inches, 13 inches. Galvanized or brass couplings.

Tents, Tarpaulins Picking Sheets, Picking Bags, Stack Covers

Our Tent Catalogue, mailed free, gives full information.

The Wm. H. Hoegee Co.
INC.
138-140-142 So. Main St., Los Angeles

THE "BOSS"
Tree Protecter

Made of Yucca Palm

Is cheap, durable and quickly put on the tree. It prevents Rabbits from destroying your trees. A sure protection against frost, sun-burn, grasshoppers or dry winds. Can be easily removed; will last for years.

Send for samples.

Prices

12 inch long,	$ 9.00	per 1000
14 inch long,	10.00	per 1000
16 inch long,	11.50	per 1000
18 inch long,	12.50	per 1000
24 inch long,	15.00	per 1000
30 inch long,	17.00	per 1000

Agents Wanted Everywhere

YUCCA MANUFACTURING COMPANY
1380 Willow Street Los Angeles, Cal.

Notice to Orchardists

Now is the time to plant your cover crops. Plant Vetch, Blue peas and White peas in sandy soils or where there is slight alkali. Plant Burr Clover or Foenugreek on heavy soil. Write us for prices and for any particular information you may wish.

Johnson & Musser Seed Co.
113 N. Main St., Los Angeles, Cal.

JAMES R. TOWNSEND
Solicitor of American and Foreign **Patents** Copyrights, Trademarks and Labels Registered. Rooms 428-433 Bradbury Blk. Los Angeles, Cal. Phones: Home, A4619; Sunset, Main 347

With the Citrus Growers

CLEANING CITRUS TREES.

The season for successful treatment of black scale upon our citrus trees is now at hand, and it behooves us all who have any such infection in our orchards to at once complete our arrangements for its extermination, writes C. E. Bemis in Covina Argus. In young and vigorous trees this pest seems already to have its young brood fully hatched out, and this will be true on the older trees by September 1.

So excellent has been the work of our best fumigators in this valley for the past few years that it is a rare exception to find it necessary to repeat the treatment yearly if done in proper season, although many of our most successful growers think it profitable to do so. All growers who did not have their trees properly fumigated for black scale last fall should see that they are disinfected this fall. Your horticultural commission (Los Angeles County) is proud of the fact that the citrus growers of this valley (with a few rare exceptions) have never required that coercive measures be taken by the board for the disinfection of trees, our growers being fully alive to the importance of the best up-to-date practices in citrus culture.

Fortunately Covina has no red scale to contend with. The few scattering infections of purple scale must be fumigated immediately, as their eggs are now ready to hatch. Unlike the black scale the purple can be destroyed in its mature stage including the eggs, so we should not invite the danger of the spread of this infection by allowing the eggs to hatch, as nearly all kinds of these scale pests can be spread only in their crawling stage, immediately after the hatch.

Now a word about the townsites. Your present commission has been greatly commended for its policy of requiring trees and shrubbery in townsites to be freed from scale pests or dug out. Although some owners have thought our action arbitrary, all have been more than pleased with the results so far. Covina, Glendora and Azusa are next in order, and all infected trees within the townsites must be treated this season, and in order to have the work done as cheaply and effectually as possible, one or more fumigators should be given all the work at once, so it can be done consecutively and before the large orchard jobs are begun, as no one can afford to break into large work to do here and there a townsite with a few tents. Nothing depresses your visitors more than the sight of unkempt townsite trees, particularly where the best citrus conditions are claimed.

Scutillista is unusually prevalent, and it seems as if nearly every old black scale shell is occupied by this fine parasite, or shows the aperture from which it has emerged, and many will presume that they have destroyed all the scale. But wherever much scale occurred last year you will find upon the leaves at this time great numbers of the young scale, especially along the mid-rib of the leaf. Could the scutillista have occupied the field one month earlier than it did, scarcely any of the young would have escaped the little footless maggot, as the larvae of the parasite can feed only upon the eggs of the scale.

The Tulare Packing Company has been organized and will engage in packing seeded raisins.

ORANGE TREE MOVES NORTH.

"Botanists in the employ of the United States Department of Agriculture hope to bring into being an orange tree which will be as sturdy as the apple tree, an orange tree that will not perish in the chill of northern winter, which in December will bear its wreaths of snow and in May its garlands of bloom, and when summer comes will yield fruit as good as that sweetened in the south sun.

"This may seem to be an unnatural proposition, but it only seems so. No violence upon the laws of nature has been or will be attempted. It is simply an effort to make the citrus tree which bears the sweet table orange as hardy and insensitive to cold as the citrus tree which bears the bitter, unedible orange. By crossing a citrus tree which grows in the north and which bears an unedible fruit with the citrus tree of the south, it is sought to beget a plant in which will be combined the good traits of each.

"Government botanists are confident that the results of this citrus marriage will be a scion that will grow and fruit at a latitude midway between the northern limits of the sweet and the bitter orange. If this should be there might be orange groves in central Virginia, middle Kentucky, southern Indiana, southern Illinois, central Missouri and central Kansas."

The above is from a California Exchange and may chronicle something which will happen, but we think not. California once had an ambition to grow pineapples and bananas. A few may be shown as curiosities but commercially they will never materialize. Our climate decrees otherwise. "You can't farm against Climate" is as true as when uttered. New Yorkers wishing to step out in the back yard and gather a few oranges or grapefruit for breakfast need not defer locating in California hoping for the "acclimatizing" of a semi-tropical fruit to that section.

A citrus tree may be bred which will stand the colder climate, as to tree growth, but we imagine the fruit will be about as luscious as an osage "orange." You can't grow luscious oranges without luscious climate.

CUBA'S ORANGE CROP.

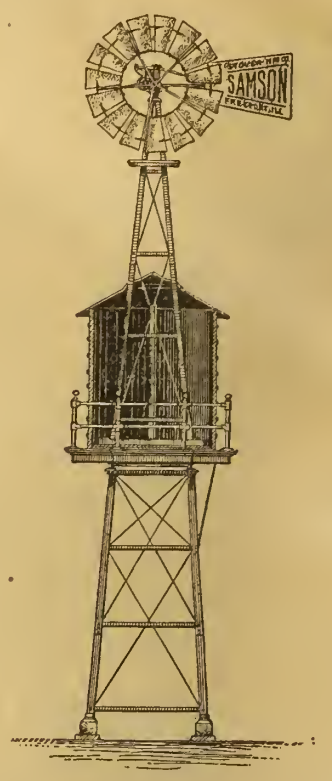
Consul Max J. Baehr of Cienfuegos reports that 500,000 crates is a conservative estimate of this year's Cuban orange crop, which will be the largest in the history of the island. Until a few years ago thousands of crates of oranges were brought to Cuba from Florida and California every year, but for the last three seasons these shipments have become less, and will possibly cease entirely within another year. Orange cultivation on a scientific scale did not begin in Cuba until about eight or nine years ago, and may be considered in its infancy, but is progressing rapidly, and even at this early stage is now in position to supply the local markets. The orange business on the island is controlled almost entirely by Americans.

The 35th Convention of the State Fruit Growers will be held in Sacramento the first week in December. Santa Cruz, Monterey and Watsonville aspired to the honor of holding the convention this year.

Prices of Tokay grapes have not been as satisfactory as they were last year.

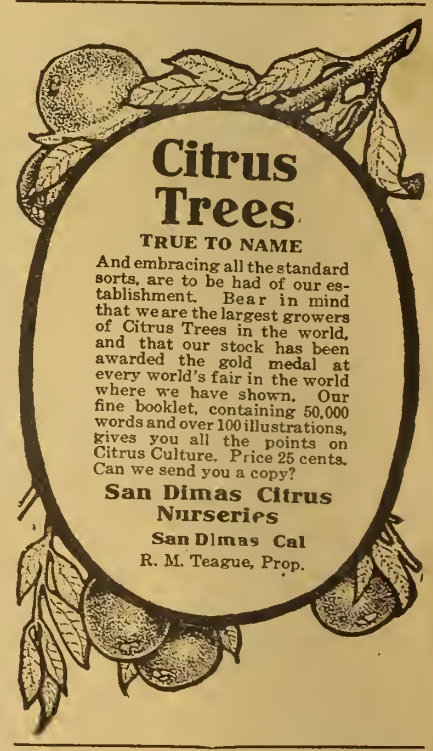
SAMSON WIND MILLS

Have double gears, removable bearings and center lift, which double the life of the mill. They will last longer, pump more water and give better satisfaction than any other WIND MILL.



This is an up-to-date Sub-structure, Tank and Wind Mill outfit complete; substantial, economical and attractive. We build all kinds. Write us or our general agents for full information and prices, description &c., before purchasing.

The STOVER MFG. CO.
FREEPORT - ILLINOIS
30 California Avenue
CRANE CO., LOS ANGELES and SAN FRANCISCO
General Agents for California



Citrus Trees

TRUE TO NAME

And embracing all the standard sorts, are to be had of our establishment. Bear in mind that we are the largest growers of Citrus Trees in the world, and that our stock has been awarded the gold medal at every world's fair in the world where we have shown. Our fine booklet, containing 50,000 words and over 100 illustrations, gives you all the points on Citrus Culture. Price 25 cents. Can we send you a copy?

San Dimas Citrus Nurseries
San Dimas Cal
R. M. Teague, Prop.

Covina Orange Groves

Buy an orange grove at Covina and live where you can have all the advantages of the city right at your door. This is the greatest orange section in California and is especially adapted to growing the Valencia Orange. These always net the grower from $2.25 to $4.00 per box. A small grove of Navel and Valencia Oranges will make you independent for life. I have some special bargains near the electric line that you will be interested in. Write me for particulars.

Jerome Reynolds - Covina, Cal.

Don't Wait Till Christmas

to make yourself and family a present of a Portable Billiard or Pool Table. Do it now! High quality, low cost. Used in any room. Best thing on earth for the home. Catalog?

C. Ridderhof, Laughlin Bldg., Los Angeles

Deciduous Fruit Culture

THE CONCORD WALNUT.

IT has taken many years to determine what varieties of walnut are best suited to California conditions. Southern California has had a practical monopoly in the production of this nut because certain selected seedlings of the early introduced Persian walnuts, from seed imported from Chili, have proved to be good bearers of an excellent market nut. Of these the Placentia Perfection is claimed to be the best, and the walnut groves of Los Angeles, Santa Barbara and Ventura counties are being largely grafted over with this variety. But like all of the type, it blooms early, making it liable to injury from spring frost and with a tendency to suffer from the walnut blight, a bacterial disease attacking the nuts and young growth early in the season, and before the weather conditions have become settled.

For the past sixteen or eighteen years government experts and later the Experimental Station pathologists, have studied the walnut in California with a view of suggesting a preventative, or remedy for this disease. The general conclusion arrived at, however, as gathered from the published reports, are simply and emphatically that the best, if not the only course to pursue, is to propagate by grafting and budding, only from those trees which are apparently immune from this bacterial disease, while being also prolific bearers of good, marketable nuts. Horticulturists of observation and experience, (among them the writer of this sketch) have long contended that this would be the only way out of the difficulty, and the discovery of the walnut here described is a realization of long deferred hope.

Its History.

Sixteen years ago, Mr. Geo. M. Wescott of Concord, Contra Costa county, bought an assortment of trees from the late Felix Gillet of Nevada City, who for a quarter of a century was the acknowledged authority on this Coast on nut culture. Among them was a "second generation" seedling tree of what Mr. Gillet called the "cluster" walnut which in time showed very marked individuality. This was seen in the heavy, luxuriant foliage, with rounded leaflets, and a disposition to bear early crops. The tree has proved to be a very heavy and regular bearer of those nuts which in the great markets of the world always command the highest price. They are large, almost round and smooth, a naturally clear color, well closed at the apex, and with a shell readily crushed in the hand, though not so thin that it would be broken in transportation. The meat has white skin and is of the best quality. It is distinctly of the Mayette or Grenoble type of walnut, the only type which in France is kept distinct as meeting in the fullest degree the requirements of the critical market. The Franquette, while also a standard variety, in France is not kept distinct as is the Mayette or Grenoble class. A glance at foreign market reports, as well as the testimony of investigators, is sufficient.

Mr. Ely I. Hutchinson of Concord owns one of the finest walnut orchards in Northern California. He has made the walnut a special study for years, and soon saw the peculiar advantages in the variety which we have named "Concord," grafting many native California black walnut trees with it. Mr. Hutchinson has Franquette, Mayette, Parisenne, Chaberte, Mayette, Placentia Perfection and other varieties in bearing, but of all these, none compares with the "Concord" as a money maker. The late Mr. Felix Gillet, in a letter to the writer, pronounced this nut the best of an assortment sent him, and, without knowing whence came these samples, he wrote that the sample which the sender knew as "Concord," marked with a number, was undoubtedly a seedling of his imported cluster, thus proving his keen knowledge and discriminating sense.

Its Special Value.

The California raised walnuts have so far been of the early blooming strain and peculiarly subject to attack by the walnut blight. On the other hand, the French varieties, produced in France after many generations of testing, by selection, and which are propagated there because adapted to the climate and producing also nuts of exceptional quality, in California, owing to our cool nights, are often retarded in maturing to such an extent that they do not ripen until they are caught by the rains in the early winter. The Franquette is particularly late.

The "Concord," growing among all other varieties for many years on Mr. Hutchinson's ranch, is practically immune to attack by the bacteriosis or walnut blight, does not bloom too early, like some of the Southern California varieties, and yet matures its fruit about the first of any, the hulls opening readily, allowing the smooth, white nuts to fall to the ground unstained, and requiring no bleaching. The tree has unusual vigor, its large, dark foliage being noticed a long way off, even when the tree is mixed in with other vigorous varieties.

No Seedlings Grown.

Mr. Hutchinson sells the nuts to the high-class trade direct; none of the nuts will be planted. The public therefore will not be offered seedlings, which, whether from Mayette, Franquette, or any other grafted variety, are seedlings still, and therefore absolutely unreliable. Nature occasionally offers a tree of exceptional vigor and which bears fruit or nuts of exceptional quality. These qualities are reproduced by budding or grafting from the original tree, but hundreds of thousands of seedlings may be grown before one is found producing fruit equal to that of the parent tree. All of the walnut orchards of Southern California were seedling trees until of recent years, when it was found necessary to begin the expensive work of grafting over the old trees. It will be so wherever seedlings of the Franquette have been planted.—Leonard Coates, Morganhill.

CLING STONES SCARCE.

The scarcity of the midsummer varieties of cling stone peaches such as the Orange, California and Sellers, is causing some uneasiness among the canneries in this section. In fact, in some instances the canneries have been compelled to close down temporarily until the peaches come in, or in other words, the canneries are working on part time so as not to work out the supply. The Gridley cannery has been compelled to close, the Chico cannery is running on half time, and the Marysville cannery of the California Fruit Canners' Association is working on part time as a result of this shortage.

Over in Yuba City the canneries are putting in full time, but are doing so because of the ability to get sufficient quantities of free stone peaches to fill in the gap. If the free stones should run out and the clings fail to put in an appearance as they are expected to do, there will be a compulsory suspension. None of the employes of the canneries have been laid off, but the emergency is met by working shorter hours.—Marysville Appeal.

Placer Nurseries

We have now growing for next season's delivery a large stock of all leading varieties of trees and vines. We propagate only the best commercial sorts. Our trees and vines are the best that good care can produce and in their selection, propagation and growing we spare no labor or expense; and they are true to name. That is what you want.

Contract now the trees and vines you will want for next season's planting.

Write us.

Silva & Bergtholdt Company

Newcastle, California

TREE TANGLEFOOT

A Sticky Preparation Applied Directly to the Bark of the Trees

Will not injure trees. A band 5 inches wide and 1-16-inch thick cannot be crossed by any climbing insect pest. Remains sticky five to ten times as long as any other known substance. You can test it at slight expense, as no apparatus is required. Used by the carload in New England against the Gypsy and Brown-Tail Moths. In California it preserves prune orchards from the Canker Worm. Wherever the Gypsy or Brown-tail Moths, Tussock Moths fall or Spring Canker Worm or Web Worm appear TREE TANGLEFOOT is of great value, and should be used when the caterpillars begin to crawl while they are very young.

Price 25c per lb. Liberal discount on quantities. The only safe and effective banding preparation. Send for testimonials.

THE O. & W. THUM COMPANY

Manufacturers of Tanglefoot Fly Paper — Grand Rapids, Michigan

GOPHER DOPE

Gophers destroy annually a large per cent of the crops, trees, lawns, etc., and they are a great nuisance to land owners all over the country.

The Gopher drives burrows or tunnels of very great extent and wherever it gains admission into a garden it works much damage to the roots of the plants. Every root that crosses the tunnel the Gopher will eat and not only herbs and flowers but even fruit trees of many years' growth have been killed by this destructive animal. In such cases the extremity of the tunnel is always to be found among the roots of some tree, which acts at the same time as a defense and a larder, for the Gopher hides itself under their protection and eats away their tender shoots.

A great many things have been devised to exterminate this pest with some success. Gopher Dope works on a different plan. It is in a powdered form and about one-quarter ounce placed well down in each hole and also in the run ways will soon rid the place of gophers. It gets in their eyes and pouches and on their feet. They track it through their tunnels. They will not stay where it is used. It will not harm domestic animals or fowls. It must be used thoroughly and systematically, the Gopher given time to work in it and any new holes thoroughly treated. If this is done you will soon find the place free from them.

Do not irrigate for one week after the dope is used.

Gopher Dope is sold in 50c, $1.00 and $4.00 tin cans, and is for sale at grocery, drug and hardware stores, also at feed yards, and is absolutely guaranteed or money refunded.

Free on board cars at Los Angeles. Live agents wanted in every county.

Yours very truly,

B. & G. Disinfecting Co., 415-417 Laughlin Bldg., Los Angeles, Cal.

Home Phone A 9089

WILLIAMS' GOOSE-NECK CULTIVATOR

Especially adapted for citrus orchards. Sizes 8 to 14 feet. Lightest draft. Free trial to responsible parties. No agents. You pay only one profit. Write today

WILLIAMS & SON, Manufacturers

Orange, California

TENTS

Fumigating and Lemon Curing Tents our Specialties

Irrigating Hose, all sizes. Prices and Samples quoted upon application. Write your wants Wagon Covers, Hay Covers, and Canvas Covers of Every Description.

Mellus Bros. & Co

Phones—Home, F 4871; S. S., Main 3500
250 East Fifth St., Los Angeles, Cal.

ARNOTT HARNESS $10.00 to $80.00

Everything guaranteed. Money back if not satisfactory. Factory in Los Angeles. California leather for all uses. Send for No. 10, eighty page FREE Catalogue.

ARNOTT & COMPANY 112-118 So. Los Angeles St. Los Angeles, Calif.

When writing advertisers, mention Cultivator.

Malthoid Roofing

Mr. A. L. Baird, Gen. Mgr. Princes Court Propietary, Limited, Melbourne, writes as follows: "I have much pleasure in informing you that the Malthoid lining of our Chute Lake has proved, after three months' severe testing, highly successful, and, as far as I can judge, is entirely watertight, the only loss of water appearing to be from evaporation and splashing."

The Paraffine Paint Co. San Francisco California

E. G. Judah, General Representative, Security Bldg, Los Angeles

PLOWS AND SEEDERS

Ranchers, don't forget that we are headquarters for the **Fosmir Plow** and extras for same and also the **Shaw Stockton** and **Madison & Williams Stockton.** All the extras in stock for above plows. Also **Pacific Seeders.** A postal card will get you any of the above articles at the right prices.

Los Angeles Vehicle and Implement Co. 110 and 112 North Los Angeles Street Los Angeles, California

Crimson Winter Rhubarb

$1.50 a Dozen $6.00 per 100 $40.00 per 1000

Now is a good time to plant. Pedigreed Stock.

Fruit Trees and Berry Plants of All Kinds

J. B. Wagner, Pasadena, Cal.

The Rhubarb and Berry Specialist

Dept. F

The Barker Portable Cottages Bungalows, Garages, Tent and Poultry Houses

These houses are correctly built of selected material and are so different from the ordinary portable houses as the aim has been to make them look like a permanent structure built on the ground. They have stood the test of years and are conceded by experts to be the best, cheapest and most practicable portable house made. Please investigate before purchasing or building. We also manufacture sanitary poultry houses of our own designs. Write or call at office and factory, corner of Topeka and Alameda Streets, Long Beach car line.

Pacific Portable Construction Company **Los Angeles, Cal.**

When writing advertisers, mention Cultivator.

STATE FARMER'S INSTITUTE

Continued from Page 363.

Creamery Building.

The creamery building is now filled with machinery and is working on a regular commercial output of butter. The vats and appliances are there for making cheese, but none has as yet been manufactured. This is said to be one of the most complete creameries in the state and fitted in every way to turn out a high grade of commercial butter. This is being sold in the open market and at the same time it gives opportunity to the young men who are taking the dairy course to see the practical production, which now amounts to about 250 pounds daily.

The upper floor is given up to lecture rooms and offices, also a laboratory where the student, each with his own locker, is provided with apparatus and a table for his own particular use. The Babcock test and other experiments are performed in this room.

Below is the engine room with its 40-horsepower boiler and 20-h. p. engine. There is also an electric motor, and later will be installed a gasoline engine in this room. This providing of the three kinds of power is not for security so much as to have the different powers there for educational purposes with the students who will wish to know the manner of handling the various kinds of power generators.

In this room is also an 8-ton ice machine connected with the cooling rooms adjacent. There is cold storage for butter and cheese. In the main room are a number of separators of different makes and sizes, starter cans, cream ripener, churns, etc. In an adjacent room are cheese vats, presses, in fact, it is fitted for the complete instruction of students in all pertaining to butter and cheese making. Adjacent to this building is the octagon-shaped live stock pavilion, its tanbark arena surrounded by elevated seats, a view in which may be seen on this page. The purpose of this building is the holding of just such institutes as this has been, or meetings of like nature, also for a demonstration room in live stock judging.

Two cottages have been built, one for the use of Director Anderson and the other for Butter-maker Hageman.

The Farm.

The farm consists of 780 acres almost all of which is first-class valley land, chiefly a sandy loam and very productive. Most of it has been grain farmed and much of its humus at the surface exhausted, but this may be readily replaced and put in magnificent condition. It has an irrigation system with rights in the Yolo Consolidated Water Company, but this has proved to be of no value this dry year, as the supply has been so short that it is has not reached the farm at all.

The farm is divided into sections, a part of it being devoted to alfalfa production, others to cereal experiments and investigations, others to horticultural and viticultural departments, others to sugar beets, legumes, etc. One interesting lot of experiments consisted in irrigation tests. Part of this was the lining of ditches where excavations had been made in form like a large irrigating ditch. The first was left natural, as dug in the ground; another puddled and packed with clay; another with an oil coating; another with cement washed over the natural dirt; still another with grout or concrete surface. These, together with cost of production and maintenance and saving of water in each, will give a series of tables which will afford valuable data for the irrigation ditch builder. Other experiments are designed to show amount of evaporation from the surface of the soil under different treatments.

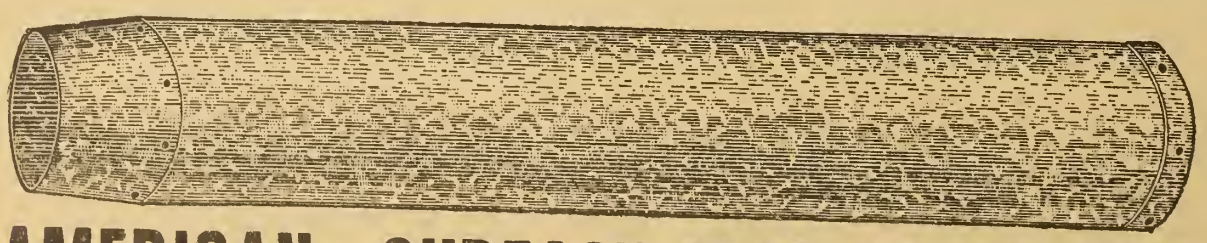
The cereal experimental plat has shown by far the greatest apparent progress; at least the most practical results were exhibited at the institute of the work of this one division. Prof. Shaw in charge with Mr. Gaumnitz, assistant, made a fine showing of the test grains, together with sheaves of the grain in the head. These experiments are calculated to show California farmers a more desirable variety of wheat, of barley and of oats than they are now growing. One variety, the Chulz, introduced by the University, is proving remarkable worth under California conditions. With the ordinary culture as given to California cereals in field production, this variety has shown a production of 51 to 63 bushels per acre. That is, we may say, with the ordinary field production, excepting that with this the ground was plowed to a depth of 8 inches and put in the best of tilth before the seed was sown. There was, however, no fertilization or irrigation, and some of the good results were obtained on land which has been used for years for the production of wheat. No distribution of seed will be made this year, though it is anticipated that another year the University will have several hundred bushels for distribution among farmers who will give it a thorough test.

Horticultural Plat.

Professor Clarke, in charge of horticultural and viticultural investigations, made a planting this season of several acres of deciduous fruits and of vines. Owing to the failure of the water supply the results are very unsatisfactory, especially with the vines. Most of the trees have lived and some show an excellent year's growth. A large portion of the vines have died or at least are making but indifferent growth. An old vineyard on the place at the time of its purchase has been retained and will be used in the experimental work. Part of this vineyard, which was badly infested with Phylloxera, has been grubbed out.

Several sections of the farm are blest with a good, healthy infestation of wild morning glory and will give ample opportunity for investigating methods of its eradication.

The Napa Canning Company has closed its cannery for the season. No tomatoes will be canned owing to overstocked condition of market.



AMERICAN SURFACE IRRIGATION PIPE

SAVES WATER, GRADING AND TIME

The **only** way to **Irrigate Alfalfa. Cheaper** than **Flumes.** This is only **one** of our **specialties. We make Riveted Water Pipe** in lengths of **ten feet** from **single sheets.** Let us **prove** to you that **we make Pipe and Tanks right.** WRITE FOR CATALOGUE.

AMERICAN STEEL PIPE & TANK COMPANY

FORMERLY TALLERDAY MANUFACTURING COMPANY

636-7 Pacific Electric Building Los Angeles, Cal

INSTITUTE NOTES.

The students taking the dairy short course made a neat appearance in their white suits, which they are compelled to wear in their work in class room and creamery.

There are about twenty students taking the dairy short course and it is expected the other short courses will bring many more students to the farm.

The cottage erected on the farm for Director Anderson is not exactly palatial but withal a very comfortable little home.

One interesting experiment to be performed by Prof. Shaw and Mr. Gaumnitz is the bringing to California of soils from wheat lands in Kansas and Virginia. These soils are to be placed in pits in the cereal experimental plat, also another pit to be treated with California soil in identically the same manner, all three deposits then to be seeded with California grown seed. The object of this experiment is to determine whether it is California climate or soil which affects the milling quality of the wheat.

It is to be hoped that President Wheeler's wish to have a rolling Farmers' Institute conducted from a special train furnished by the Southern Pacific Company will materialize. The idea for this institute is for it to start at the extreme northern part of the state and take in many sections to the Imperial Valley.

Professor Major was in attendance but much the worse for getting in too close touch with one of the horses belonging to the Animal Industry Department of the College. He was "touched" so effectually that a cane was necessary to graceful movement.

California held 88 institutes last year at which there were 294 sessions with about 28,000 attendance. At these institutes there were about 24 lecturers and 90 volunteer speakers. The demand for these institutes is greater than the University Extension can supply.

The ladies of Davis reaped a harvest in putting up meals for the Institute attendants.

The Grange in session at Sacramento furnished an exceptionally large attendance on the opening morning. Members were present from nearly all sections of Northern and Central California. There are 35 granges in this state and five Pomona granges. They average about 80 men to each grange.

In beginning his speech Judge Shields, who is running for office this fall, apologized for his speech, saying that owing to conflicting reports regarding his success and failure, and charges often made against him, he had been unable to work his brain along agricultural lines, his hair getting all the exercise from rising and falling as reports favorable and unfavorable reached his ears. After listening to the paper the delegates generally concluded that his hair exercise brought forth fine results.

One of the pleasantest features of the last session of the Institute was an extempore talk by Professor I. P. Roberts, formerly of Cornell University. Professor Roberts talked on the need of humus in the soil and the wastefulness of California farmers in permitting many sources of humus to be dissipated by carelessness. Professor Roberts talks from expert practical knowledge as well as technical. He is author of "Fertility of the Land" and other books on farming subjects.

Professor Jaffa showed by his admirable presentation of work done by his department that many adulterated or mislabeled products had been cut out of California markets. Butter makers who had mislabeled their rolls of butter by stating that they contained a full pound, whereas they were several ounces short, were permitted to pay a fine of several hundred dollars to square the deal. The product most generaly adulterated and in which the greatest benefit has occurred is that of confectionery. A greater number of adulterations have been found along this line than any other.

Professor Shaw has 40 acres in many plats devoted to experimental wheat growing. These plats were planted last year to 63 varieties of wheat.

Professor Major was chairman at the Animal Industries Session and also made an excellent talk on the hopes and aims of the University along the lines of animal industry.

Professor Major spoke of his having attended the fairs in the central part of the state, especially at Tulare, six years ago and again this year. He said the stock exhibited now was vastly superior to that exhibited when he first came to the state. This improvement he maintained came from better knowledge of the good points of stock in which the farmers are educating themselves.

It is hoped that when the barn troubles are over on the Farm that a good supply of dairy cows will be installed and that hogs, sheep, beef and other stock will be added.

One point made by Professor Major in his address was that there were some animals with an exceedingly fine pedigree and at the same time an exceedingly poor animal. The farmer must be able to judge of the animal as well as the pedigree.

W. H. Saylor of the State Dairy Bureau gave an excellent review of the work of the Bureau in enforcing laws affecting dairies and creameries. There are about 6000 dairies in this state of which the means at command of the Bureau were so meager that but very few were inspected.

EUCALYPTUS SEED

Eucalyptus rostrata, the Red Gum
E. corynocalyx, the Sugar Gum
E. tereticornis, the Forest Red Gum
E. globulus, the Blue Gum
E. citriodora, Lemon-Scented Gum
E. cornuta, the Yate Tree
E. polyanthema, the Red Box
E. leucoxylon, Victorian Iron Bark
and Many Other Valuable Sorts

I shall be pleased to correspond with prospective buyers and give particulars as to prices on the seeds I am offering. Trial packets of any variety 15c each, 2 for 25c, or twelve for $1.25. Also young trees of many varieties for sale. Send for circular and cultural directions.

THEODORE PAYNE
NURSERYMAN AND SEEDSMAN
Home Phone A2480
345 S. MAIN ST., LOS ANGELES

Eucalyptus

We have made a specialty of eucalyptus for the past ten years. We are no mushroom concern. We are prepared to accept contracts for raising eucalyptus for next season's planting. Take advantage of our **Low Prices on Contracts. Do It Now.** Twenty of the leading varieties to be seen at our nursery.

Saint & Warner
Sycamore Grove Nurseries
4584 PASADENA AVE., LOS ANGELES

Australian Eucalyptus Seed

Our Mr. R. S. Webb (a native Australian) has just returned from that country with seventeen varieties of Eucalyptus seed, comprising the varieties that have been tried in Australia, and each variety is the best for the particular purpose for which it is used, or for the particular soil and climatic conditions where they grow.

The following are some of the varieties of Eucalyptus trees preferred by the lumbermen and manufacturers of Australia:

1. Iron Bark (Panniculata)
2. Microcorys (Tallow Wood)
3. Black Butt (Pilularis)
4. Turpentine (Syncarpis)
5. Resinefera (Mahogany)
6. Tereticornis (Red Gum)
7. Saligna (Blue Gum)
8. Corynocalyx (Sugar Gum)
10. Spotted Gum (Maculata)
11. Jarrah (Marginata)
12. Sideroxylon (Iron Bark)

We will have trees of the above varieties for sale about February 1st.

JOHNSON & MUSSER SEED CO.
113-115 N. Main St. Los Angeles, Cal.

For the Season of 1908-09
We Shall Have to Offer
Pedigreed Fruit Trees
SEVERAL NEW FRUITS AND NUTS OF IMMENSE VALUE TO CALIFORNIA
Eucalyptus Trees
BY THE 1000 OR 100,000
NO BETTER STOCK GROWN
Please send us your name and address, and you will get all particulars.
Leonard Coates Nursery Co. Inc.
Morganhill, Santa Clara Co., Cal.

100,000 Eucalyptus Rostrata
FOR SALE
For Early Delivery. Contracts Solicited.
Covina Floral Nurseries
P. O. Box 545 - Covina, Cal.

Eucalyptus Rostrata
Seed for sale $2.50 a pound, delivered
Fresh Choice Seed.
Encenitas Floral & Produce Co.
Encenitas, California

EUCALYPTUS
Growers of Commercial and Ornamental Eucalypti
EKSTEIN & EKSTEIN, Modesta Euc. Nursery, Modesta, Cal.
EKSTEIN BROS., Vignolo Euc. Nursery, Anaheim, Cal.

EUCALYPTUS TREES

LARGE ORDERS SOLICITED

We can make you enticing prices, if order is placed now.

Our process of balling trees into the boxes insures a large percentage of live trees when planted in the field.

Orange County Nursery & Land Co.
Fullerton, California

TREES

Season 1908-9

Order Now for Future Delivery

If your trees are purchased from the Fancher Creek Nurseries they will be true tc name well developed, with good roots.

FOR 25 YEARS we have been engaged in growing reliable nursery stock. Our thorough knowledge of every branch of the business makes it possible for us to raise and deliver stock that meets the demands of this country, and gives satisfaction to growers.

Last year we did the largest business in our history. This year our stock of

Deciduous, Citrus and Ornamental Trees, Grape Vines and Rose Bushes

is more complete and better than ever.

We are sole propagators and disseminators of

Luther Burbank's New Creations

Valuable Burbank Booklet illustrated in colors mailed for 25c.

SALESMEN WANTED

PAID-UP CAPITAL $ 200.000.00

FANCHER CREEK NURSERIES

INC.

Geo. C. Roeding Pres. & Mgr.

Box 12 Fresno, California, U.S.A.

SEED

We are now in our ***New Store*** and are able to serve you better than ever before. All seed ***Fresh*** and ***Full of Life.*** If you have had trouble with poor seed try ours and be satisfied.

We are headquarters on ***Eucalyptus—Trees and Plants*** — 6 pkts. of leading varieties, 50c postpaid.

Full line of Trees and Plants.

Morris & Snow Seed Co.

425 So. Main St., Los Angeles

Improved Berry Plants

Bred for Big Berries

We are NOT in the berry business but make a speciality of propagating strong healthy plants for the home garden or commercial plantation. We help our customers to succeed. EVERY order receives our special attention. Our catalog tells the rest.

G. H. HOPKINS & SON

Burbank, Cal.

Pacific Seed Co.

C. Bagnall, Prop.

GROWERS AND IMPORTERS OF

Grass, Vegetable and Flower Seeds

All Kinds of Bulbs and Onion Sets

609 J St., Sacramento, Cal.

Send for Catalogue. Please mention Cultivator.

SEED GRAIN

Black and Red Oats, Wheat, Barley, Bean Screenings, Etc.

constantly on hand and for sale at lowest market rates

Bray Brothers Buyers of Grain and Beans Members Merchants Exc.

220 Clay St., San Francisco, Cal.

Established in 1855. Correspondence Invited.

Small Fruits and Vegetables

LIMA BEANS.

THE improving of lima beans was discussed at the recent Wintersburg, Orange county, Institute. At that time Dr. G. A. Shaw said, as reported in the Santa Ana Register:

"To improve the quality and increase the quantity of the yield per acre of beans from year to year, nothing is more important than the careful selecting of seed. Plant seed from your own locality, for it has become acclimated. Imported seed may not do well upon your land. For planting do not be contented with any seed that comes from the thresher. Your seed should be selected before the plants are cut. Usually farmers want beans that mature quickly, as these can be harvested before the early rains. Go over your field as the plants are ripening; you will find that some plants ripen and are ready to cut a week or two before others; from among the earliest to ripen select your seed. Choose those plants bearing the largest number of pods and the most beans to the pod. Harvest and thresh these plants separately, thus insuring the very best of seed for your next year's planting. This process may appear tedious, but it will be found to increase your yield 10 per cent.

Seed Selection.

The same method of careful seed selection is of great benefit, Dr. Shaw said, to the cereals also, and cited several instances where it had met with great success. "A careful selection of your seed will make a difference to any man, on any ground, in any year, of from two to four bushels per acre. In Vermont, where the most careful selection of seed has been practiced for many years by the growers of cereals, the average crop is 25 bushels to the acre, while here in California, where it is but little followed, 13 bushels to the acre is a fair average."

Dr. Shaw also cited conditions in Minnesota, where the careful choosing of seed and intelligent methods of culture had increased the yield of cereals to the value of $6,000,000 per annum, at an added cost of production of about $20,000. In Illinois, the same methods applied to corn have increased the yearly yield about $12,000,000.

Crop Rotation.

Dr. Shaw also spoke in praise of rotation of crops, and commended Mr. Hazeltine's plan of planting beets, beans and celery in successive seasons. After Dr. Shaw had finished his lecture he invited questions relating to the topic under discussion from anyone present.

"Are large beans the best seed?" was asked.

"Not necessarily," was the reply. "Large beans may have grown on a small, weakly vine with but few pods and few beans to the pod."

Another question asked was, "Do different varieties of beans mix?"

"To some extent," was the answer, "but not much."

"How many pounds of seed should be planted to an acre?" was a question.

"There is no fixed rule," Dr. Shaw replied. "Poor soil should receive more seed, the rows to be about three feet apart."

Another question was, "Will beans ripen quicker if planted more thickly?"

"No," was the answer; "a too thick foliage tends to keep beans green longer."

THE SUNFLOWER.

Helianthus—the sunflower—is a genus containing about fifty species of annual and perennial herbaceous plants, the whole of which are found native in America, the majority occurring in North America. Most of the species and their varieties are tall growing plants, producing large flowers yellow in color in their ray florets, the disc florets varying in the different varieties. The annual kinds are well known and popular garden plants of easy culture and ornamental value; among them are many improved forms, of which the miniature sunflowers are possibly of most value, producing as they do, quantities of flowers of moderate or small size that are very effective in the garden beds and useful for decorative purposes as cut flowers. Among the perennial kinds are many that are worthy of cultivation in any garden, the later raised florists' varieties being especially fine. Double and single forms exist in both the annual and perennial types, and although the color of the flowers is uniformly yellow there is a deal of variation in the different groups or varieties.

The common sunflower (Helianthus annuus) is a plant of considerable economic importance and is largely cultivated in Europe, Asia and America for its seeds. According to the Agricultural Ledger, 107, No. 1, an area of 216,000 acres is devoted to sunflower culture in Europe alone, the average return being roundly stated at about 50 bushels of seeds per acre. In Russia, where the sunflower is most extensively cultivated the seeds are eaten, raw or cooked, or used for the extraction of oil which is said to be excellent for table use, and may be substituted for salad or olive oil for all domestic purposes. The seeds are also of considerable value as food for birds, and are largely used in America for fattening poultry. The oil cake which remains after expression of the oil forms a valuable cattle food, being of great nutritive value and easily digested, while the leaves and stalks also possess highly nutritious properties.

From data derived from experiments and analyses of the plant it is evident that the sunflower requires a fertile soil, and that during cultivation it is also necessary to maintain the fertility of the soil upon which the plant makes considerable drain.

Soil and Culture.

Any fair garden soil is suitable, if well and deeply worked and manured Although the sunflower is a plant that will thrive fairly in poor soils, and with a limited supply of moisture, it is found that a moderate supply of manure and other good cultivation, to conserve moisture, or irrigation, is necessary to obtain maximum results. The soil for the reception of the annual kinds should be prepared some time prior to the season for sowing seeds in spring. The soil should be finely broken and divided before sowing, and the seeds sown at a depth of about two inches. The tall varieties are suitable for growing in masses at the back of large borders, while the miniature kinds should be alloted positions suited to their height—about two feet. Seeds of the miniature sunflowers may be sown in clumps, allowing six inches for each plant, but the larger varieties should receive much more room—one foot between the plants at least.

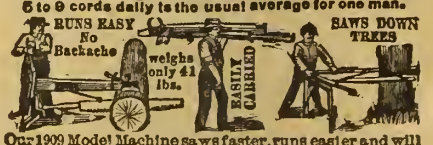
The herbaceous kinds are propagated from divisions of the old plants and from seeds. Seeds should be sown in spring and the young plants be set out as soon as ready to handle, to insure a fair season of growth before the blooming season. Divisions should also be planted in spring, the plants blooming so late into autumn that dividing at that time can only be done at the expense of the crop of flowers. Established plants should be divided and replanted into fresh soil in alternate years; if allowed to remain longer, the shoots become crowded and small and the blooms inferior.

One thousand bales of hops were sold to one party at Yakima, Washington, last week. Part of these were 1907 crop, which went at 3½ cents. The '08 crop is said to have commanded about 7 cents.

SAWS ANY WOOD IN ANY POSITION ON ANY GROUND 4 Into 5 ft. Through

1 Man with a Folding Sawing Machine **Beats 2** MEN with a Cross-cut Saw

5 to 9 cords daily is the usual average for one man.



Our 1909 Model Machine saws faster, runs easier and will last longer than ever. Adjusted in a minute to suit a 12-year-old boy or the strongest man. Send for catalog showing latest improvements. First order gets agency.

Folding Sawing Mach. Co., 158 E. Harrison St., Chicago, Ill.

The Monarch Stump Puller

The Monarch is a Puller constructed on the most correct and scientific principles, and is made of the strongest and best materials obtainable.

The Monarch

Is the most successful and most popular Stump Grubber on the market today.

Write Us for Catalogue of Stump Pullers, Farm Implements, Wagons and Vehicles.

Pacific Implement Co.

133-153 Kansas St. San Francisco

300,000 Berry Plants

Perries of all kinds, Fruit Trees, Roses, Oranges, Lemons, Seeds, Etc.

Send for the most descripted Berry List on the Coast. FREE.

A. Mitting

Lock Box 380 Santa Cruz, Cal.

Burr Clover

Recleaned, Hulled Burr Clover Seed

Quotations for Any Quantity Upon Application.

Canada Field Peas

E. L. Koethen Riverside Cal.

Purposes of University Farm

Address of Welcome at Annual Farmers' Institute, 1908, by Leroy Anderson, Director of State University Farm.

ONE year ago you were invited here to participate in the dedication of this Farm—to dedicate it to the purposes for which it was established—for the improvement of California's agriculture through the instruction and development of California's sons and daughters. Today you are invited to participate in the beginning of that instruction and that important development which shall grow and increase in beauty and fruitfulness during the years to come, and long after we, who have seen its beginning, are known no more among the living.

You are fortunate indeed to be here today to witness and to be a part of the commencement of an enterprise fraught with so much of good and of permanent value to our young manhood and womanhood. Some will tell you that the first object of this Farm is to improve California agriculture. That is one object, but how is our agriculture to be improved without first improving the men and women who are engaged in that agriculture? It is a true and accepted fact that no one can study agriculture without becoming improved in heart and soul, for no man or woman can come truly closer to nature without growing daily to be a better being. So let us look at this Farm as not so much land or so many trees or vines or horses or cattle or buildings or machinery, but let us look through them all and see what they all mean in building up the youth of our state—in making better men and women of your own sons and daughters.

You are seeing the beginning of one of the lines of instruction undertaken by the University at this Farm—that for adult farmers who are too busy in their every-day work to spend more than a few weeks away from home. On Tuesday morning of this week at eight o'clock, work began in the eight weeks course for creamery operators. More than twenty young men are now wearing their suits daily engaged in the various parts of a modern butter and cheese factory, and learning more of the science of it all than they had before dreamed was possible. Visit the creamery and watch the work going on.

On Monday next two more farmers' courses begin—one in Poultry Husbandry, continuing for eight days, and one in General Agriculture, lasting for three weeks. Some thirty men and women have signified their intention of registering in these courses, but the women are all with the chickens, and I am glad to say that the percentage of women is not small. The course in general agriculture is one that the general farmer needs. It includes irrigation, theory and practice, a study of soils, forage crops, growing grain and sugar beets. Many of you ought to remain and begin these courses on Monday.

Wednesday the 21st of this month will see the opening of the four weeks' course in Animal Husbandry and Veterinary Science. The schedule contemplates one week's study each on dairy cattle, beef cattle, horses and mules, and sheep and swine. A number of animals will be loaned by various breeders for this work to supplement the stock owned by the University. Study of breeds, breed characteristics, judging animals, and treatment of common ailments and injuries are among the interesting things inviting to the stockmen and farmers.

The day after election in November begins the three weeks course in Horticulture and Viticulture. Those engaged in the culture of fruits and vines cannot afford to miss this course, for every phase of the industry, so far as possible in so limited a period, will be touched upon by men and women who have been successful in the business. Propagation, planting, pruning, irrigation, harvesting, packing, marketing, insect pests and plant diseases will all be treated in a practical manner.

These five short courses are what the University is offering immediately for the busy farmer. About ninety have already sent in their applications for one or more of these courses, and I am expecting a total enrollment of two hundred before they are ended. Sometimes I get my figures too high, but there is one instance in which I never do. That is when making estimates for appropriations from the legislature. They are never too high and are always for just what is actually needed.

These farmers' courses mark one mile post along the road leading to the many points at which this Farm is to come in touch with the heart of the farming community, and there should be at least two hundred who shall take advantage of them. It may be that some of the courses are not long enough and that some are too long. We want a frank expression from those who attend as to what you think about it, so that there may be an improvement next year.

In January next we shall touch two more mile posts in this scheme of instruction. That is when you may send your sons of fifteen or more for a course of three years' study. We will give them instruction in a few academic subjects such as English and Mathematics and Civics and put them through the most approved course today known in agricultural schools. We will give them theory and practice in all the lines of agricultural activity; from milking a cow and filing a saw, to planning a barn and irrigating a field and making prize butter and cheese, horses and cattle. I know of no course so absorbing and interesting, nor so powerful in developing what is best in a boy than one like this.

The second of these two January, 1909 mile posts is the transplanting of Juniors and Seniors from the college at Berkeley to the soil at Davis. They are to have here the practical work which the college cannot give them at the University center. These men are to go out as teachers of thought and action in agriculture communities, and it is very important that they know the side of agriculture which they can obtain only on a farm like this.

The usefulness of the Farm in this particular cannot be overestimated. That experimentation will be conducted here, goes almost without saying. That is what the broad acres are for, and for producing the food the stock will need, and a big laboratory for all the students. Good instruction is not possible without scientific experimentation and investigation, and the Farm may be expected to furnish some of the best in the land.

I have been giving you dates of the beginning of three important branches of activity here, and I wish I might be exact about the time of beginning what I count even more important than any yet mentioned—work for women. It is to be regretted that women's work could not have begun at the same time with men's, but financial difficulties, chiefly, rendered it impossible and impracticable. If the legislature of 1909 does what we expect it to do, the dates for this can be announced when you come next year. This work is also for the busy housewife and for her daughter. Household science has so developed in these later years that full four year courses in college are given herein, besides short courses for busy women and long courses for girls of high school age. Possibly next fall we can offer a short course in household science for farmers' wives. This is the companion piece to the short courses for farmers which are taken chiefly by men, but to which women are welcome. The course for girls is a companion to that beginning next January for boys. The girls are taught the same essential academic subjects and, in addition, sewing, cooking, millinery, home management and sanitation, chemistry, botany, gardening, dairying, poultry and much else that is good.

I am sure you will agree with me that this is a future that is big in many ways and a big work for the University to accomplish here. On the walls of the pavilion you will see a drawing of the buildings contemplated for fulfilling this plan. If our plan for women's work comes to fruition, there should be a second group of dormitories—these for girls. The two groups will accommodate 500 pupils—a number of regular attendants not too great to be expected inside of ten years, which may be as soon as we can secure all the buildings shown. In addition to these are the barns for horses, sheep, swine, cattle and poultry which will spring up in the region of the dairy barn.

In welcoming you to all this and its beginning, the best we can hope for you is that you may take time to wander over the farm and dream a little of its possibilities; and in the wandering and dreaming be filled with some of the loyalty we feel for the great institution here represented, and with some of the enthusiasm we feel for its future; an enthusiasm borne of a proper conception of the largeness of the enterprise, a proper conception of all that it means of progress in the agriculture of California, and a proper conception of its power to develop the manhood and womanhood of California.

OLIVE OIL IN SPAIN.

Consul-General Frank D. Hill discusses the present status of the Spanish olive oil trade in the following report from Barcelona:

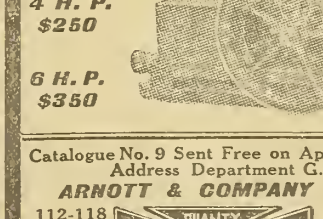
As a protectionist measure, the olive growers of Andalusia are petitioning the Central Government to prohibit the sale in Spain of all foreign oils, whether produced from oleaginous seeds or otherwise, likewise the sale of all oils mixed with olive oil.

Olive growing as well as vine growing and the cork industry are three Spanish industries that are in a high degree of productivity. Exports of olive oil reach about 18,000,000 to 20,000,000 pesetas (about $3,100,000 to $3,450,000) annually and in years of large crops twice those amounts. The oil does not, however, reach consuming markets directly, but is shipped from here to France and Italy—the largest foreign consumers—where it is refined, elaborated, and mixed with other oils and adapted to the demands of consumers in other countries. Formerly these countries took about two-thirds, at present about one-half, of the total exportation. Antiquated methods of extraction are now giving way to modern, and it is hoped that the tribute hitherto paid to French and Italian middlemen may be hereafter avoided and that the Spanish producer may by so much reap a larger reward for his work

Apple growers at Alviso, Santa Clara county, have formed an association known as the Santa Clara Apple Growers' Association. The association has already purchased eight cars of shooks with 6000 to the car. Some orchards will run as high as 1000 boxes to the acre.

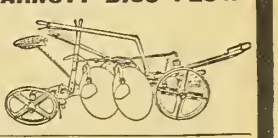
EVERYTHING FOR THE FARMER

ARNOTT ORCHARD CULTIVATOR



Acknowledged the BEST
Five feet wide.
Spring teeth if wanted.
Horizontal lift, No neck weight.
Steel and Malleable Iron. Dust proof wheels..... $45.00

SANDERS-ARNOTT DISC PLOW
SINGLE $60.00
DOUBLE $80.00



COLUMBUS WAGONS

Three inch Skein.
Four inch Tire. Brake and Pole.
$80.00

PACIFIC ORCHARD TRUCK

3¼x10 Skeins. 28x30 in. wheels..$32.50

LEATHER TRIMMED

Guaranteed Twelve Months
$65.00

MONITOR WINDMILL

8 ft $30.00
10 ft..... $45.00
The New 8 and 10 Foot MONITOR

MONITOR ENGINE
Simple Economical
2 H. P....$130
4 H. P. $250
6 H. P. $350

Catalogue No. 9 Sent Free on Application
Address Department G.
ARNOTT & COMPANY Inc.
112-118 South Los Angeles Street
QUALITY ARNOTT GUARANTEED
Los Angeles California.

Creamery Supplies

Cream Separators — Milk Cans
Combined Churns — Milk Bottles
Babcock Testers — Brushes
Butter Moulds — Wrappers
Engines and Boilers — Milk Coolers
PASTEURIZERS
MILKING MACHINES
Creamery and Dairy Supplies and Machinery of all Styles and Sizes

Send List of Goods Wanted and we will Quote Prices

O. J. WEBER CO.
555-57 S. Los Angeles St.
LOS ANGELES, . CALIFORNIA

CUTTER'S
Anthrax and Blackleg VACCINES

Are given the preference by 80% of California stockmen because they give better results than others do.
Write for prices, testimonials and our NEW booklet on Anthrax and Blackleg
The Cutter Laboratory
Berkeley, California

SECOND HAND PIPE

Just bought cheap ten carloads of water pipe, sizes ½-in. to 6-in., which we offer cheap for cash: ½-in. 1½c. a ft., ¾-in. 2½c a ft., etc. Get the benefit of our close buying. All pipe guaranteed good as new and dipped in asphaltum. Write for complete price list.

WEISSBAUM PIPE WORKS
133 Eleventh St., San Francisco

PASPALUM DILATATUM

King of dairying and fattening grasses. The great Australian drouth resister. Primest heavy seed direct from the grower, 4 lbs. (ample for trial) post free, $2.00. Full information.

C. F. JULIUS
Central Bucca, Coffs Harbor, New South Wales

Live Oaks Farm

Frank A. Meacham, Proprietor.
Importer and breeder of RED POLLED CATTLE, SHROPSHIRE SHEEP, RAMBOUILLET SHEEP, HORNLESS AMERICAN MERINO SHEEP. Both sexes for sale. Take electric car at Petaluma or Santa Rosa for LIVE OAKS STATION. Address all mail to
Petaluma, Sonoma Co., Cal.

HOLSTEINS

We Have For Sale a Number of Registered Young Bulls and Heifers **$100**
All our stock comes from the celebrated herd formerly owned by the Pierce Land and Stock Co., the premium herd of Holstein Friesians in California. **Oakwoods Stock Farm Co., Lathrop, Cal**

VENADERA HERD
OF REGISTERED JERSEYS

I have for sale a number of richly bred young bulls, some of them from cows that have high official yearly records.
GUY H. MILLER,
Route 3, Modesto, Cal.

Berkshires--Shorthorns

My Berkshires took 9 First, 6 Second and 4 Third Prizes and both Gold Medals. 50 Head For Sale.
G. A. MURPHY, PERKINS, CAL.

THIRTY THOROUGHBRED
Poland China Hogs and Pigs
FOR SALE
W. R. McCaslin, R.F.D. No. 1, Rosevelt Ave, Sacramento

John Lynch Breeder of Registered **Shorthorns**
MILK STRAIN
Box 321 Petaluma, Cal.

PURE BRED BERKSHIRES
Young Stock For Sale
Wm. H. Bird Box 6, Compton Cal.

The Whiting Jersey Stock Farm Company
Is making the very best strains of blood fresh from the island of Jersey a specialty.
Whiting Jersey Stock Farm Co. Heber, Imperial Co., Cal

Live Stock and Dairy

ONE COW'S MILK.

The milk of the family cow is usually divided into two portions, one for daily use and the other portion for butter. Now when the milk comes in have the milk intended for use put into a pitcher and the other for butter stored away in the pans in a cool place out of the dust. This is better than to keep it around any place like a pantry where people are passing through. The stripping from the cow, that is, the last milk, should be milked into a separate vessel and used as a cream for the coffee and fruit. This is better than skimming a pan for this milk. The skimming of the pan does not take all the cream from the milk but leaves some more to arise. This slower raised cream, often being only a thin coating over the milk, allows the air to pass into the mass and will be tough and wiry. Then it is troublesome to ripen and most of it strains out when the cream is put into the churn.

Pans or Separator.

I believe it will pay in labor saved to have a separator. I know that any one accustomed to separator cream can not use the ordinary pan skimmed cream in their coffee. It is on the turn and often has a slightly rancid taste that is far from pleasant. A separator is not more of an extravagance in the house of an educated woman than other machinery in use. A woman whose time is worth anything at all can easily use the time to better advantage than in skimming milk from pans. Really one of the worst wastes in this life is in educated, trained people doing unnecessary drudgery. I do not think any work is beneath any one; I think all work is alike honorable; but I know that much of the work the women do in the house is not necessary and a mother should be with her children and husband as a companion and not spend the hours in the kitchen that a few more appliances would prevent.

Cream.

The cream is usually quite turned when skimmed. It can be held in a cold place for some time—yet it will often grow bitter or rancid. I have found where this could not be controlled by temperature, that adding enough salt, not exceeding one ounce to a pound of the butter expected, would prevent bitterness, by holding that particular bacillus from developing so fast. Stir the cream from the bottom thoroughly when adding more to it. Keep in a cool place and do not add any cream to it for twelve hours before churning time. If the cream is not sour enough warm it. I use bottles filled with hot water and stir the cream. Or the jar may be set in hot water. Warm up to 80 or 85 deg., cover the cream for twenty minutes, then let it chill down. After two or three hours, if it looks satiny, tastes pleasantly acid and pits for an instant when the cream is dropped from the spoon on the surface of the cream, it is ready for the churn. Cool down to churning temperature.

Starters.

Where cream is determinedly sweet a starter of buttermilk may be used. The buttermilk must be good, or it will make bad butter. Where the buttermilk is not, use a starter of skim milk, take from the pans milk twenty-four to thirty-six hours old, that is clabbered and slightly acid, stir it into the cream and after twenty-four hours the cream will be ripened. Sometimes in warm weather it will ripen sooner. Now the whole process can be hastened, or the cream can be ripened by raising the temperature. Put in the hot water bottle and raise the temperature to 80 degrees and it will ripen quickly. Long churning is caused by three things—wrong temperature, unripened cream, and too full a churn. I always have a number of letters at this time of year on the subject of long churning. The cool nights that hold back the cream from ripening are the usual cause of the trouble.

Thermometer.

Do not be without a dairy thermometer; 25 cents will save wrinkles and worry. To ripen cream, the lactic acid bacteria are the ones that we need. When these develop rightly we have the sweet sourness that is desirable in the cream. The churn should be well scalded and then filled with cold water. Turn out the cold water and strain the cream into the churn. The straining will catch the bits of floating curds that may have been caught up by the skimmer from the pans. Now, good keeping butter should be from fifteen minutes to thirty in coming if the cream has been properly ripened and the temperature at churning time is right. Unripe cream will leave a lot of butter fat in the buttermilk. A low temperature will make the butter also slow in coming. When the cream is not ripe enough or too cold it will simply whip in the churn, but not separate into butter particles.

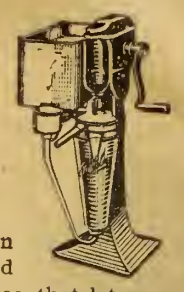
The temperature can be made right by using the cold water bottles. These bottles are smooth gallon bottles of heavy glass with small necks; they come filled with sulphuric acid for the Babcock test. They are strong enough to hold scalding water—and are perfectly smooth on the outside.

Butter.

When the butter reaches the size of kernels of wheat, stop churning and run off the buttermilk. Put in the plug and fill the churn half full with cold water. Rock the churn to float the butter in the water. Let it stand for a few minutes before running off the water, and salt while wet, one ounce or one and a half to each pound of butter. Turn the churn over to reach the other side of the butter with the salt. Let it stand again a few minutes until the water has dissolved the salt. Take the butter up on to a well-scalded butter bowl, wet with cold water. Work the salt in lightly, and stand away for a couple of hours. After that if it is thought desirable it may be worked again before being cut up into rolls. I do not work it but once, depending on stopping the churn when the butter is only the size of wheat grains and salting wet in the churn. This removes the buttermilk and puts the salt in it evenly. Working is only to do this and the less the individual grains are broken the better for the keeping quality of the butter. I usually finish the butter completely, right from the churn into the rolls. The only reason for putting it away to rework it is that it may be too soft to mould into shapely rolls. M. E. SHERMAN.

Cream Separators, all sizes, all prices. O. J. Weber Co., 555-557 S. Los Angeles street, Los Angeles.

Don't Get a Notion



that you can run your dairy any old way—with the idea, that later on you will make up for the short comings.

Begin **now**—to exercise care in the selection of your stock and separator, in other words, use good cows and the **best** make of separator.

The TUBULAR

because it gets all the cream, is economical, a labor saver and a money maker.

Those who use Tubulars are the cream producers and butter-makers of reputation, plainly speaking—the most successful dairymen.

Join the ranks of the successful dairymen and profit makers—Free Catalog 260 tells how. Write for it.

THE SHARPLES SEPARATOR CO.,
West Chester, Penna.
Toronto, Can. San Francisco, Calif. Chicago, Ill.

When writing advertisers, mention Cultivator.

CEMENT PIPE

Irrigation lines installed anywhere Skilled mechanics, work guaranteed. Estimates furnished. Main lines for Irrigation Companies a specialty.
Information cheerfully furnished.

Ben. F. Thorpe
Covina, Cal.

Free Veterinary Book
Infallible guide. Makes every man his own horse doctor. Postage 2c.
Tuttle's Elixir
insures sound horses. Cures splint, curb, spavin, etc. $100 reward for failure where cure is possible.
TUTTLE'S ELIXIR CO.,
117 Beverly St., Boston, Mass.
Los Angeles, W. A. Shaw, Mgr., 1921 New England Av.
Beware of all blisters; only temporary relief, if any.

Geo. C. Roeding, Fresno, Cal, breeder of
Thoroughbred Holstein Bulls and Heifers
Thoroughbred Berkshire Boars and Sows

Thoroughbred Poland China Swine
Black Minorca and Barred Rock Poultry
High Grade Stock of Best Strains.
Young Stock For Sale
W. Bassett *Hanford, Cal*

Your Eastern Trip

SOUTHERN PACIFIC

May be arranged so that you may travel by way of

New Orleans and the Sunset Route

San Francisco and the Ogden Route

Portland and the Shasta Route

Enjoying the balmy air of the South or the cool and bracing air of the North.

Personally conducted excursions every day from Los Angeles via all routes without change to principal eastern points.

Southern Pacific

When writing advertisers, mention Cultivator.

MISSOURI MULE STORIES.

"The Missouri mule," said the western man, "is a creature full of character and temperament. Missouri is the great breeding state for the big work mules used throughout the southwest, and a team of them costs from $300 to $500. They are more valuable work animals than horses, for they are larger, stronger and will live on hay where a horse requires grain. They are also slower, more shrewd, cunning and obstinate than the horse. For instance, if a load is too heavy, the mule will not stir. A horse will strain at it until he breaks his harness or his heart. But the mule will stand impervious to any suasion, moral or physical. There is nothing to do but lighten the load. He will turn around and look at the load, also, and bray.

"The rubbering is a charaeteristic of the mule. If any one passes near his stall while he is eating, he will stop long enough to look around. A horse never does that. A mule will look around in order to aim his kicks correctly. The boys in camp used to have fun with on old mule who was an expert at this. They would annoy him from the rear, and he would look around, locate the annoyer and aim a kick like lightning in his direction. It was rather exciting sport, because not unmixed with danger. At 11:30 a.m., half an hour before work knocked off for dinner, regular as clockwork every mule on the job would begin to bray. They knew it was getting dinner time, and wanted to hurry things up a little. The horses never did that. But when the animals were let loose the horses would start off at a gallop for the grub pile. The mules, however, would not hurry themselves beyond a good walk. They knew the grub wouldn't get away, and they have fixed prejudices against haste.

"A contractor, for whom I worked in building a reservoir near Pueblo, Colo., had once met with an accident while riding a mule. He was alone at some distance from camp, and, through some cause which I now forget, fell off the mule and broke his leg. The mule rubbered around, saw his master on the ground, and stood perfectly still. The contractor was thus enabled to pull himself up on the animal's back and get to camp; while, if the mule had followed any other course, it might have resulted in very serious inconvenience for the injured man. Consequently the contractor always kept a soft spot in his heart for this mule, who was named Billy.

"When Billy reached an age which entitled him to a pension, he was honorably retired. The contractor, for some reason or other, took him to camp on every fresh job, though he never put him to work any more. Perhaps he thought Billy would enjoy being around in the scenes he was used to more than aristocratic seclusion in a lonesome pasture. At any rate, Billy did enjoy the life. At the camp near Pueblo he ranged the whole country free and independent. Frequently when the team from the commissary department went down to Pueblo for supplies Billy would come trotting along back with it. He would notice the team in Pueblo, or the outskirts, recognize it and join it for the home trip.

"After the reservoir was finished we went up in the high hills to build a railroad. The contractor was absent while supplies were being hauled by pack trains to a point far away from the road, and the men put Billy to work, although they knew they had no right to do it. At one point the trail wound along a narrow bank with a ledge of rock on one side and a precipice on the other. At the psychological point Billy's load tumbled over the precipice. It required time and labor to get it up and cinch it on to Billy again. The next day Billy's load went over the edge again at exactly the same point. Then the men gave it up. They saw that Billy knew they were imposing on him, and was cunning enough to breathe out when they cinched him up and breathe in when he got to just the right place to shake his load off On account of the partiality of his owner, Billy could not be disciplined by the underlings, and so afterward he insolently went up and down the trail with the rest of the train when he pleased, but with never a load."—Journal of Agriculture.

PROPER METHOD OF EXAMINING A SICK ANIMAL.

First take the temperature of the animal by placing a fever thermometer into the rectum, allowing it to remain there from three to five minutes. The normal temperature of a cow is 101 degrees (Fahrenheit). The normal temperature of a horse is 100 degrees, sheep 101 degrees.

Second, take the pulse of the animal, which can be found at the angle of the lower jaw bone. The normal beat of the cow's pulse is from forty to fifty per minute and that of a horse from thirty-three to forty per minute.

Third, count the respiration of the animal, or number of times it breathes by watching the sides of flanks, or by pressing the ear to the side. The normal respiration of the cow is from fifteen to twenty per minute and that of a horse is from twelve to fifteen per minute while resting. if the temperature, pulse, or respirations are found to be higher or faster than above described, you will know that the animal is ailing.—Dr. David Roberts, Wisconsin State Veterinarian.

AMERICAN NAVY'S BIG MEAT ORDER.

The United States Navy Department has just ordered 1,275,000 pounds of canned meats. This is the largest single contract for meat ever made by the Government in time of peace. It will require the slaughter of 28,000 head of cattle and 6000 hogs to fill the order; the meat, when packed and ready for delivery, will amount to about 45 carloads.

Prof. Major, secretary of the California Live Stock Breeders' Association, writes us as follows:

"A special meeting of the California Live Stoek Breeders' Association has been called for Saturday evening, October 17th, at 8 o'clock in the Chamber of Commerce, Sacramento, California, and all members and those interested in live stock are invited to be present.

"At this time there will be brought up for eonsideration and discussion a number of questions of very great importanee to the live stock interests of the state and all are, therefore, urgently requested to attend and take part in the diseussions. Do not forget the date."

DAIRYMEN

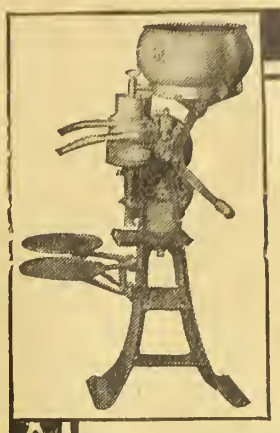
Your cows are either making money for you or eating their heads off.

Figure it out. Would it not pay to use less of high eost fodders and more sugar-beet-pulp at the low prie◦ of 50 cents per ton?

If it is milk you want you will get your money back with profit, besides you will improve the condition of the animals.

And don't wait too long before arranging to silo some of it for use after the faetory closes down.

Write, Los Alamitos Sugar Company, Los Alamitos.



TIME TO BUY CREAM SEPARATORS NOW

There never was a better time to buy the best of Cream Separators than right now.

The advantages derived from the use of the good Cream Separator are greater in the fall and winter than at any other time,—when the cows are old in lactation, the loss of butter-fat is otherwise greatest, and butter prices are highest.

Likewise are the advantages of the superior DE LAVAL separators greatest over imitating separators when the milk is hard to separate and the weather cold and variable,

In every case a DE LAVAL separator, of suitable size, will surely at least save its cost between now and July 1st next, and go on returning 100 per cent. per year on the investment for twenty years to come.

The agrieultural and partieularly the dairying outlook was never brighter and more promising.

WHY NOT BUY NOW?

Send for Catalogue of 1908 Latest Improved Machines.

DE LAVAL DAIRY SUPPLY CO.

108 So. Los Angeles St. LOS ANGELES
42 E. Madison Street CHICAGO
74 Cortlanot Street NEW YORK

General Offices: 101 Drumm Street, SAN FRANCISCO.

107 First Street PORTLAND, OREG.
1016 Western Ave. SEATTLE
Box 1052 VANCOUVER, B. C.

Save from $1 to $2 per horse

that you now pay for clipping by doing it with this splendid

Stewart No. 1 Horse Clipping Machine

New and improved *1908* Model Ball Bearing and all enclosed gears running in oil. The price at your dealers' all complete, is ONLY $8.50

Every Horse should be Clipped Clipped horses look better, feel better, work better, and are easily cuffed. No machine ever made runs so easily, clips so fast, and lasts so long as this *Stewart No. 1.* It is fully guaranteed and must please or the purchase price will be cheerfully refunded.

All leading dealers have it. Ask to see it!

It is the greatest clipping machine of all time.
If your dealer hasn't it, write to us about it.

Chicago Flexible Shaft Co. Dept. H, Chicago

LEARN
Plumbing, Electricity, Plastering or Bricklaying

Our graduates make $6 per day after three months instructions
You can enter at any time.—No previous knowledge required.
NO BOOKS—TOOLS TAKE THEIR PLACE
Day and Night Classes. Our Scholars are from 15 to 50 years old

Positions Secured and Experience Given on Outside Work

Write for Free Catalogue

COYNE NATIONAL TRADE SCHOOL Inc.
233 8th Street, San Francisco, Cal.

When writing advertisers, mention Cultivator.

California Cultivator

ESTABLISHED 1889

Subscription Price One Dollar per year, payable in advance. Dates of expiration of subscription accounts appear each week on the address label. John Jones 7-08 means July 1, 1908. Notify us by mail if you desire to discontinue.

Thursday, October 15, 1908

Address All Communications to

CULTIVATOR PUBLISHING CO.
115½ No. Broadway, Los Angeles.
733 Merchants Ex. Bldg., San Francisco.

Copy for Change of advertisement must be in office on Saturday preceeding date of issue. New advertising copy should reach the office not later than Tuesday to insure insertion.

CULTIVATOR PUBLISHING COMPANY
H. A. PERKINS, EDITOR AND GEN. MGR.

C. B. MESSENGER - - - - Associate Editor
FRANK H. THOMAS - - Advertising Manager
H. G. HUTCHINS - - Subscription Manager

EDITORIAL CONTRIBUTORS:

J. W. MILLS - - Deciduous and Citrus
JOHN ISAAC - - - - Horticulture
J. B. NEFF - Walnut Culture and Irrigation.
Mrs. M. E. SHERMAN - Live Stock and Dairy
Q. A. LOBINGIER - - Vegetable Garden
W. E. FOSTER - - - - Pigeons
L. M. FALL - - - - Law Queries
RALPH E. SMITH - - Plant Pathology
S. A. PEASE - Plant Diseases and Injurious Insects

Entered at the Post Office at Los Angeles, California, as Second-class matter.

Contents

STATE AGRICULTURAL FARM, Cover.

STATE FARMERS' INSTITUTE, 363.

CITRUS.—Cleaning Citrus Trees; Orange Tree Moves North; Cuba's Orange crop, 364.

DECIDUOUS.—Concord Walnut; Clingstones Scarce, 365.

SMALL FRUITS AND VEGETABLES.—Lima Beans; The Sunflower, 368.

PURPOSES OF UNIVERSITY FARM, 369.

LIVE STOCK.—One Cow's Milk; Missouri Mule Stories; Proper method of Examining Sick Animals, 370, 371.

EDITORIAL.—Institute Editorials, 372.

AGRICULTURAL NOTES OF THE PACIFIC COAST.—Northern, Central, Southern, The Coast, 373.

POULTRY.—Chicken Chat; Keeping Laying Hens in Condition; Fattening for Market; Demand for Capons; Poultry Queries, 374, 375, 376.

ORNAMENTAL GARDEN.—The Anemone, 377.

QUERIES.—Farrow Cow; Wounded Cow; Agricultural Schools; Garget; Bermuda; Walnut Bleach; Sorghum and Mangels; Eucalyptus Seed; Stock for Walnuts; Pruning Logans, 378.

VETERINARY.—Wind Puff; Eruptions; Scours; Rubbing Tail; What Was It, 379.

HOUSEHOLD.—Seling the Farm; The Holy City; The Love Song; Fig Recipes; Homely Hints, 380, 381.

PRODUCE MARKETS.—Los Angeles Market; San Francisco Market; Citrus Markets, 382, 383.

INSTITUTE EDITORIALS.

We change the matter on this page this week and give to our readers thoughts picked at random from the addresses delivered at the State Farmers' Institute held last week at the State Farm at Davis, Yolo county. These thoughts touch various phases of agricultural life and we are sure will be appreciated by Cultivator readers, and it gives us an opportunity to say with all due modesty that this week we have an excellent editorial page.

The leading article on first page may be considered in a sense editorial as it gives observations made by the associate editor on the ground.

F. H. Babb, Lecturer State Grange.

The College of Agriculture is more necessary to the state than the Schools of Medicine, Law or Theology. If we lived a more natural life in the fresh air, we could get along without medicine. If we had no law or lawyers, we might get along with justice. If we had no theology, we could get along with religion. But we could not live at all without an adequate supply of food, and for that we are dependent upon an intelligent system of agriculture.

E. J. Wickson, Dean of College of Agriculture.

This effort to bring all the rural schools into closer educational relation with their industrial environment is advancing in California about as rapidly as it can successfully. Such work cannot be mastered as easily as the old lines of book subjects; it is vastly harder for the teacher to keep just a little ahead of his class, which is unfortunately the measure of the ambition of too many teachers. Just as soon as you give a child his liberty among things which surround him he is apt to drive his teacher up a tree at the first rush. Teachers must, therefore, be specially trained: they must at least know hat they ought to be able to explain and what the wisest man in the world would not undertake to explain. Teachers are preparing themselves for this work.

Prof. E. J. Wickson.

The University of California has the distinction of having a poorer agricultural building than any other University in the United States. It is forced to require thirty teachers and assistants to handle classes with an aggregate enrollment of 715 in a main building which cost $10,000 ten years ago, supplemented by a collection of sheds which have been enlarged and patched up until it is hard to tell what were their original forms and colors. And yet, both teachers and scholars are struggling on, full of interest and enthusiasm, because they have faith in the worthiness of their work.

Leroy Anderson, Superintendent University Farm.

Some will tell you that the first object of this farm is to improve California agriculture. That is one object, but how is our agriculture to be improved without first improving the men and women who are engaged in that agriculture? It is a true and accepted fact that no one can study agriculture without becoming improved in heart and soul, for no man or woman can come truly closer to nature without growing daily to be a better being.

Benjamin Ide Wheeler, President State University.

The great variety of activities followed in connection with the various investigations, to say nothing of the demand for space for teaching of classes, make it absolutely necessary that without further delay an agricultural building should be provided.

Prof. W. T. Clark, Director Farmers' Institutes.

The world, too, has been laid tribute to the demands of our people. Our horticultural history is a story of continued advancement, of continued improvement, of continued additions, and we today find ourselves heir to the results of the mighty efforts that have been made by those who have gone before.

Prof. Clarke.

When the man who has done great things shows us how he has accomplished his achievements we would be dull indeed could we not in some measure apply his methods to our practice, and so the mission of your University Farm to the horticulture of California is one of education—making the best practice of the successful horticulturist the common practice of those who choose to come and learn.

Mrs. M. E. Sherman.

The farmer and vineyardist earns his bread in the sweetness and peace of the quiet fields under the blue skies. It is blessed to live away from the daily grind of the ceaseless toil of the busy city and to be alone with nature in the enduring quiet of the country.

Mrs. Sherman.

It pays always to have the best and to do the best with it. I often wonder that anyone is satisfied to plant second quality trees or vines.

A. J. Gaumnitz.

The grain grower, like the dairyman, must first work out his environment both as regards soil and varieties. He must know his surrounding conditions first—and when he looks further he will find that as there are good, medium and poor methods of dairy practice, so there are good, medium and poor methods of farm management, and good, medium and poor varieties of grain, and as a good dairyman can double his profit on a herd of common dairy stock, so can a good farmer do likewise with his soils and common varieties of grain.

F. W. Roeding, Irrigation Investigations, U. S. Dep't of Agriculture.

There is nothing to prevent the early settlement of all the good lands throughout the Great Central Plains, and that this settlement is going on and increasing is largely due to the energy and enterprise of the various communities interested.

J. M. Eddy, Secretary California Good Roads Ass'n.

The public highway system of the United States has been a complete failure and is more than two generations behind the highway systems of the progressive nations of Europe. It is a failure, not because of public ownership, but because it has never been systematized, organized, administered, specialized, properly accounted for, and made uniform.

Highways carry the commerce of the country. They carry annually 250,000,000 tons of agricultural products. They carry fully fifty million people back and forth to their trading centers and daily avocations. They constitute the primary and most important avenues of transportation. As such they merit the best thought and best efforts of all the people all the time.

Owing to the wretched condition of rural roadways it costs us annually $125,000,000 more to move our farm crops to the shipping points than it would cost France, England or Germany to move the same number of tons the same distance. To save that annual burden of $125,000,000 extra cost would warrant us in expending two billion and a half dollars in road improvements.

J. M. Eddy.

Our public roads in California, 50,000 miles in length, embrace practically 400,000 acres of land and thus involve an investment of $40,000,000 for the land alone. Can we afford to permit any set of officials to administer a plant costing $40,000,000 without holding such officials to a strict accounting? I would have a provision in the law requiring every county clerk and every county auditor to open an account with every highway in the county and to charge to that account every expenditure on every mile of that roadway. The time, method, soil, material, weather, and cost of each and every mile of road construction, and the cost of care and maintenance each year should be a matter of record, and the Board of Supervisors and Clerk of our county assure me that it can be accomplished without extra cost if it be merely required by law and is properly inaugurated.

As an aid in reforming our highway service, along scientific lines, I believe that there should be a chair of highway engineering in our college of engineering in the State University. We need specialized engineers for this service, and they should have special training.

Judge Peter J. Shields.

Agriculture on thought alone is worse than agriculture on work alone. The finest results can only be obtained by a combination. You must think in your business of producing things. The extra product which the thinking farmer secures, more than does the farmer who merely works with his hand, is practically all profit. This institute should give inspiration which will lead to a combination of these essentials of success.

C. F. Curtis, Director Experiment Station Work, Ames, Iowa.

The agricultural population of Iowa is constantly decreasing. This is observed with great regret on the part of all well wishers of our state.

The effort now is to make farm life more attractive and to show that the problems which it offers for solution are as attractive and as worthy of best thought as any other problem which comes to us for solution.

C. F. Curtis.

The American farmer has left a trail of depleted land wherever he has passed. There is nothing sadder than the race struggling for existence on an exhausted soil

Shop Talk

SOMETHING FOR NOTHING.—On another page you will find an order blank for the use of new subscribers to the Cultivator. It provides that those using this blank who are not now getting the paper will receive it the balance of 1908 and all of 1909 for the regular yearly price of $1.00 It is an opportunity for your friends, relatives and neighbors and we will appreciate your suggesting it to them. Do it now. The sooner the order reaches us the sooner the paper starts.

Agricultural Notes of the Pacific Coast

Northern California

Vacaville shipped 946 cars of deciduous fruits up to October first.

A big tule fire did some damage in Yolo basin near Sacramento recently.

Sonoma county grape crop will not exceed one half of its last year's output.

Many farmers near Redding are abandoning grain farming for fruit farming.

The C.F.C.A. cannery at Yuba City has forwarded two carloads of canned fruits to Europe.

It is estimated that 3500 acres of Colusa county land will be planted to flax this season.

It is thought the planting of citrus fruits and olives in Butte county will be more extensive than ever before.

The 36th annual session of the State Grange of California was held in Sacramento Tuesday, October 6th.

The Santa Rosa cannery has done greater business this year than for several seasons, and is still running on tomatoes.

An owner of orange trees at Marysville has defied the white fly inspector and ordered him to desist from defoliating his trees.

Willows, Glenn county, will extend its irrigated land by sinking some thirty wells which will give an independent irrigating plant.

The orchardists of Butte county are standing together in the marketing of their dried peach crop and refusing to sell at prices offered.

Oroville and Wyandotte, Butte county, are discussing irrigation questions, which it is hoped will give to each a more satisfactory irrigation system.

The rainfall over the Sacramento valley is estimated to have done more good than it did damage. It was much lighter than in the southern end of the state.

Capitalists have recently acquired a ranch of 1300 acres near Colusa which will be planted quite largely to fig trees and then subdivided and sold in small holdings.

Yuba City and Marysville canneries are all closing after a very busy season. The three canneries there will produce over 200,000 cases of canned fruit.

The latest bill of fare at Santa Rosa which was at a banquet held by the Chamber of Commerce of that city was made up largely of cactus fruit supplied by Luther Burbank.

Winters, Yolo county, has a large apricot pit cracking plant which removes the kernel from the apricot pit, which is disposed of in Europe where they are sold as blanched almonds.

Most fearful forest fire which occurred in this state this year was that of Humboldt county. Several people lost their lives and vast quantities of standing timber and many buildings were burned.

A butter maker at Petaluma forwarded an exhibit of his butter to the State Fair for entry. It was awarded first premium but the fair management are unable to forward the premium because the letter was not written so that the name of the sender could be deciphered.

Central California

Fresno's recent fair was pronounced the most successful ever held.

The orange crop of Tulare county is reported to be a good average crop.

The raisin crop of Kings county will be much larger than that of last year.

A levy of taxes in the Turlock irrigation district was $2.80 per hundred.

Monterey is making an effort to secure extensive plantings of redwoods.

The Reclamation Service says the San Joaquin valley can be made to support a population of 20,000,000 people.

The Kings county fair which was held last week drew big crowds and proved more of a success than anticipated.

Salinas, Monterey county, dairy inspector found Salinas milk to run below standard, and some arrests have been made.

Monterey and San Benito county hay men have been embarrassed in securing sufficient cars to get their product to market.

Rice growing experiments near Stockton have proved satisfactory, and a more extended planting will be made in another year.

An extensive forest fire endangered the Lick Observatory on Mount Hamilton recently, but was controlled before great damage was done.

Earl Morris of Santa Clara county and Professor Woodworth have united to study into the problem of the destruction of the Argentine ant.

The $40,000 grape juice plant at Lodi, which started in operation but a few weeks ago, has been compelled to double its force and is now employing 42 men.

Tulare grange is working for the adoption of Senate Constitutional Amendment No. 1, which is the one calling for revision of our state taxation plan.

The Tulare county Horticultural Commission report that the only citrus trees infested with yellow scale in that county are the old citrus trees in the city of Visalia.

Rainmaker Hatfield is preparing to open a campaign to secure rain for the people on the west side of San Joaquin valley. His "experiments" will begin November 1.

Grape growers of Santa Cruz county have effected a permanent organization and will work in connection with the State Growers' Association. W. H. Galbraith of Santa Cruz is president.

A wool scouring plant is expected to be established in Fresno so as to be in operation by March. It will cost about $75,000, and will aid in making Fresno a large wool buying center.

Many raisin growers have refused the Armsby 4-cent offer. Only 35 per cent. of the growers signed up the contract, while the company insisted that 90 per cent. should come in. The time has been extended to Oct. 31.

The San Jose grange recently discussed the constitutional amendments to be submited for the decision of the people at the coming election. It was decided to oppose most of the amendments, at least numbers 14, 16, 24, 29 and 31.

Southern California

There are about 60,000 acres of oranges planted in California.

A Chino land and water company is shipping in cattle from Utah which are being fattened on beet pulp.

Beaumont is making a showing of apples this season without irrigation, which proves that to be a good apple section.

Riverside maintains in its Chamber of Commerce an exhibit of the fruits of that section which is an excellent advertising proposition.

Crafton, San Bernardino county, orange growers united in the ownership of fumigation tents and are disinfecting their own orchards.

San Bernardino County Horticultural Commissioner has found several widely separated sections of that county infested with Argentine ants.

The Rialto Orange and Lemon Association made its final clean up on last season's oranges by paying its members the sum of almost $15,000.

Fruit growers at Riverside believe that section adapted to walnut culture and considerable planting of walnut trees will be made the coming season.

Pomona walnut growers are complaining of the loss of walnuts occasioned by petty theives and are proposing to stop it by promiscuous arrests.

Coachella valley is planting heavily of winter cabbage expecting to get good prices owing to drouth in the East, causing small Eastern production.

Weather observers stationed near Salton Sea maintain that that body of water has made no appreciable effect on the humidity of the atmosphere of the Southwest.

The Pomona Times says that with very few exceptions the orange trees never looked more healthy and all indicate good care with a heavy crop of average fruit.

The plan of the Cawston ostrich people who have established a breeding farm at Winchester has been called off because wells which were sunk proved unsatisfactory.

Coachella Valley oranges are already coloring and that section claims it will be the first to ship California oranges this year. It is now estimated that November 10 will see the first car out.

Fumigators of orange trees at Redlands are doing thorough work so they not only kill the scale but one crew succeeded in killing twenty-eight chickens which were roosting in one tree.

The crop of fall potatoes now maturing on the new potato land recently opened up at Hemet is proving a record breaker as to quantity and quality, with a yield in excess of 100 sacks to the acre.

Imperial Valley melon growers are still endeavoring to gather themselves together in a co-operative marketing association. The following committee has been appointed to take up the matter and devise a plan of organization: Brawley, W. P. Mansfield; Imperial, S. M. Bixby; El Centro,, George A. Carter; Holtville, B. F. McLeod; Heber, I. B. Hoffman; Calexico, F. T. Thing.

The Coast

Nurseries at Milton, Oregon, advertise that they will pay $40.00 per ton for peach pits.

Rainfall to the extent of nearly 100 inches is given to many sections of the Hawaiian Islands.

One grower at Waverly, Washington, planted 100 acres of potatoes last spring and made a small fortune of it.

A Nez Perce, Idaho, farmer claims to hold the record with an average from his barley field this year of 82 bushels per acre.

The wheat which has not already been sold in the Walla Walla, Washington, district is now in the control of the Farmers' Union.

The Clarkston, Washington, Poultry Association is planning for a poultry show to be held in February, which will eclipse former efforts.

National apple show to be held in Spokane in December is being boosted more and more and the promise now is that it will be a great event.

Citizens of Asotin, Washington, are subscribing funds for the erection and fitting out of a packing house for handling the pack of that section.

The government anticipates the introduction of the mangosteen, said to be one of the most luscious tropical fruits grown, into the Panama Canal zone.

The Farmers' Union at Pullman, Washington, is to install a modern printing plant and newspaper to represent the interests of the farmers of that section.

Farmers near Waterville, Washington, are experimenting with planting different varieties of corn. In the past the corn crop has been unsuccessful in that section.

Efforts are being made to bring about the construction of a high line ditch at Ellensburg, Washington. This is a revival of an old irrigation scheme which has hung fire for many years.

Palouse, Washington, grain men are selling their wheat at the rate of 73 to 79 cents per bushel and oats at $1.25 per hundred weight. Nearly all of that section has been delivered at the warehouse.

The planting of rubber trees in the Hawaiian Islands which began in 1905 promises sufficient success that several companies have been organized to engage in the planting of rubber trees in the Islands.

Trees infested with injurious insects were landed on Hawaiian Islands from the transport Sherman at midnight but the watchful quarantine guardians secured and disinfected them before they were planted.

The apple growers of Walla Walla, Washington, are organizing to combat the advance in transportation rates and also to market their fruit. They hope to have a strong working organization before another apple will be ripe.

The Pacific National Live Stock Show held at Portland was one of the most successful in its history. The new grounds have been established at a cost of $150,000 and $40,000 were posted as purses and premiums. It is claimed to have the fastest track in the west.

PER 2 BUSHEL SACK **$1.90** PER 2 BUSHEL SACK

Buy the World's Famous Egg Food No. 4

MIDLAND

IF YOU WANT EGGS
YOU WILL FEED NO OTHER.

Used by the largest and best breeders in the country. Thousands of poultrymen are using it, and it is the acknowledged standard of the world. Haphazard feeding is no longer profitable. Try Midland Food and be convinced.

Petaluma Incubators and Brooders

The acknowledged standards of perfection. All poultrymen who have used these machines have supreme confidence in their ability to hatch and breed. Hence their ever increasing popularity. Winners of the Gold Medal at the St. Louis World's Fair for the greatest hatch, with 40 different makes of incubators in competition. How's that?

St. Louis, Mo., Dec. 8th, 1904.—Petaluma Incubator Co., Petaluma, Cal: My dear Sir—The awards have been held up owing to a controversy between the Exposition officials and the national commission, but today I am able to state the award of a gold medal on your Petaluma Incubators has been confirmed. You are at liberty to make use of this in any way you see fit and in due time the diploma will be issued and the medal obtainable. Congratulating you upon this evidence of the merits of your incubators, in which there was very great competition, I beg to remain, yours very truly, J. A. Filcher, Commissioner.

And Now Comes New Reward for Merit

Read the following telegram received from the Lewis & Clark Exposition at Portland:
"Petaluma Incubators and Brooders just awarded Gold Medal at Lewis & Clark Exposition."

WRITE FOR CATALOGUE 47—A BEAUTY

Petaluma Incubator Co.

Main Office and Factory, Petaluma, Cal., Box F.
Los Angeles, 636 South Main Street.
San Francisco Office and Salesroom, 83 Market St.

Coulson's No. 3 Condition Powder

Is just the thing for molting hens. It acts as a tonic and digestive. Keeps the hens laying longer into the molt and quicker after it. Our FREE Booklet, "THE RIGHT WAY" gives full particulars and special offer. Manufactured only by

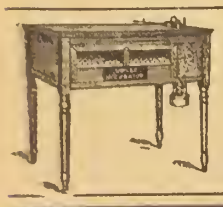
Coulson Poultry and Stock Food Company
Petaluma, California

Poultry Supplies

Best of All Kinds at Lowest Prices

West Coast Seed Co.

707 So. Spring St., Los Angeles, Cal.



WHY?

Do All Prosperous Poultrymen Use
Jubilee Incubators and Brooders
Our Catalogue A Will Tell You. It Is Free.
Jubilee Incubator Company *Sunnyvale, Cal.*

Ranch Mirasol
S. C. WHITE LEGHORNS—MITCHELL STRAIN
LARGE, HEALTHY, HEAVY BIRDS BRED TO LAY
Carl C. Curtis, Owner Cor. Lincoln Ave. and Ventura St., Pasadena, Cal.
North Fair Oaks Altadena Cars

When writing advertisers, mention Cultivator.

Profit in the Poultry Yard

We solicit short articles of a practical nature from the fancier and utility breeder, giving their experience with poultry. All inquiries pertaining to feed, management, disease and its prevention will be answered through these columns.

CHICKEN CHAT.

IT'S time to think about getting ready for winter.

While we don't have the cold and snow of eastern winters, we do have rains, winds and fogs, and our fowls must be sheltered, comfortable, and taught to roost in their winter quarters.

This is no easy matter, when they have been allowed to roost in trees, and if very many young ones are still on hand, perhaps there are not roosts enough without crowding, which is fatal.

To the Frying Pan.

Better dispose of every surplus cockerel now, if they have not already been sold, and give the feed and room to the pullets. There is an old saying: "As soon as a cockerel begins to crow, into the frying pan he must go," and there is much sound doctrine in that saw. Some scientists maintain that a pullet's first mating affects all her progeny in after life, and where pure bred stock is kept, it behooves us to get rid of cull cockerels very early, unless the sexes are religiously separated, which is not done on most farms.

At some future time I shall go into the discussion of the danger of allowing growing chickens to mix promiscuously, but it is too deep a subject for this sketch.

Houses.

Chickens do not need expensive houses in this climate, but three sides must be wind proof, and the roof must be water tight. The remaining side may be simply wire netting, faced away from prevailing winds, but see to it that the closed sides are tight. A knothole or crack may admit draft enough to give the whole flock their death of cold, for we all know how much worse it is to sit in a draft of air than to be right out doors.

In building our houses, we simply boarded and battened the three tight sides, and to keep out mites we painted each board and soaked each batten with distillate, and no mite has ever been found in one year's use. As we took the buildings apart to move them, we had a good chance to see whether the distillate really had done its work as thoroughly as we had hoped, and it certainly had.

Whitewash.

I don't like whitewash, noways. I got my eye full of it once, and it's very little I have ever used since. I did invest $5.00 in a spraying pump, said to be just the thing to whitewash with, but after wrestling with it until patience ceased to be a virtue, and discovering that I was getting a better coat of whitewash than the coops, I finished the job with a broom, and had the nicest whitewashed floor imaginable, so a bright idea popped into my head, and I called the men to turn the coops over from side to side, and by this means I managed to do quite creditable work. Strange to say, the men objected to this mode of procedure as a regular thing, so my "bright idea" about whitewashing coops has never been patented, but it is an all-right way for little coops.

Clean Up.

Having our birds warmly housed in clean coops, it is well to see that all go on the roosts at night, and then it is a comparatively easy mater to dust each one with a little powdered sulphur occasionally to keep them free from body lice. If given a good dust bath, they usually keep themselves reasonably clean, but some will thrive upon the backs where it is difficult for the fowl to dislodge them, and we owe it to our pets to help rid them of these pests.

The brood coops need a thorough fall cleaning, if not already put away, and a good scrubbing with boiling suds is effective as any way, after which a thorough soaking with distillate is in order. And mind the soaking is thorough, no half-measures will do any good here. Mites are like bedbugs, and harbor in cracks between boards, etc., and to dislodge them the distillate must run freely through every joint, or they will live to pester the life out of next year's broods of chickens, even zero weather failing to kill them, as I have found time and again, if a coop had not been properly treated before storing away. Nests should also be freshened up, and made inviting, now that the price of eggs is soaring higher than the new airships we are soon(?) to ride in.

California Is All Right.

Those of you who have never waded through the slush and snow of an eastern winter to care for hens, know little of the hardship this work entails. In this climate, outdoor work is delightful, and if a few simple rules are followed, poultry on the farm should pay so well as to furnish pleasant, profitable employment for all who are willing to work, but no lazy person need apply.—Mrs. Frank Metcalf.

KEEPING LAYING HENS IN CONDITION.

A hen that is producing eggs is a highly organized machine and must be kept in the very best condition all the time or she will cease to work, says a writer in Poultry. When we consider that a Leghorn hen, weighing from three and one-half to four pounds, will produce from fifteen to twenty-five pounds of eggs in a year, we will understand that she must have a good appetite and the good health that goes with it in order to keep up such a pace.

The contents of an egg shell and the shell itself must be elaborated from the feed she eats and besides she must eat enough to maintain vital action. From the feed the hen eats, she must get lime for the shell, oils and mineral matters for the yolk and albumen for the white. All of these must be transformed from the feed into the elements which constitute the complete egg. To be sure these elements are in the feed, but they must be taken into the blood of the hens, directed to the ovaries and transformed into complete eggs. All this requires energy and energy means the consuming—really burning up—of the nutritive element of the feed the hen eats. Take the case of a hen laying every other day, during ten months in the year. This gives her 150 eggs for the year and every day during ten months she must manufacture one ounce of egg in order to make her record.

In their natural state hens are omniverous, eating everything which

they find in the nature of berries, fruits, seeds, grains, insects and worms of all sorts and much vegetable matter in its green form. This kind of feed is found by searching in the forests and open valleys for it.

This is the natural feed for hens. Under domestication, about one flock in fifty get the feed most conducive to the production of the largest possible number of eggs. The well-fed flock of hens is a rarity. Most flocks get enough, that is pounds enough of feed; but it is not of the most profitable kind to feed them.

Indeed the most profitable feed for hens is not always the cheapest. Any feed which contains a large percentage of protein, from which the albumen or white of the egg is formed, is high priced. Wheat, oil meal, beef scraps, oats, barley, peas and similar feeds are all higher in price, pound for pound, than corn, kaffir corn, buck wheat and other carbonaceous or fat-forming feeds. The white of an egg contains but the merest trace of fat or oil, while the yolk has a large percentage of oil in it. This indicates that the fat-forming feeds are necessary but that albuminous feeds are also necessary.

In the experiments with men at Washington it was found that an exactly balanced ration was not always the cheapest, nor was it always apparently the best. It was found that men who were fed on a variety of food so as to keep the appetite in good condition were usually the ones from whom the best results were obtained. We may feed our hens the richest feed we can find; but unless we keep their appetites in shape by feeding a variety of feed, we will not be able to get results from them.

FATTENING FOWLS FOR MARKET.

Fattening fowls for market has long been quite an art in the old country, though in America this branch of the poultry industry is not given as much attention as is its due. Most of our farmers send their fryers and old stock to market without a semblance of fattening. This accounts for the fact that the up-to-date poultry plants can get more per pound for their products than the farmers, for the flesh of a fowl that has been fattened is more tender and juicy than that of one that has not.

In writing this article I take it for granted that you do not possess a cramming machine; that you have convenient quarters for fattening, and that you have the fowls to fatten. The next thing needed is the proper food. I use both mash and grain, feeding as much grain as they will eat up clean and then the same of mash. They will eat twice as much when fed in this way as when fed only one kind of food. Don't leave much food before them, as it will spoil quickly. The grain to be fed should consist of corn, oats, Kaffir corn and barley, their importance ranking in order named. The mash should consist of table scraps, cornmeal, melted fat and a little salt, mixed crumbly. If you can obtain it use skim milk to mix it. Where cramming machines are used the food is more in the form of soup than mash; however, this is not at all desirable where the fowls "do their own eating." Feed three or four times a day, cleaning the mash buckets after each feeding.

If possible have your fattening coops in a semi-dark position and away from other fowls. Small coops are best, as exercise is not desirable. Keep them clean and sanitary, for you would be only wasting food did you try to fatten in filthy quarters. And never under any circumstances put a diseased fowl in a fattening pen, for in close quarters disease spreads most rapidly.

Don't give condiments or powders to fowls that you are fattening. Supply green food and green-cut bone occasionally as a "dessert." Skim milk and clabber are highly relished by the fatteners, and will help them greatly both in amount and quality of flesh. Milk-fed chickens are greatly prized; therefore I might suggest that you add a bovine to your poultry plant for the express purpose of producing milk-fed fowls.

The Dorking is considered a fine table fowl, as are also Rocks, Wyandottes, Orpingtons, Games and Langshans. In France, where table poultry is seen at its best, the Houdans and Faverolles are prime favorites. But for some reason the French breeds, with possibly the exception of the Houdan, have never met with favor in this country. The English prefer white-skinned table fowls, and with them the Essex is first choice. They sometimes cross Games and Dorkings to produce plenty of breast meat, a quality which is much sought after in all breeds. But whatever may be your breed, it is neglecting opportunities if you do not fatten your fowls before selling—American Poultry Journal.

THE GROWING DEMAND FOR CAPONS.

Any delicacy for the table is certain to be demanded in larger quantities as the years pass. People are constantly becoming more luxurious in their habits and demanding more costly and delicate foods. Whether this is an encouraging sign for the future of the country does not concern us in this connection. We recognize the fact that the rich man's sons and daughters are not content with the plain and substantial fare of their fathers. They must have something better than their forbears were contented with in the way of food and drink. It may be possible that the time will come in this country, as it did in ancient Rome, when the rich gourmands of America will not be content with anything less than nightingales' tongues and cocks combs to set forth for their guests, but just at present the capon is considered good enough for even the most delicate and discriminating appetite, and for this reason capons are coming more into demand every year.

There has been no recent year when capons could not be sold at a price which would bring the producer a net profit of one dollar for each one. At such prices the man who raises hogs to sell in the market seems to be engaged in a very decidedly unprofitable business compared with the raising of capons.

One of the best things about raising capons is the fact that they are so easily satisfied. They do not care for extraordinarily warm houses nor are they particular about delicate feed. They have good appetites and the disposition to eat whatever is set before them in the shape of wholesome feed, without getting delicate about it.

A great deal has been said about the enormous size to which the capons will grow. About as much plain lying has been done about this as about anything connected with the capon business. It is a fact that capons usually weigh more than cock birds of the same breed but not as much more as is commonly asserted. We know

Excelsior Egg Food

Is an Egg Producer and a Money Maker. It keeps poultry in most healthy condition.

ExcelsiorScratchFood

Is just what you have been looking for. Give it a trial and you will never be without it.

EXCELSIOR

None Others So Good

No others "just the same." Insist on **Excelsior** or write to us direct. Mention Cultivator.

Excelsior Cereal Milling Co.

242 Central Ave.
Los Angeles, Cal.

70c Eggs

Will they sell for that this season? Some say so. Will you get your share of this good money? More reason than ever with feeds so high that you should feed a scientifically balanced ration.

Egg-More

is not a strong tonic and stimulant, but a highly nitrogenous, concentrated Poultry Food, very rich in protein. A little fed daily with good grains will keep hens healthy, make them molt early, feather out quickly and lay lots of eggs. Have you tried it? Many have and are pleased. Here is just one:

F. W. Healy, the well-known banker and fancier of Pasadena, writes: "After hearing others praise Egg-More, I determined that if there was anything to keep hens laying through the fall and winter months, I wanted it. I bought a package of Egg-More and fed it and the improvement was very marked. Keeping on with it I soon proved the truth of your statement that 'you can't put all your eggs in one basket if you feed Egg-More.' I have raised poultry nearly all my life and for twenty years in California, but never did my hens lay so well as since I began to use Egg-More. I consider it the best egg producer on the market, and I do not intend to be without it."

You better try it. For sale by many dealers. If not by yours we will prepay freight on 12½ lbs., $1.00; 25 lbs., $1.90; 50 lbs., $3.60; 100 lbs. $7.00

Are you in the race for any of our

$50 Cash Prizes

$20 first, $10 second, $5 third, fifteen $1 each. Easily earned in an hour or more by any boy or girl, man or woman, but only one in each family, without any cost to you, and no peddling or canvassing. And to each one competing we will also give a useful article. Send postal for particulars, mentioning this paper.

West Coast Mill

707-709 So. Griffin Ave., Los Angeles, Cal.

Trap-Nested White Wyandottes

Eggs for hatching now ready from fall matings.

MISSION VIEW POULTRY RANCH, MRS. C. D. HUBBARD, SAN FERNANDO, CAL.

F. E. Baldwin's
WHITE LEGHORNS

THEY LAY
THEY PAY
At Every Pop
THEY SHOW
THEY GO
To the Very Top

First Prizes Everywhere Shown. Bargains *now* to make room. Send for Prices and Free Booklet.

46 Washington Ave. - San Jose, Cal.

GUTTING'S SUPERIOR WHITE ROCKS

Won 9 firsts out of a possible 10 and all specials and many other prizes at the great L. A. C. P. A. and Pomona Shows last winter. Place your order now for exhibition birds for the winter shows. Eggs now $3 per setting. Send for circular.

E. GUTTING 134 W. SLAUSON Los Angeles, Cal.

Now is the time to hatch **BANTAMS**
Golden Sebright, Buff Cochin, and Light Brahma Eggs, $2 per 15. Prize winners.
M. E. Dillingham Box 67, San Gabriel, Cal.

White Wyandottes Exclusively
Good, White, Typical Birds. Stock and Eggs For Sale.
W. A. SEYMOUR, R. F. D. No. 1, Anaheim, Cal.
Take Santa Ana Electric Line to Harper Station

White Wyandotte Cockerels For Sale
A few choice ones from best strains. Cheap—must be disposed of this month to make room in my yards.
Wm. C. Parker, 111 Pacific Ave., Santa Cruz, Cal.

High Priced EGGS

Are what all poultrymen like to get during the fall and winter; but without the very best of health in the flock and a good variety of sound, wholesome feed it is hard to get such eggs.

Nature requires that hens have a rest just prior to and during the molting period; the result is a scarcity of eggs, with higher prices, and a larger profit for those who can overcome the difficulty. The one that can get eggs during the fall will be just that much ahead of his neighbors and others who fail to do so, which in the end is the difference between success and failure.

COULSON'S EGG FOOD is the feed that will turn failure into success by enabling you to secure eggs in the fall and winter while prices rule high.

Improvements have been effected in the composition of the **EGG FOOD** during the past year, so that it is now richer in the various nutrients required by the laying hen, and is a better feed than ever before. Coulson's balanced ration poultry foods are guaranteed to contain nothing but wholesome ingredients.

"THE RIGHT WAY," our booklet fully describes **COULSON'S IMPROVED MASH EGG FOOD** and other balanced rations for poultry and gives full particulars of guarantee and directions for feeding and care of poultry from the time they are hatched. If you have no copy of it, you should drop us a line today; a postal card will bring it to you.

We have agents selling our poultry foods in nearly every town in California. If you cannot obtain what you want from your dealer, write to us and we will tell you where to get it.

Coulson Poultry & Stock Food Co.
Petaluma, Cal.

Germain Seed Co., Los Angeles
Distributing Agents for So. Cal.

of a considerable number of Partridge Cochin capons which were sold at ten months old, weighing a fraction of an ounce over nine pounds each, a weight which they would have equaled as cock birds at the same age, had they been fed in the same way. While as cock birds these capons would have brought about eight cents a pound, they really sold for twenty-one cents a pound in the Chicago market, more than two and one-half times the price they would have brought had they not been caponized.

Cockerels should be caponized about the time they are from twelve to fifteen weeks of age. The operation is so simple that anyone can do it without trouble. All caponizing instruments are sent with full instructions for using them, and these are so plain and simple that it requires no previous experience to perform the operation perfectly. If a bird dies from the operation he will die within five minutes, usually. Death is caused by bleeding to death because the artery in the back has been ruptured. Such a bird is as good to eat as he would have been had he died from having his throat cut, as in either case death is caused by bleeding, so there is no loss if the beginner does happen to make a mistake. The best caponizers lose about five per cent of the birds on which they operate. These birds are always used as food.

It costs about eighty cents to feed a capon from the shell to the market. The amount received above this may be counted as profit. No one need to fear the lack of demand. There is never a minute in the season when capons can not be sold at good prices. —Poultry.

POULTRY QUERIES.

Sleepy Disease.

Please let me know in your next number what is wrong with my little chickens. They are about a week old and some of them have what is called, I believe, "sleepy disease." They stand around the whole day with their eyes closed and seem to be asleep and after about three days die. Please let me know if there is a remedy. Nobody seems to know anything.—F. S., Brawley.

Your chicks are probably suffering from head lice.

These attack hen-hatched chicks and cause the symptoms of which you speak.

Take some fresh, unsalted butter or lard, and thoroughly grease the heads and necks of both hens and chicks, and examine closely. This should be done when the chicks are first taken from the nest, and in nine cases out of ten, anywhere from one to eight large gray lice will be found upon the head of each chick. If your chicks are incubator babies, there is some error in diet causing liver trouble, but they seem to me to be too young for this to develop, so advise a thorough search for lice. —Mrs. Frank Metcalf.

Pullets Don't Lay.

I have seventy-five pullets all hatched last March. They are White Leghorns and are very healthy and in fine condition. They are not fat. I feed them grain in the morning, a mixture of wheat and barley. At noon they get milk, green food, meat and bone. At night I feed bran. They do not lay an egg. They started to lay but stopped. Can you tell me what is wrong? What can I do to start them laying? What is your opinion in regard to feeding tincture of Cantharides in the drinking water?—J. W. L., Corcoran.

If your pullets are growing healthily, with red combs and all the tokens of health and vitality, I predict a harvest of eggs very soon if you will change the night feed to whole grain.

One might give them each a handful of corn, the next wheat, and the next oats or barley. If they leave any, give some other grain next morning, and alternate the grains as often as possible, but give corn at least three times a week at night only, from now on.

I don't like to put any stimulating mixture in the drinking water. As the water gets low, the danger of an overdose is considerable, and I think it rather a cruelty to hens to deprive them of a drink of pure water by dosing it with this, that, or the other.

The best stimulant to start them to laying is red pepper in the mash, one teaspoonful to each dozen, fed once a week, but we all know that stimulants must be used with discretion.

Stimulants to hens, and whisky to human beings belong in the same class. They stimulate to undue production of energy for the time being, but "take it out" of the system later on, leaving it, or them, in a weakened condition.—Mrs. Frank Metcalf.

Died in the Shell.

What is the cause of chicks dying in the shell?—Mrs. L. B. S., Fair Oaks.

There are so many reasons "why chicks die in the shell" that I sometimes wonder how any at all manage to hatch. Of course, Prof. This will say it is due to some error in the management of the parent stock, and Prof. That will say it is due to deadly carbonic acid gas, which generates in incubators and also under hens.

Prof. Some-one-else will be equally sure it is due to imperfect ventilation, and each one brings in plenty of "proofs" to support their claims.

Meantime the chicks continue to die in the shells, just the same, and whether they die of one cause, or whether they die of another, the fact remains that they are hopelessly dead, and our profits go glimmering in proportion to the numbers of them that fail to mature.

One very prolific cause of weak germs is the use of more than one male bird in a pen; the reason is obivous. Another is filthy nests, which allow the eggs to become fouled, excluding the air, in part, from the germ, and also poisoning what does filter through.

Another way to kill chicks in the shell, is to handle eggs with greasy fingers, one drop of grease being sufficient to spoil an egg.

A neighbor of ours once found her hens lousy while sitting, she soaked those nests with kerosene, and waited for the chicks in vain. Dead in the shell.

Sometimes people fill the lamps before turning the eggs in the incubators and fail to thoroughly cleanse their hands before finishing their work. This method is a sure way to kill embryo chicks.

Of course, incubators sometimes register too hot or too cold for long hours and hens take vacations while sitting, also. Operators of incubators are often very much to blame for poor hatches, either willfully disobeying printed instructions, or else not understanding them, and the effect upon the helpless chick is just the same in either case.

In hatching chicks, we are dealing with the unkown and unknowable forces of life and death, and we may no more hope to solve these problems perfectly in this short life, than we may hope to read the riddle of eternity.—Mrs. F. M.

Chicks 10c and Up

Send today and get our price list on 19 varieties of thoroughbred chicks and eggs. Prices 10c and up. We can supply chicks in any number. Right now we are hatching several thousand per week. We ship them safely to all points on main lines in Cal., Nevada, and Ariz. Write us; we will be glad to quote prices. We are here to stay, and are the originators of the baby chick business in Southern California. Over 230,000 chicks, ducks, geese, and turkeys have been sold by us so far this year. Largest baby chick dealers in the world.

Pioneer Hatchery Co.
108-112 E. 8th St. Los Angeles, Cal.

Gardena Hatchery
M. A. Schofield, Prop.
Wholesale Hatcher of Chicks

Considering price of eggs, chicks are cheaper now than any time in the year. We guarantee our patrons will receive a full count of *live* chicks. Write us your wants.

Gardena, Cal.

Wonderfully Elastic!

Page Fences "give and take" but never break. 25 years of practical experience woven into the fabric. No other fence has it! This is the "Jubilee Year" or Quarter-Centennial of Page Fence. "Jubilee" book FREE.
Page Woven Wire Fence Co., Box Y114 Adrian, Mich.

Didn't Feed Properly.

Will you please tell me, through the Cultivator, the trouble with my ducks. From the time they are hatched until they are 3 or 4 weeks old they are all right, and as lively as can be. Then they start to dying off without cause. They come from good, healthy stock. I feed hard-boiled eggs mixed with bread-crumbs and grit the first two weeks, then bran and sand. My big ones do finely on that, but out of 53 small ones I have 3 left. They are Indian Runner Ducks. —C. W.

This seems to be a case of starvation. Your baby ducks were filled, but not fed. Bran does not contain enough nutrition alone to support a growing chick, but is a valuable adjunct to other, more concentrated foods.

Had you added gluten in the form of low-grade flour, or even shorts, with a little corn-meal, the ration would have been more sustaining.

I have also found hard-boiled eggs unsatisfactory, and now use them raw, crushing the shell and all with the bran and shorts in the mash. Raw egg is a sovereign remedy for scours in calves, and is just as useful in bowel trouble among young fowls, whether ducks, chicks or turkeys.

Young ducks may be safely fed good, sweet corn-meal, if one-third bran is added to make it more bulky, and I have had excellent success raising them on this ration with plenty of green feed and fresh water. —Mrs. Frank Metcalf.

Sutter county alfalfa raisers are threshing alfalfa seed. Some of the better ranches it is claimed will net over $100 per acre, besides two crops of hay gathered from the same ground

The Ornamental Garden

THE ANEMONE.

ANEMONE is a genus of dwarf, perennial, herbaceous and tuberous rooted plants, indigenous to portions of Europe, Asia, Africa, and America. A large number of species is known; many are highly decorative, the flowers being of varied form and color, while others are of little value as garden plants. The average height of the tuberous rooted species is less than 1 foot, some of the herbaceous kind attaining a height of 4 feet. The so-called florist's anemones have been derived from anemone coronaria, the poppy anemone, a native of Southeast Europe, florists having raised from this species numbers of types and varieties that produce large blooms of varied form and coloring, combined with increased vigor in the growth of the plants and more profuse blooming. The anemone was at one period largely grown and freely exhibited, but like other garden flowers its cultivation, for some inexplicable reason, was abandoned for some time, but of late years the plant has again become a favorite subject of cultivators, chiefly on account of the excellence of some of the newly distributed types, of which the St. Brigid strain, Crown anemone, is a conspicuous example, the flowers exceeding in size and brilliancy those of the older varieties.

The tuberous rooted varieties are specially suitable for cultivating in places where water is scarce, a fine display of bloom being obtainable for little trouble and outlay. Anemone Japonica and its varieties are also valuable garden plants. The orginal species is a native of Japan, and in no way resembles the spring blooming kinds. The plants are fibrous rooted, herbaceous perennials, and the growth and flowers are produced during the summer and autumn. The flowers are white, and rose in color, and are borne in umbels on stems from 2 to 4 feet in height. Although classed as a hardy plant this anemone requires cultivation and moisture during the summer months.

Culture.

The most suitable soil for anemones of the tuberous rooted class is a moderately light loam which should be well drained to insure success. The addition of clay, or heavy loam to light sandy soils, or sand, ashes, or well decayed manure to heavy soils, will bring them to a condition suitable for the culture of these plants. They may be grown in beds specially prepared for them, or as patches or individual plants in beds or borders. The most important point in their culture is that no manure should come in contact with the tubers or even very near them, or their destruction is inevitable. In very poor soils some old and well rotted cow manure may be thoroughly mixed with soil at a depth of below 6 inches from the surface, but no fresh manure should be used. Tubers should be planted at a depth of 2 inches in heavy soils to 3 inches in light, care being taken that the crowns are placed uppermost. When the plants are grown in special beds the tubers should be set out in rows from 1½ to 2 feet apart, allowing from 9 to 12 inches in the rows for each plant. The same amount of room is advisable between each plant when anemones are grown to produce patches of bloom in beds or borders. Except in very dry places or when planting is deferred till late in autumn, the spring blooming anemones will not require any artificial watering during a normal season, and the only cultivation required is to hoe between the rows or patches, and keep the plants free from weeds. When the plants have finished blooming, and the stems and leaves are withered, they should be lifted, and after being dried, stored away until the planting season arrives. Plants allowed to remain in the ground will flower early in winter, but fine weather is essential for the production of blooms of good type and quality.

Anemones of spring blooming types are increased by dividing the tubers, and from seeds. After the plants are lifted and dried, they should be divided, before storing, into pieces, each containing one or more eyes or buds. Seeds should be saved from the finest types and flowers, which may be cross fertilized with ease. The anemone produces seeds freely, the seeds being clothed with a woolly covering and clinging together. They should be separated before sowing, the easiest way being to mix with them a quantity of dry sand or other gritty material, and rub them until they separate. They may be sown as soon as ripe, in small beds or boxes of fine soil. The young plants soon appear, and should be kept free from weeds and watered during dry weather, which will enable them to develop into fair plants, many of which will flower during the same year. After dying down they should be stored and replanted in season; when the tubers are very small, sifting from the soil is the common practice. If a good selection of seed is made some fine varieties may be produced. —Journal of Agriculture, New South Wales.

If not already sown, seeds of perennials and of many hardy annuals may be sown in a protected place this month. After preparing the soil, sow or plant the seeds, water well and cover from the hot sun until the plants appear, then gradually uncover.

After a shower, or when the foliage is wet, give the rosebuds a thorough dusting, on all sides, with sifted wood ashes. If this is done, whether insects appear or not, it will save trouble.

Never let the soil get dry, and protect from sun and wind with either cloth, paper, or lath frames. The secret of success with late summer planted seeds is shading the plant bed and giving moisture until well started.

Nearly all plants thrive best if given plenty of breathing space, either by spacing when transplanting, or by pruning off the side branches. Many plants give larger and better bloom for this vigorous lopping off.

Give a lawn a dressing of fertilizer in midsummer. If you have no old, well-rotted manure, get the commercial fertilizers, as they are not expensive, and be liberal with them.

Don't let the garden go "ragged" this month. Pull and burn every weed you can reach. Remove all dead stalks and dried leaves from the flower beds.

Pile potting soil in the sun to sweeten, turning often.

Trinidad Lake Asphalt is the only lasting weather-resister. There's nothing better for roofs.

Genasco Ready Roofing

is made of this perfect natural waterproofer. No artificial substitute will last anywhere near as long. Look out for the roofing that is "just as good."

Ask your dealer for Genasco. Mineral or smooth surface. Insist on the genuine with the Genasco trade-mark. Write for samples and Book 35

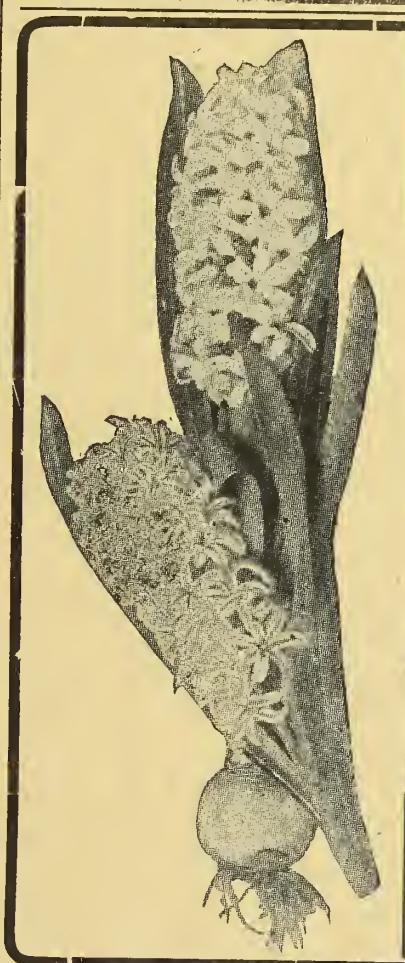
THE BARBER ASPHALT PAVING COMPANY

GENASCO — THE STANDARD OF EXCELLENCE — TRADE MARK

Largest producers of asphalt, and largest manufacturers of ready roofing in the world.

PHILADELPHIA

New York San Francisco Chicago



Fall Assortment of Bulbs

Send for our new 1908 Bulb Catalogue. It tells how, when and where to plant them.

GERMAIN SEED AND PLANT CO.

326-330 S. Main St.
Los Angeles, Cal.

SEEDS

Plants **Trees**

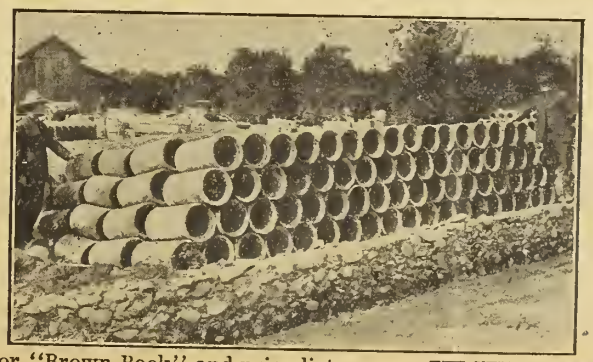
BULBS

We are headquarters for GARDEN and FIELD SEEDS. Those who are not yet in receipt of our Fall Catalogue, send for it at once.

Quotations will be given prospective planters of CLOVERS, ALFALFA or GRASSES.

Remember, our handsome new 1909 General Catalogue ready for mailing in December, will also be sent to those who write us now.

C. C. Morse & Co. 41 Jackson St., also Market St., San Francisco



From photograph showing amount of

Ten-Inch Pipe

made by four men from 10 bbls. of cement in 9 hours — 280 two-foot joints, or 560 feet. This pipe was made with the

"K T" Moulds

An equal amount can not be made with any other tools in the same period of time. Write for "Brown Book" and price list.

THE KELLAR-THOMASON MFG. CO., Covina, Cal.

Six of the Most Valuable New Fruits

Ever Introduced in California

"Improved French" Prune
Originated by Luther Burbank

"Concord" Walnut French Variety
Grafted trees only. Better than Franquette or Mayette

"Paul" Cherry Finest Black Cherry

"Philippi" Grape Handsomer than Tokay; a month earlier. Disinfected cuttings only, to comply with quarantine laws.

All these, like Muir, Lovell, and Phillips Cling Peach, are of California origin.

"Comet" Red Currant Much larger, earlier and sweeter than any other.

"May Duke" Gooseberry
Earliest of all; large; smooth skin.

Write for Further Particulars.

EUCALYPTUS TREES by the 1000 or 100,000. No stronger stock; grown in the open, without lath shade or screen, therefore hardened to all weather.

GENERAL NURSERY STOCK

Leonard Coates Nursery Co., Inc.
EST. 1878. INC. 1905.
Morganhill, Santa Clara County, Cal.

PLUMBING

Plumbing Materials

WATER SEWER PIPE

ALL PLUMBING REPAIRS

We contract to furnish all the materials and do the work or furnish the materials only.

GET OUR PRICES

JAMES W. HELLMAN

Hardware, Stoves, Etc.

157-161 NORTH SPRING STREET

LOS ANGELES, CAL.

When writing advertisers, mention Cultivator.

300,000 Feet Water Pipe Cheap

ALL SIZES

150,000 feet of this shipment is second-hand pipe, practically as good as new, and is now on sale at a big discount by the Adams Pipe Works, 2025 Bay street. Sizes and prices: ¼-inch 2 cents per foot; ⅜-inch, 2 cents per foot; ½-inch, 2¼ cents per foot; ¾-inch, 3 cents per foot; 1-inch, 4¾ cents per foot; 1¼-inch, 6 cents per foot; 1½-inch, 7 cents per foot; 2-inch, 9¾ cents per foot; 2½-inch, 15 cents per foot; 3-inch, 19 cents per foot; 3½-inch, 24½ cents per foot; 4-inch, 30 cents per foot.

Oil well casing prices and sizes: 2-inch, O. D. 7 cents per foot; 2-inch, I. D. 9 cents per foot; 3-inch, 13½ cents per foot; 3¼-inch, 16 cents per foot; 3½-inch, 17 cents per foot; 4-inch, 20 cents per foot. All pipe is carefully inspected, new couplings and new thread are put on every piece, every joint is guaranteed to be first class, serviceable pipe. Mail orders promptly filled. To reach the Adams Pipe Works in Los Angeles, take car marked Pacific Boulevard, starting east on Seventh street from Broadway. Ask conductor to let you off at Bay street and go east half block. Phones, F1917, Broadway 1264.

Rhoades & Rhoades
Expert Live Stock AUCTIONEERS

Sales conducted in all parts of California and adjoining States. Write for dates and terms. Twenty-five Years' experience.

830-32 South Main St., Los Angeles

When writing advertisers, mention Cultivator.

Queries and Replies

Questions to be answered in this department should be received at this office one week before reply is expected. Write plainly on one side of the paper and sign full name and address. Unsigned communications receive no attention.—Ed.

Farrow Cow.

I have a cow which I expected would be fresh about the first of September. Consequently dried her off during August, though she was very hard to dry off, owing to giving so much milk. I find I am mistaken, as she is not with calf and is now very fat. She is now giving only about half a pint of milk at each milking. Am feeding bran mash and working with udder in effort to bring her back to her milk. Can you suggest anything to help me so that I will not have to wait ten months with a dry cow on my hands?—P. J. M., Florence.

I fear it will be quite impossible to bring a cow that is distinctly farrow back to milk flow. When an animal fails to breed and grows fat, we usually consider her usefulness past as a dairy cow. The only thing I could suggest would be to give her a calf to nurse. This might start the milk secretions, as it does sometimes in heifers that have never been bred.—M. E. S.

Wounded Cow.

I have a cow seemingly in the best of health, giving her usual amount of milk. About six days ago a watery, sticky fluid came through the hide on her hip. It dried up the next day but three days later came out on her shoulder. That has dried up and it now has come out on her leg. It is a little yellow and when dried up a little purple; sticky when wet. The cow keeps well, does not fail in milk, has no swelling at all. She is two years old. Please state through your paper what you think it is and whether her milk is good to use.—P. S., Tulare.

Do not know, but would look around for something that the cow punctures herself on or something that makes bruises. If this was on the glands of the body, as the milk glands, one would think it best to test her with tuberculin.—M. E. S.

Agricultural Schools.

Will you please give me the name and address of some agricultural school in California?—H. J. C., Laton.

The only agricultural college in California is that at Berkeley connected with the state university. Connected with the same institution is the Agricultural Farm or School at Davis, which will not open until January 1. There are now in session at that farm the short courses. In regard to the above write Prof. E. J. Wickson, Berkeley. The State Polytechnic School, which has a strong leaning toward agricultural education, is located at San Luis Obispo.

Bermuda.

I would like to know if Bermuda grass is good feed for a milch cow. I have a watered, green, pasture, and in addition my cow gets a small forkful of alfalfa twice a day. She is a high grade Jersey in good condition. She does not milk so well as she did last winter and the fore part of the summer. I get only four quarts at a milking. She did better till within two weeks of the time she was fresh. We have fed potatoes part of the time but she has not increased any.—A. C. B., San Jacinto.

Bermuda is often too short for cows to make much milk. Potatoes are of little account as food, being more in the nature of lightener of diet. Increase the alfalfa hay and she may increase in milk yield. Many cows, however, have off years in milking. I had one cow that used always to give less milk every few years so that we were almost tempted to make beef out of her, but in her regular season she would give enough to make good her losses.—M. E. S.

For Mehring Foot-Power Milking Machines see O. J. Weber Co., 555-557 S. Los Angeles St., Los Angeles, Cal.

Walnut Bleach.

Can you inform me as to the new walnut bleach for walnuts as published recently?—Subscriber, Anaheim.

The bleach is claimed to be very effective, and many of the associations here signed up for the installation of the plant this year. More would have done so had it been possible to secure the appliances necessary. It is thought that by another year nearly all will be using this method.

Sorghum and Mangels for Feed.

I have been a reader of the Cultivator for many years and think it the best paper published on the coast. I find its query columns of great value. Will you kindly answer, does mangel wurtzel make good hog feed? Is sorghum a good milk producing food and how much can be grown to the acre in good, black soil.—F. T., Los Olivas.

The mangel does make an excellent addition to the diet for hogs, more perhaps for its beneficial effect upon the health than because of its food content. Regarding information about sorghum would refer you to Mrs. Sherman's article on page 249, September 10. In that it will be seen that it is an exceptionally valuable feed, especially valuable in a year like this when the dry season is so long. It grows slowly at first but when thoroughly rooted grows more rapidly. We cannot give the tonnage but an exceptionally heavy yield is given by feeding or cutting, as it stools out and makes a new crop from the roots.

Eucalyptus Seed.

When is the proper time to gather eucalyptus seed and how do you prepare it for sowing? Is seed gathered from trees planted one year ago last spring as good as from older trees?—R. B. H., Tulare.

The proper time to gather the seed from eucalyptus is when fully ripened and no preparation is necessary for the sowing, other than to dry the pods so the seeds will rattle out on the sheet or tray on which they are drying. We would prefer the seed from older trees.

Stock for Walnuts.

Would you recommend grafting English walnuts on black root or is the ordinary soft shell root better, where they are to be planted in a canyon in the mountains? The land is not adobe and holds moisture well, but cannot be irrigated. Is the black root graft an experiment? Or has it proved all that was expected of it? Does blight affect walnuts as much in the mountains as in the valley? Does extreme heat affect this tree? The land in question is fifteen miles from the ocean, soil rich, chalky in formation, has raised a good crop of lima beans. What will it cost me to plant it?—A. P., Oxnard.

Anthrax Cure, Milk Fever Outfits. See O. J. Weber Co., 555-557 S. Los Angeles street, Los Angeles.

We cannot answer all your questions, but will refer them to experienced walnut growers. Would say, however, that the grafting on the black root is no longer an experiment and has been successfully done in many fine orchards. As to which is the best it is impossible to say as there are diverse opinions on the subject. If the canyon in question has any native walnut trees growing we would surely graft on them as they stand. Some nurserymen and planters prefer the hybrid walnut, produced by Luther Burbank, as a grafting stock as it grows a larger and thriftier tree. If the land is where there are fogs or where the moisture is very continuous in the spring time, there will be more injury from blight in the dryer, warmer valleys.

Garget.

Will you kindly advise me through your columns as to the best treatment for a cow coming in that has been subject to garget before?—Subscriber, Pasadena.

Feed no grain for two weeks before calving. Twenty-four hours before she comes in give her a pound of Epsom salts with one ounce of ginger. After she calves keep her warm and repeat the salts a couple of times. Milk carefully and avoid heavy feeding. Keep the udder soft by the use of vaseline mixed with lard.—M. E. S.

Pruning Loganberries.

I have Loganberry plants which have two summers' growth since planted. Please tell me how to prune so as to secure the greatest returns next year. Also how should I prune next summer or will no more pruning be necessary until a year from this time? Is it best to trellis them?—H. A. S.

Hardly any two growers pursue the same method with the Loganberry. Many advocate training them on a trellis but I have always thought it a great waste of labor—except possibly in small gardens where space is limited and only a few vines were grown. If your plants have gone two seasons without pruning there will be first the old wood of the first season's growth to cut out, and the past summer's growth should be thinned out aud shortened back. How much thinning and how far to cut back will depend somewhat on how far apart the rows are and how far the plants are in the row. I have been very successful in growing them in rows about 6 feet apart with the plants 6 to 8 feet apart in the row. Thin to 6 or 8 best canes and cut back to the length that will equal the distance between plants. Then bend half the number of canes each way from the hill, along the length of the rows, allowing them to lie upon the ground. Sometimes it is necessary to drive down a light stake—a piece of lath will do—to keep the canes in place. If this is done by February the fruit spurs will all grow upward toward the light, making the fruit easy to pick.—Q. A. L.

RESULTS OF THE AUSTRALIAN EGG LAYING CONTEST.

The South Australian Egg Laying Contest during the twelve months ending March 31st, 1908 resulted in a wonderful egg record. There were 78 pens of six fowls each that took part in the competition The leading pen, which was white Leghorns, laid 1531 eggs during the twelve months, an average of better than 255 eggs each. The second pen was but three eggs behind. Of the 20 leading pens, all of which were above 1180 eggs, 14 were white Leghorns, 3 were Black Orpingtons, two Silver Wyandotte and one white Wyandotte. This contest was held under the auspices of the Agricultural College.

Warranted to give satisfaction.

GOMBAULT'S
CAUSTIC BALSAM

A safe, speedy and positive cure for

Curb, Splint, Sweeny, Capped Hock, Strained Tendons, Founder, Wind Puffs, and all lameness from Spavin, Ringbone and other bony tumors. Cures all skin diseases or Parasites, Thrush, Diphtheria. Removes all Bunches from Horses or Cattle.

As a HUMAN REMEDY for Rheumatism, Sprains, Sore Throat, etc., it is invaluable.

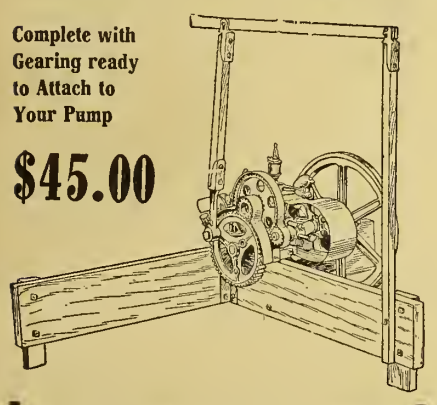
Every bottle of Caustic Balsam sold is Warranted to give satisfaction. Price $1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars, testimonials, etc. Address

THE LAWRENCE-WILLIAMS COMPANY, Cleveland, Ohio.

Aermotor
Gasoline Engine

Complete with Gearing ready to Attach to Your Pump

$45.00



Will pump all the time, wind or no wind, and deliver as much water as an 8 ft. Aermotor in a good wind.

From 225 to 1600 gallons per hour, depending on height water is to be raised.

Air cooled, uses Gasoline or Distillate.

A reliable, durable engine at a very low price. Can You Afford to be without one.

Send for Special Circular.

Tanks Towers Pumps Distillate Engines

Smith-Booth-Usher Co
Machinery and Supplies
Successors to
S. J. Smith Machinery Co. and L. Booth & Sons
212-214 S. Los Angeles St., Los Angeles
Home, Ex. 1090—Sunset, Main 1090

Peckham Says:

How to Make $2000 a Year

Don't sell your life away by the week or month. Get busy and do something for yourself and your future You can do it by taking hold with me and building for yourself a self-supporting home on my land at Corcoran.

Where you can raise two crops every year—where you can make $2000 a year or better.

Is this what you are looking for? If so take the few minutes' time necessary and come in and see me, or if you cannot call send your name and address on a postal for my magazine, "Profitable Realty," which tells the whole story. Send for it today.

George C. Peckham & Company

Phones: Main 3221, F5392.
203-4-5 Union Trust Bldg., Corner Fourth and Spring Sts., Los Angeles Cal.

The new levee in district 777 near Live Oak, Sutter county, is nearly completed.

Veterinary

Dr. R. T. Whittlesey, veterinarian, of 714 East Seventh street, Los Angeles, will answer questions in this department. In writing of sickness or injury to any animal be explicit in giving symptoms and particulars. Always enclose full name and address, but if assumed name or initials are preferred they will be used.

If an immediate mail reply is wished enclose $1.00 for such service, but for replies in paper only, no charge is made if the answer will be of general interest.

Please address all questions that are to receive gratuitous replies through these columns to California Cultivator, 115½ N. Broadway.

All communications to Dr. Whittlesey direct should contain a great big dollar.

Wind Puff.

I am offered three-year-old colt, said to have small wind puff on one leg from strain. I would like to ask, if it is curable, what to use for it. If cured will it come back later on? And if not cured, will it likely get larger?—L. D. H.

Yes, they are curable. Use Tincture of Iodine on puffs, cover with cotton and tight roller bandage. Change once daily. Yes, they will probably come back again. They will get larger.

Scours.

I have a horse which has a bad case of scours which has become chronic. Have tried change of diet, using different kinds of hay, but failed to cure. Can you help me through the Veterinary Department?—R. S., Hemet.

It is often very difficult to control. Thoroughly cured alfalfa will usually help. Give astringent in feed. One to two drams of Tannic Acid in feed twice daily. If he refuses to eat, wrap it in a piece of paper and put it down his throat.—R. T. W.

Eruptions.

Please tell me through the Cultivator what to do to cure my colt of rubbing and gnawing herself. Her neck, shoulders and legs are all spotted, the hair has fallen out of spots, her legs are full of little lumps, and she bites them until they are raw. I know that I have over-fed her, but for the last two months I have been reducing her feed considerably. All the food she gets now is chopped pumpkins, morning and afternoons, oat hay at night. Twice a week I give her a bran mash with sulphur in one and salt peter in the other. She does not rub and bite herself quite as much now as she did some time ago, but she does lots of it yet.—T. I. W.

Your system of feeding is all right. Rub coal oil into affected parts two or three times weekly.—R. T. W.

Rubbing Tail.

What causes my mare to back herself up against the fence and rub the hair off her tail? What is the remedy for it?—H. J. W., Pasadena.

Either pruritis or Ascaris equorum. For the former, use ordinary coal oil well rubbed into the tail twice a week. For the latter give strong saline enemas daily for a week.—R. T. W.

What was It?

We have a mare eight years old and always in good condition until a short time ago she began to grow thin until she was nothing but skin and bones. She was in this condition about two weeks and then took to eating and is gaining rapidly.—C. E. L.

Did she drink or not? Were her bowels loose or not? Did she have any fever at time she commenced to get thin?

Did you examine her teeth at any time? Did you feed her all she wanted to eat at all times?

There are a great many diseases that will make a horse loose flesh. You have given me no symptoms to judge as to her trouble. Did she eat all this time or refuse her feed? Did she chew it or not?—R. T. W.

Subscribers must give some information as to condition if any information is to be given in return. The fact that a horse or other animal was sick and died or sick and got well is no diagnosis which will enable a physician to write a prescription.

IMPORTANT MEETING.

All over California the "get together" movement is becoming more evidenced with the passing of every day. In counties the people belonging to various commercial organizations are realizing the advantages of co-operation and they are forming county organizations, and these, in turn are combining in district organizations. Regular meetings of these district organizations have done much to bring about a closer bond of sympathy and mutual interdependence among the various parts of the State The idea of co-operation and mutual work is carried to its conclusion as a State building factor in the semi-annual meetings of the Counties' Committee of The California Promotion Committee, where all the counties have representatives who meet to talk over matters that mean much for State development.

At Los Angeles the tenth semi-annual meeting will be held on Saturday, November 14, and much of interest will be brought out in the discussion of the general theme of "The Tourist in California." Prominent speakers will be present, among them being F. H. Newell, Director of the United States Reclamation Service who will tell of what has been done and what will be done in California by his department. Director Newell's address will be illustrated by his famous stereoptican views.

A special train will carry the delegates from the interior valleys, the coast cities and the San Francisco Bay region and will leave San Francisco for Los Angeles via the Coast Line, on a daylight run over the Road of a Thousand Wonders.

HAVE YOU TRIED LIME?

A good many people write us complaining that their alfalfa starts out all right but soon begins to look yellow and finally dies out. One or two things, may be both, is the cause in such cases. Either the land lacks lime and is sour, or it lacks the natural bacteria that the alfalfa must have. Our advice in such cases is to put about 30 bushels of water-slaked lime to the acre, on that soil and immediately after sowing scatter say from 500 to 1000 lbs. of soil from some good alfalfa field to inoculate it. In Indiana they are using large quantities of raw limestone rock ground fine, spread about 8 tons to the acre on land that is too sour to grow clover or alfalfa well. They say it is producing fine effects. It costs, we believe, about a dollar a ton. Very often an application of acid phosphate say 500 lbs. to the acre, helps alfalfa greatly. It is not a good thing to manure alfalfa much after it has started to grow. If manured at all, none but the fine rotted article should be used. But we are certain that there are a great many farms where the soil is too acid and needs the lime as suggested. —Hoard's Dairy.

The picking of wine grapes has practically discontinued so far as the first crop is concerned and at the prices which have prevailed it is probable that the second crop will not be gathered.

Wood Soled Boots and Shoes. Boots, $3.25; Shoes, $2.00. O. J. Weber Co., 555 South Los Angeles St., Los Angeles, Cal.

Classified Liners

Rates 1½ cents per word per issue. No ad accepted for less than 25 cents. Our classified columns are the clearing house for the readers of the Cultivator. Here you can insert an ad for the small sum of 1½ cents per word per issue, and be sure that it will be read by thousands.

MACHINERY.

WE CARRY A GENERAL LINE OF MAchinery, gas engines, air compressors, boilers, engines and pumps. 40 car loads of screw pipe and casing can be cut to lengths, also all kinds and sizes of fittings. Several hundred iron fence posts. R. KELLY MACHINERY CO., corner of Mission road and Macy street, Los Angeles. Cal.

FOR SALE—MEHRING MILKING MAchine with extra parts and covered pail, all in good order. WM. H. BIRD. Box 6, Compton, Cal.

FOR SALE—RENT OR EXCHANGE, BOILers and engines, gas engines, pipe and oil well casing, pumps, all sizes and makes; get our prices before you buy. A. CANNADY & CO., 691 N. Main st., Los Angeles, Cal.

FOR SALE—FOUR H. P. UNION GAS ENgine. Fine condition. Cheap for quick sale. MACHINERY EXCHANGE, 943 N. Main St., Los Angeles.

FOR SALE—WE BUY, SELL, EXCHANGE and rent both A. C. and D. C. motors. BAILIE & BRANDT CO., 943 N. Main St., Los Angeles.

FOR SALE—9 H. P. GAS ENGINE mounted on trucks. Practically new. Cheap for cash. N. W. Cor. MAIN & BRUNO Sts., Los Angeles.

FOR SALE—SMALL POWER PUMP HEAD. Have no further use for same and will sell cheap. 117 BRUNO St., Los Angeles.

FOR SALE—WINDMILLS, TANKS, PIPES and engines. Bore wells for 85c per foot and up. JOHN Q. MASTIN, San Gabriel, Cal.

FARM LANDS FOR SALE.

FOR SALE—165 ACRES IN VENTURA CO., 4 miles from Moorpark; 90 acres under cultivation, suitable for beans, corn or hay; balance pasture land, all fenced; ½ mile from school; 10 acres in fruit, full-bearing peaches, apricots, pears, apples, prunes, grapes; price $3000. Inquire or write to owner, W. C. MAYHEW, Moorpark, Cal.

FOR SALE—1 TO 10-ACRE TRACTS ON CAR line, between Riverside and new cement works; good for chicken ranches, alfalfa or gardening; will sell on easy terms; plenty of water on each tract. C. C. POND & N. R. BELL, Riverside, Cal.

ORANGE GROVES.

FOR SALE—ORANGE LAND, 60 ACRES, 2½ miles east of Strathmore Station, 6½ miles from Lindsay, same distance from Porterville, Nearly all "dry bog" soil and very little leveling; a splendid well, double cased to bottom; price $125 per acre; $3500 cash, balance to suit purchaser. A. C. AMERINE, Lindsay, Cal.

POULTRY

SPECIAL SALE—TO MAKE ROOM FOR my young growing pullets I offer at common stock price all my this year's breeding pens, including many prize winners. This is a rare opportunity to get first class breeders cheap. At the last L.A.C.P.A. show my birds won all specials, all first prizes, and all seconds but one, that were offered on Barred Rocks. CHAS. E. SMITH. Gardena, Cal. San Pedro car via Gardena to Smith's Crossing.

MAMMOTH BRONZE TURKEYS—NONE in State larger or finer marked. A few young toms and hens for sale Nov. 1st. Price on application. Eggs in season. Mrs. LAURA E. HARDING, Brawley, Cal.

PIT GAMES—THE LEADING AMERICAN strains and grade Japs. Young trios, breeding stock and walked cocks for sale; also breed pure Cornish Indians. O. L. CRANE, Rural No. 3, Santa Rosa, Cal.

PARTRIDGE WYANDOTTES—C. Andrews, 823 W. Franklin Ave., Hollywood, Cal.—1st cock, hen, cockerel and pullet; 4 cups, Poultry Breeders' Show, 1908.

BEES.

FOR SALE—OR TRADE, ON THE BASIS OF $3200; 330 stands of bees in Imperial Valley, fully equipped and shaded power extractor; 3-roomed house, farm implements and 10 acres of land. A bargain. I have a fine location but poor health. Address H. PERKINS, Calexico, Cal.

DOGS.

SABLE AND WHITE COLLIE PUPPIES—Sires, Brandane Wishaw Squire and Glen Fana Bounder, litter brother to Aufield Model. Dams, Ormskirk Gloriana and Presidio Nellie. $10 to $25; 2 to 8 months. GLENALPINE KENNELS, Grandville, Cal.

TREES.

WALNUT TREES—500 LARGE, STOCKY seedlings. Seed from grafted trees of Placentia Perfection variety. Will sell very cheap if taken before Dec. 1st. as land must be cleared. G. W. SHERWOOD, Fullerton, Cal.

FOR SALE—1,500 EUREKA LEMON TREES and 1,000 Washington navel orange trees, true to name. Also street and ornamental trees. Clean, healthy stock only offered. GEO. B. WARNER, SANTA ANA, CAL.

SHOPPING BY MAIL.

SAVE MONEY AND GET A BETTER choice by shopping in a large city. We will do your shopping for you. Send for our free book. It tells you how. LOS ANGELES PURCHASING CO., 506 Bradbury Bldg., Los Angeles, Cal.

HOGS.

REGISERED BERKSHIRE AND POLAND China hogs, both sexes. C. A. STOWE, Stockton, Calif.

PHEASANTS.

FOR SALE—FIFTY CHINESE RING NECK Pheasants in lots to suit the purchaser. Cocks $3.00 to $5.00, hens $1.00 to $2.00. Mrs. R. S. Spaulding, 533 WALNUT St., Woodland, Cal.

What MORE Could You Desire In A Savings Bank?

20,000 Depositors
Strong Directorate
Capital and Surplus Over
$900,000
Resources
$10,000,000

GERMAN AMERICAN SAVINGS BANK

Tallest Building in Los Angeles

SPRING & FOURTH STS.

Heart of the Business Center

Model Banking Facilities

6% INTEREST PAID
STATE MUTUAL
BUILDING & LOAN ASSN.
223 S. SPRING ST., LOS ANGELES, CAL.

ESTABLISHED 1889
Largest Association in California
Assets [Jan 1, 1908] $2,002,111
No Admission or Withdrawal Fee
Only 30 Days' Withdrawal Notice
Money to Loan for Building

OFFICERS AND DIRECTORS

DR. W. G. COCHRAN, President
A. E. POMEROY, Vice President
J. M. ELLIOTT, Vice President
W. D. WOOLWINE, Vice President
C. J. WADE, Secretary

D. M. CUTHBERT, Loan Inspector.
Send for Booklet and Statement
Mention This Paper

Come to Oakland for Business Training

Polytechnic Business College and School of Engineering,

306 Twelfth Street, Oakland, California.

offers by far the best facilities ever devised in the West for highgrade business training. This large institution is like a series of large business offices where students are trained in actual business practice. Every graduate of the complete business course of this college is employed. Pleasant, homelike places in private families, for young men and women, are reserved, practically at cost.

Courses in Business Training, Shorthand and Typewriting, Telegraphy, also Civil, Electrical, Mechanical and Mining Engineering.

FREE College Journal and one doz. Cards with your name written thereon will be sent any one upon request.

PIANOS Slightly used Steinways; 1909 Model Lyon & Healys, and other remarkable Bargains. Lyon & Healy, 80 Adams St., Chicago.
World's Largest Music House
Our Great Re-Building Sale is Now in Progress!

EDISON PHONOGRAPHS, VICTORS, ZONOPHONES
Records and Supplies, delivered at your nearest railroad station upon receipt of full retail price. Write for particulars and ask for catalogue. Peter Bacigalupi & Sons, 1113-15 Fillmore St. San Francisco

Household Department

SELLING THE FARM.

Well, yes, we settled, ma and I, that
we would sell the farm;
We are getting on in years and toil
has somehow lost its charm.
So we said we thought it time to lay
some of life's burden down,
And the married children thought we
ought to buy a home in town.

Well, a purchaser come right along,
for I'll own, I'm free to say,
That a better or a prettier place you
might search for many a day,
With its fertile fields and wooded hills
and meadows lush and green,
And buildings snug and neat and trim
as any ever seen.

But it's strange how old familiar
things will twine around the heart,
And we never dream how close they
cling till we sense that we must part.
And when it comes to business, sir,
that's what I meant to tell,
We found a precious lot of things that
somehow wouldn't sell.

There's the willow that ma planted
some forty years ago;
It has grown into a mighty tree with
branches drooping low.
And the children played beneath its
shade when the days were long and
warm—
Now I wouldn't sell that willow tree
for the price of this old farm.

And it's curious how we grow to love
the things we plant and tend —
Every tree in that old orchard seems
just like a human friend.
And I couldn't help but meditate how
we'd miss them, ma and I,
That tree of Golden Pippins and the
hardy Northern Spy.

And then the precious memories that
cluster 'round the place—
They seem to fill these homely
rooms with beauty and with grace.
We could seem to see the children
flitting blithely here and there,
And to hear their merry voices calling,
calling everywhere.

Then one day I found ma sitting by
the rose bush at the door
With the wistful look upon her face
I'd noticed there before.
And I just dropped down beside her
and she looked up at me,
And something blurred our dim old
eyes till somehow we couldn't see.

And then we settled, then and there,
that we'd stay on this old place
Till the Lord sees fit to call us to
stand before his face.
And we're mighty glad to tell you,
sir, we have no desire to roam,
For we think we know just what it
means to sell the old farm home.

Maxwell's Talisman.

"THE HOLY CITY."

THIRTY men, red-eyed and disheveled, lined up before a judge of the San Francisco police court. It was the regular morning company of "drunk and disorderlies." Some were old and hardened; others held their heads in shame. Just as the momentary disorder attending the bringing in of the prisoners quieted down, a strange thing happened. A strong clear voice from below began singing:

Last night as I lay sleeping.

Last night! It had been for them as a nightmare or drunken stupor. The song was such a contrast to the horrible fact that none failed of a sudden shock at the thought the song suggested.

I stood in old Jerusalem,
Beside the temple there,

the song went on. The judge had paused. He made a quiet inquiry. A former member of a famous opera company, known all over the country, was waiting trial for forgery. It was he who was singing in his cell.

Meantime, the song went on and every man in the line showed emotion. One or two dropped on their knees; one boy at the end of the line, after a desperate effort at self control, leaned against the wall, buried his face in his folded arms and sobbed.

"Oh, mother, mother!"

The sobs, cutting to the very heart of the men who heard, and the song still welling its way through the court room, blended in the hush.

At length, one man protested.

"Judge," he said, "have we got to submit to this? We're here to take our punishment, but this—" he began to sob. It was impossible to proceed with the business of the court, yet the judge gave no order to stop the song. The police sergeant, after an effort to keep the men in line, stepped back and waited with the rest. The song moved on to the climax:

Jerusalem, Jerusalem! Sing for the
night is o'er!
Hosanna in the highest, hosanna
for evermore!

In an ecstacy of melody the last words rang out, and then there was silence.

The judge looked into the faces of the men before him. There was not one who was not touched by the song, not one in whom some better impulse was not stirred. He did not call the cases singly—a kind word of advice, and he dismissed them all. No man was fined or sentenced to the workhouse that morning. The song had done more good than punishment could possibly have accomplished.—Youth's Companion.

THE LOVE SONG.

(It is said that the men of today are far less passionate in their love making than their ancestors.)

I love you, or at least I think
That very possibly I do;
In common honesty I shrink
From statements not precisely true,
But still it's safe to say I'm pretty
fond of you.

I cannot swear a mighty oath
To worship blindly till I die,
In fact I should be rather loath
To form so very rash a tie,
Unless I knew a most substantial
reason why.

I shall not, with a valiant air,
Pour out my life-blood for your
good,
Nor even boastfully declare,
That if I had the chance I would,
Because, to tell the truth, I hardly
think I should.

No knightly deeds have I to do,
And no impassioned words to say;
Still, I should like to marry you,
If you will tell me that I may,
And also kindly name the most convenient day.

I can't explain the thing, you know
(They used to tell us Love was
blind),
But since it hapens to be so
Forgive my weakness, and be kind,
Or, if you're not that way disposed —
well, never mind!

—Punch.

"If thou would gather words that shall
avail,
Learning a wisdom worthy to
express,
Leave for a while thy chat and empty
talk
Study the golden speech of silentness."
If thou hast yesterday thy duty done,
And thereby cleared firm footing for
today,
Whatever clouds may dark tomorrow's
sun,
Thou shalt not miss thy solitary
way."

—Goethe.

Pioneer Rubber Sanded ROOFING

The Roof that "proves," sun-proof and rain-proof; needs no paint or repairs. Following are a few "Wont's" about Rubber Sanded Roofing:

Won't chip. Won't warp.
Won't tear. Won't crack.
Won't rust. Won't decay.
Won't shrink.
Won't crumble.
Won't need repairing.
Won't absorb moisture.
Won't attract electricity.
Won't need any paint to preserve it.
Won't be affected by any climatic changes or conditions.
Won't cost as much, in the long run, as other roofing.

What Rubber Sanded WILL do is told of in our booklet "ROOF TALK," which will be sent free upon request, together with samples of the Roofing itself.

Pioneer Roll Paper Co
Makers of Rubber Sanded Roofing and Refiners of Asphaltum
Department 11, Los Angeles, Cal.

Hague Domestic Oil Burner

Showing the Method of Attaching to Cook Stove. A device for using low grade distillate. Saves 40 per cent of cost of coal or city gas—let us prove it. Write for circular.

Hague Domestic Oil Burner Co.
214 Winston St., Los Angeles, Cal.

BANK DEPOSITS Guaranteed
by State of Oklahoma Guaranty Fund. Your money absolutely safe. We pay 4% on deposits. Draw your money any time. Largest State Bank in Oklahoma. Capital $200,000. Write for booklet A. E. We sell 6% School, County, and City Bonds.
OKLAHOMA TRUST CO., Muskogee, Okla.

FARMERS' BOOKS
Order Through the Cultivator

FEEDS AND FEEDING.—By Prof. W. A. Henry. Is a thorough, accurate and reliable handbook for students and stockman, giving most practical and useful knowledge on plant growth and animal nutrition, feeding stuffs, feeding animals and every detail pertaining to this important subject, indispensable to every owner of live stock. 658 pages. 6x9 inches.
Cloth $2.00

AMERICAN GRAPE GROWING AND WINE MAKING.—By George Hussmann of California. With contributions from well known grape growers, giving wide range of experience. The author of this book is a recognized authority on the subject. Illustrated. 269 pages. 5x7 inches.
Cloth $1.50

STANDARD OF PERFECTION.—By the American Poultry Association and used as the standard for judging all shows. The thing for dealers in fancy stock.
Cloth $1.50

PERFECTED POULTRY OF AMERICA.—This is the most recent publication, and is one of the finest poultry books ever issued. It contains full page illustrations of all breeds and varieties of poultry, turkeys and water-fowl. On many of its pages are represented the feathers from each section of the fowl. Gives the information necessary for the selecting of the best specimen in your flock.
Cloth $2.50

A. B. C. AND X. Y. Z. OF BEE CULTURE.—By A. J. and E. R. Root, the leading authority on Bee Culture Its reputation is known to all Beekeepers. 536 pages.
Cloth $1.50

CAMPBELL'S SOIL CULTURE MANUAL.—By H. W. Campbell. The originator of the "Campbell System of Dry Farming." A complete guide to scientific agriculture as adapted to the semi-arid regions. Of great value to all Western ranches. 320 pages.
..... $2.50

THE NEW AGRICULTURE.—By F. Byard Collins. A new and authoritative work dealing with the changing agricultural conditions. Why "Back to the Soil" is calling millions from the cities to the farm. The debt which agriculture owes to science. Irrigation, fertilization, machinery, etc.
Illustrated, 374 pages, cloth.....$2.00

Cultivator Publishing Company

FIG RECIPES.

The recipes for the fig preserves which were given last week call for more methods of handling this delicious fruit.

Canned Figs.

To 3 quarts boiling water add 2 heaping tablespoons soda; now dip your figs in the water for one minute and skim them out; then wash them thoroughly in two or three waters, or until there is no color left in the water. To 10 pounds of figs allow 8 pounds of sugar; add just enough water to dissolve the sugar; when boiling hot, drop in the figs, having first selected them with care so as to avoid any that are broken or overripe; let them simmer slowly two hours; now remove the figs and boil down the sirup until quite thick; replace the figs; bring all to a boiling heat, after which they are ready for canning after the usual method. A few slices of lemon with its juice will improve the flavor.

White-fig Marmalade.

A delicious marmalade is made from white figs. Take perfectly ripe and fresh figs, peel off the thin, soft skin, and to every 2 pounds of figs use 1½ pounds of sugar and the grated peel of a large orange or lemon; cut up the figs and mash them with sugar, adding the grated yellow rind and juice of the orange or lemon; boil all together until the whole is reduced to a thick, clear, smooth mass, stirring frequently from the bottom. When done, put into jars while hot and cover closely.

Those who like less sugar can use one-half pound of sugar to a pound of fruit, and it will keep perfectly, provided it can be boiled very clear and smooth.

Fig Marmalade.

Use only fully ripe figs. When they are considerably wilted they are cut. Cut in halves and scrape out the inside pulp; mash and strain through a very coarse sieve. Put into a glazed dish and place the latter in boiling water. Boil constantly for one-half hour and then preserve in sealed glass jars, like canned fruit. This marmalade is very fine; can be eaten with meat or alone with cream. It is a fine relish if made from good, sweet figs.

Fig Jam.

Boil sweet dried figs with some sirup until the juice is thick and sirupy, then run figs, sirup and all, through some kind of a mill that will grind it into a paste. A small sausage grinder is best, one that grinds fine. This paste is fine for use wherever a jam can be used, and can be made more easily than any jam or jelly.

Pickled Figs.

To 10 pounds of figs take 4 pounds brown sugar, 1 quart strong vinegar, 1 large cup of whole spices of the following kinds: cloves, cinnamon, allspice and cassia buds. Boil vinegar, sugar and spices first and when sugar is well dissolved, add the figs and boil until tender. The figs should have been picked before being shriveled. Put all in jars; pour out the liquid for three mornings, and let come to a boil and return to the figs; then close the jars.

Spiced Figs.

Peel ripe white figs, and to 10 pounds of the figs add 5 pounds of brown sugar, 1 quart of vinegar, 1 ounce of cinnamon, one half-ounce allspice, one-half ounce cloves, the spices to be tied in bags and boiled with the sugar and vinegar. When the vinegar and spices have come to a boil add the figs, a few at a time, to prevent mashing, and boil until they look clear. When all are done put into jars and pour the vinegar over them hot.

Candied Figs.

Are made only from young green figs not yet fully ripe. Place in glass jars, pour on salt water, and steam until soft. Pour off the salt water and pour over sirup made of one cup of sugar to three of water. After a day, take out, place on wire screens, and allow to drip for one or two days in a warm place. Place again in jars or earthenware; cover with sirup made of one cup of sugar to one-half cup of water. In this sirup the figs are allowed to remain as long as possible, or until required. Take out, drip, and roll in confectioners' powdered white sugar in a pan made lukewarm. When the figs have absorbed all the sugar they can they are taken out and packed in large boxes with powdered sugar. The preserved fruit is afterward repacked in small boxes for the market.

Crystallized Figs.

The figs must be picked when fully ripe, but before they are shriveled. Take figs of as even a size as possible in order to save assorting afterwards. Simmer in a kettle for twenty to thirty minutes but do not allow to boil. When ready the figs will have become clear and semi-transparent Drain off the water. Prepare a strong sirup of best white sugar and drop the figs in. Keep this in a cool place. In from 24 to 36 hours the figs will have absorbed most of the sugar and the sirup become very weak. Draw off the sirup, add more white sugar, and thus make the sirup stronger. Simmer, but do not boil. Drop the figs in and test again in 24 hours. If the sirup is weak renew the process. When the sirup retains its strength, the process is discontinued. Prepare a very strong sirup of the best white sugar; simmer, but do not boil. Previous to this the figs are dried in the sun, or in drier, until they slightly ring when dropped on a stone floor. The figs should, however, not be so dry that they cannot readily be indented when pressed between the fingers. Now immerse these dried figs for a few seconds in the strong, hot sirup, then drain off, and place on wire trays in a hot air drier or in the hot sun, if on a warm day. The sirup dries quickly and leaves the figs glaced. If crystallized figs are wanted, the figs are slowly dried in the shade, in which case the sirup crystallizes instead of producing a glace.

HOMELY HINTS.

The best contrivance to keep the shirtwaist in place is a piece of elastic about ½ the size of the waist with a hook and eye on either end. This fits snug and will keep the waist in place

A piece of muslin or cheesecloth sewed over the end of a quilt will protect the quilt and keep it clean. The cheesecloth can be taken off and washed many times before the balance of the quilt needs washing.

When washing painted woodwork or floors, use 1 teacup kerosene in a pail of warm water (no soap) and you will have the cleanest floor or painted work in the village. It is also excellent for hardwood floors. The kerosene gives the windows, floors, doors and window casings a beautiful gloss.

If your glass jars won't open, set them top downward in an inch or two of hot water.

Mayer

"SPECIAL MERIT" SEAMLESS SCHOOL SHOES

SCHOOL SHOES without seams—think of it—*seamless school shoes!* They are strong and sturdy, have seamless uppers, tough soles and double leather toes. By far the most durable and lasting shoes obtainable.

"Special Merit" Seamless School Shoes *"wear like iron."* They wear just twice as long as ordinary shoes with seams.

Made in all styles and sizes, for every day and Sunday wear—for boys and girls. Your dealer will supply you; if not, write to us. Look for the Mayer Trade Mark on the sole.

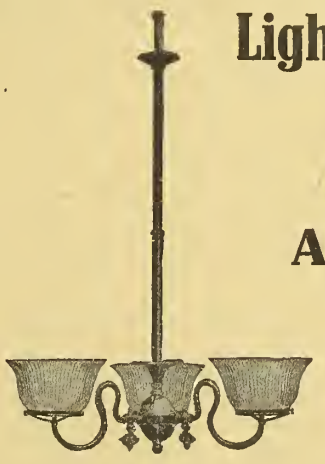
FREE—If you will send us the name of a dealer who *does not* handle Special Merit School Shoes, we will send you free, postpaid, a beautiful picture of George or Martha Washington, size 15x20. State which picture you want.

We also make Leading Lady Shoes, Honorbilt Shoes, Martha Washington Comfort Shoes and Yerma Cushion Shoes.

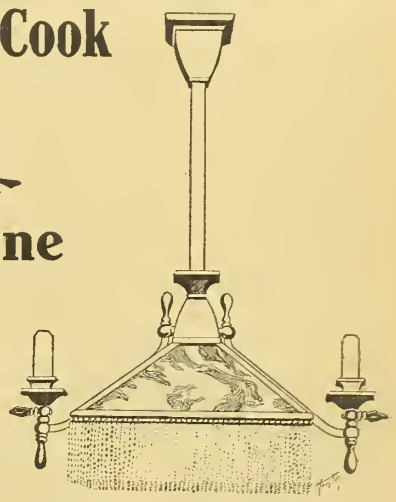
F. Mayer Boot & Shoe Co.
MILWAUKEE, WISCONSIN

WESTERN BRANCH: Washington Shoe Mfg. Co.—Seattle.

Light and Cook
BY
COLT TRADE MARK
Acetylene



PARLOR

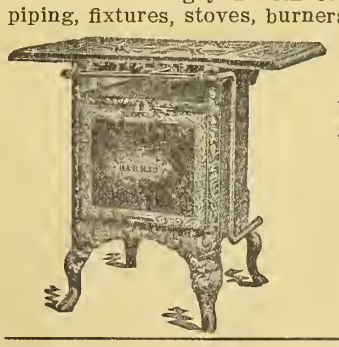


DINING-ROOM

We have previously illustrated what a simple matter it is to install a Colt Acetylene Plant in your house. This week we wish to illustrate the improvement to one's property attractive and inexpensive chandeliers make in appearance and convenience. To effect economy and get better light, besides saving disagreeable labor, is an opportunity to be grasped.

The modernizing of a place with piping and fixtures is quite different with Colt Acetylene than other illuminants, for not only does the purchaser secure a great improvement to the property, but with the generator has an investment through the economy of the light itself and through its freedom from smoke, soot and grime.

Favor us with an inquiry concerning Colt Acetylene. We shall take pleasure in furnishing you with complete and instructive printed matter regarding piping, fixtures, stoves, burners of this wonderful lighting system.



Fowler Shankland

Pacific Coast Distributor

204 Severance Building
Cor. 6th and Main, Los Angeles

Phones: F7514; Main 4830

Angle Lamp

The Light That Never Fails

Thousands in use all over the country. A good light is the greatest pleasure and the first necessity of every home.

The only lamp on the market that is sold under an absolute guarantee.

Remember, the light from Kerosene is the light science has agreed upon as being the purest and best, because it is soft and mellow and restful to the eyes.

Here are a few of The Angle Lamp Merits:

NO UNDER SHADOW. NO SMOKE, NO ODOR, LITTLE HEAT.

GREAT ECONOMY—COST LESS TO BURN than an ordinary lamp. As easy to operate as gas or electricity, and better than either. ABSOLUTELY SAFE under all conditions. Lighted and extinguished like gas. Burned HIGH or LOW like GAS without a trace of odor. And a BRILLIANT, soft, steady, shadowless light—but this you will have to see to appreciate.

The lamp as shown in cut burns 22 hours on 3 quarts of oil.

Send for Illustrated Catalogue with Prices

Boesch Lamp Co., (Est. 1869) 1135 Mission St., San Francisco

The Produce Markets

Los Angeles Markets

LOS ANGELES, Oct. 14, 1908

Butter.

Butter is as it has been for weeks at 67½ for extras, with actual selling prices to trade at 70 cents. Market is firm at that quotation.

Creamery ex per roll....67½
Firsts....60
Dairy....25
Eastern Extra....30
Ladies....24
Cooking....24
"Butterine"....16@20

Cheese.

Southern California Anchor....17@18
Northern fresh....14@14½
Longhorn....18
Eastern singles....18
Cheddars....17
Imported Swiss....28
Daisy....17½
Daisy....19
Oregon....16
Limburger....17

Eggs and Poultry.

Eggs have been a lively factor in the market for the past week. An advance has been made in nearly all grades. Eastern fresh especially having advanced materially.

Eggs local candled....41@43
Eggs case count buying price....38
Firsts fresh....37
Storage selected....26@27
Storage short time....33@36
Eastern fresh....33@36

Wholesale prices:

Hens per pound....13½@14
Young roosters per pound....15
Fryers....18
Broilers per lb....20
Old rooster....8
Turkeys....16@18
Geese....12
Ducks....11½
Squabs....1.25@1.75

Live Stock.

The following quotations are f. o. b., Los Angeles, on all stock.

Hogs from 175 to 200 pounds....6¼
Prime steers....4¼
Heifers....3½@3¾
Calves per lb....4½@5
Sheep ewes per head....3.25@3.75
Lambs per head....2.50@3.00
Wethers....4.00@4.50

Potatoes.

Wholesale prices are:

Sweets per ctl....1.45
Sweets red....1.00
Burbanks choice....1.00
Northern Burbanks fy....1.50
Local Burbanks....1.15
Highland fancy....1.15
Coast....1.00
Salinas....1.75@1.90

Onions.

Wholesale quotations are:

Silverskin new....1.25
Australian Browns....80@90
Danvers....90@1.00
Garlic....9@10

Vegetables.

Asparagus per doz....80
Artichokes per doz Northern....75
Artichokes local per box....40
Beets per doz....30@40
Bell peppers per lb large....3@4
Bell peppers box....25@30
Beans string....6
Beans limas per lb....4
Brussels sprouts per lb....9
Cabbage sack....1.25
Cabbage red per lb....2
Celery per crate....1.50
Celery ex fy....3.00
Chili per lb....20@30
Corn per box....60
Chicory per bunch....10
Cucumbers per box....35
Cauliflower per doz....90
Carrots per doz....30
Egg plant per lb....1½@2½
Green onions doz bunches....15
[illegible]....12½
Lettuce per crate....90@1.00
Okra....5
Peas sugar per lb....6@7
Parsley....20@30
Parsnips....35@40
Rhubarb per box....1.00
Rutabaga per doz....30
Radishes per doz....15@20
Summer squash per box....40
Spinach per doz....20
Turnips doz bunches....30
Tomatoes lug box....25@35
Tomatoes yellow....60

Citrus Fruits.

Valencias....2.30@2.50
Grapefruit seedless....3.00
Grapefruit seedlings....1.75@2.00
Lemons fy....2.50
Lemons choice....1.50

Fresh Fruits.

Wholesale prices on the market are:

Astrachans....1.00
Astrachans packed box....1.35@1.50
Bellfleurs....75@90
Newton Pippins....80
Alexandria 4-tier....1.00@1.10
Gravenstein 4-tier....1.15@1.25
Skinners 4-tier....1.15@1.25
California Jonathans....2.00
Red Pearmains....1.00
Crab apples....1.50
Apricots cold storage....50
Cantaloupe locals large crate..1.50@1.75
Casaba doz....1.25
Figs per fig box....75@85
Christmas melons per crate....1.75
Figs black per fig box....75
Guavas per lb....4
Muscats per lug box....40@55
Grapes Malaga....50@75
Grapes Concord per lug box....75
Grapes Tokay....60@65
Grapes Red Emperors....60@65
Cornichons....1.00
Rose of Peru....70@75
Grapes Black Hamburgs....50
Isabellas per crate....75
Nectarines....1.25
Pears per box....1.60
Pears lug box....1.10
Pears Winter Nellis per box....60
Plums Kelsey....60
Peaches per box....35@75
Peaches clings....50
Pineapples per lb....7
Persimmons per lb....8
Pomegranates per box....1.50
Quinces....75
Raspberries per box....11
Strawberries per box....5@6
Extra fancy....10
Blackberries per box....7
Huckleberries per crate....1.20
Watermelons per crate....1.25

Dried Fruits.

Wholesale prices are:

Apricots....8@9
Evap. apples fy per lb....7½@8
Figs loose white....6
Figs blk....4
Peaches....7½@8
Pears....9@10
Nectarines....9@10
Prunes....4@4½

Beans Dried.

Wholesale prices:

Limas per ctl....5.00@5.25
Lima, new crop....4.50@5.00
Pink No 1....3.25
Lady Washington....3.75@4.00
Small white....4.10@4.25
Black eyes....4.50
Garvanzas....4.80@5.00
Lentils....10½
Bayou....3.75@4.00

Nuts.

Almonds IXL per lb....14
Almonds choice....10@12½
Pecans polished....16
Peanuts Virginia....8
Peanuts California....8
Walnuts No 1 SS....12½
Walnuts No 1 HS....12
Walnuts No 2 both hard and SS..8½
Walnuts all less1½ per cent to trade

Honey.

Wholesale quotations:

Extracted Water White....7½@8½
Extracted Amber....6@6½
Comb W W....16
Comb white....15
Beeswax....30

Hay.

Prices paid to producers f. o. b. Los Angeles are as follows:

Barley No 1....13.00@15.00
Barley No 2....10.00@13.00
Alfalfa northern per ton....11.00@12.50
Alfalfa local....12.50@14.00
Plain oat No 1....15.00@17.00
Wheat No 1....13.00@16.00
Wheat No 2....12.00@14.50

Grains.

Wholesale selling price f. o. b., Los Angeles.

Wheat new per ctl....2.10
Wheat in 100-lb sacks....1.90
Kaffir corn....1.95
Corn Eastern sacked....2.00
White oats....1.90
Seed Rye....1.75

Feed Stuff.

Wholesale selling price F. O. B. Los Angeles as follows:

Cracked corn....2.05
Shorts....1.80
Bran....1.60
Oil cake meal....2.75
Feed meal....2.10
Rolled barley....1.60

Thirty-two fruit growers of the Chico district owning over 500 tons of dried peaches will pool their holdings and market to the best advantage. So far an agreement has been reached to sell at five cents or more per pound.

San Francisco Markets

SAN FRANCISCO, Oct. 13, 1908.

Butter.

Butter advanced ½ cent soon after last week's quotations and since has stood at 30½ for extras without change. The market is very strong and promises higher quotations.

California extras per lb....30½
California firsts....26
California seconds....22½
California thirds....20
Eastern extras....27
Fresh packing stock....23
Packing stock No 2....20
Storage Cal ex....26½

Cheese.

California young American fy....13½
Firsts....13
California flats fy....12½
Firsts....12
Young America fy....14½
Eastern fy....16½
Oregon fy....13

Eggs and Poultry.

Eggs advanced a cent on Thursday and two cents more on Monday and now stand at 48 for extras.

Official quotations of the S. F. Wholesale Dairy & Produce Ex. are:

Fresh ranch extras....48
Eggs firsts per doz....41
Eggs seconds....26½
Eastern selected....25½
Eastern firsts....23½
Eastern storage ex....24½
Eastern seconds....23

Hens per doz....4.00@5.50
Hens extra....7.00@9.00
Young roosters....5.00@6.00
Old roosters....3.50@4.50
Fryers per doz....4.00@5.00
Broilers per doz....3.50@4.00
Geese per pair....2.00@2.50
Goslings per pair....1.75@2.00
Ducks young....6.00@7.00
Hen turkeys per lb....22@26
Gobblers live....22@26
Pigeons young....2.00@2.50

Live Stock.

San Francisco prices gross weight:

Steers No 1....3¾@4
Do second quality....3¼@3½
No 1 cows and heifers....3
Second quality....2¾
Hogs 100 to 150....6
Hogs 150 to 250....6¼
Rough heavy....4¾@5¼
Calves per lb....3½@4¾
Lambs spring....4@4½
Wethers No 1....3¾
Ewes No 1....3¼

Potatoes.

Frosts in the Northwest have caused a sharp demand for California potatoes. Prices have not advanced but a firm condition prevails.

Wholesale market quotations:

River whites fy....70@85
River whites poor....50@70
do per box....1.00@1.15
Early Rose new....75@85
Salinas Burbanks....1.25@1.60
Sweets crates....1.50
Oregon Burbank....1.25@1.35

Vegetables.

Wholesale quotations:

Asparagus per lb....7@8
Asparagus No 2....4@5
Bell peppers per box....40@75
Celery per doz....35@50
Cucumbers per box....75@1.00
Cucumbers pickle....1.00@1.25
Cucumbers pickle No 2....65@75
Chili peppers per box....40@60
Corn per sack....1.50@1.75
Egg plant per box....50@75
Green peas per lb....2@5
Lima beans....2@3
Squash per box....75@1.00
Onions green per box....70@75
Okra per box....50@75
Rhubarb per box....50@65
Tomato River large box....20@30
String beans....2@5
Wax beans....2@5
Garlic new....6@7½

Onions.

Onions yellow per sack....50@60

Citrus Fruits.

Valencias fy....2.00@3.50
Grapefruit seedless....2.00@3.50
Lemons ch....1.75@2.25
Lemons fy....3.00@3.50
Limes....4.00@5.00

Fresh Fruits.

Apples per 4 tier box....75@1.25
Apples per 4½ tier box....50@85
Apples unwrapped....60@75
Crabapples....50@60
Blackberries per chest....3.00
Figs per crate one layer....65@1.00
Grapes seedless....75@85
Grapes Muscats....50@60
Grapes Rose of Peru....50@60
Grapes Tokays....50@60
Grapes Isabellas crate....65@75
Grapes Cornichon....60@65
Huckleberries per lb....12½@15
Loganberries....4.00@6.00
Cantaloupes River nutmegs....25@40
Muskmelons....75@1.00
Nectarines red....75@1.00
Nectarines white....50@60
Pears Bartlett per box fy....1.00@1.50
Peaches lug box....75@1.25
Plums & Prunes per small box..40@50
Plums & Prunes crates....75@90
Peaches lug box....40@75
Peaches Mountain....40@65
Persimmons....75@1.00
Pomegranates per box....1.00@1.15
Aligator pears per doz....7.00@9.00
Quinces per box....50@75
Raspberries per chest....5.00@9.00
Strawberries per chest....4.00@6.00
Longworths per chest....6.00@8.00
Watermelons per doz....1.25@2.00

Dried Fruits.

Prunes 4-size basis....3½@3¾
Santa Clara....3½@4
1908s contracted for....4@4½

New crop contracts, 25-lb. lots—Apricots per lb.: Choice, 7@8½; fancy 10@10½.

PEACHES—Choice 7@7¼; fancy 8¼@9.

Apples evaporated....4@6½
Pears....5@7½

RAISINS—1907 crop f. o. b.; Clusters and layers. 30-lb bxs—Imperial Clusters, 6-crown, $2; Dehesa Clusters, 5-crown, $1.75; Fancy Clusters, 4-crown, $1.40; London Layers, 3-crown, $1.10; do, 2-crown, $1.05. Seeded, 25-lb bxs—Fancy bulk per lb, 6½@7c; Choice bulk, 6½@7c. Loose Muscatels, 50-lb bxs— Standard, 4-crown, 5½c; do, 3-crown. 4¾c; do, 2-crown, 3¾c; Seedless, 4¾c. Seedless Sultanas— Unbleached, 4¾@5c. Thompson Seedless—Unbleached, 5½@6¼c. Dried Grapes, 4c.

New Crop Raisins—Preliminary prices are named as follows: Cluster—Imperial 6-crown, $2@3; Dehesa, 5-crown $2.50; London Layers, 2-crown, $1.25; 3-crown, $1.35; 4-crown, $2. Thompson's Seedless, 5¾c. Loose Muscatels, 5¾c. for 4-crown, 5c for 3-crown, 4½c for 2-crown and 4¾c for seedless.

Nuts.

Walnuts S S No 1 new crop...12¼@13
Walnuts No 2....10@10½
Almonds nonp....11@12
Almonds IXL....10@10½
Ne Plus Ultra....10

Beans Dried.

Limas....4.50@4.60
Pink....2.25@2.75
Small white....4.00@4.10
Large white....3.15@3.25
Lady Washington....3.45@3.50
Black eyes....3.25@3.35
Red kidneys....3.00@3.50
Garvanzas....2.15@2.25
Bayo....2.65@2.75
Horse beans....2.00@2.25

Hops.

Hops new crop....9@13
Hops old stock....3@6

Honey.

Clear white comb....15½@16
Amber....12@14
Extracted W W....6@7
Extract light amber....6½@7
Beeswax No 1 per lb....25@27
Beeswax No 2 per lb....24@25

Hay.

Somers & Co. say:

Hay arrivals continue to decrease on this market, the total for the week ending today amounting to 2370 ton in comparison with 2590 last week and 3670 the week preceding. Because of this diminution and the continued dry weather, prices have made a material advance. Should present conditions continue we may look for a steady improvement in prices right along. The advance is more marked with the choicer grades of hay, although practically all grades excepting perhaps stock hay and alfalfa, are selling for higher prices.

The outlook is unchanged in every way for although the demand is below the average, yet stocks are not overplentiful so that the situation is a peculiarly sensitive one. Should the rains hold off for a considerable period, thereby delaying the advent of green feed, the consumption of hay will be materially increased, which will of course tend to still further advance prices. The matter of economy is especially noticeable this season for feeders on all sides are reducing their requirements to a minimum. Not until trade in general is fully restored to a normal basis will we experience a resumption of our regular hay trade. For this we may have to wait for another season.

Choice wheat hay....18.00@20.00
Good wheat hay....15.50@17.50
Other grades same....12.00@15.00
Wheat and oat....12.00@17.00
Tame oat....11.50@17.00
Wild oat....11.00@16.00
Stock hay....9.50@10.50
Alfalfa....9.50@13.50
Straw, per bale....45@70

Grains.

Wheat No 1....1.67½@1.70
Barley new....1.30@1.35
Corn large yellow....1.30@1.35
Oats white....1.55@167½

Oats gray.... ....1.65@1.70
Rye new crop..... .....1.45@1.50

Feed Stuff.

Bran per ton..... .....30.00@31.50
Feed cornmeal per ton.....37.00@38.00
Cracked corn per ton.....38.00@39.00
Rolled barley per ton.....29.00@30.00
Oil cake meal per ton.....37.00@38.50
Cocoanut cake per ton.....25.00@26.00
Middlings..... .. ..33.50@35.50

Citrus Market

LOS ANGELES, Oct. 14, 1908

The orange market is closing in fine condition. Valencias are commanding good prices and will probably all be shipped this week. There are not 25 cars left in the state.

Lemons are selling well. No foreigns, or but few are coming in and good prices are prevailing.

Shipments.

Shipments of citrus fruits to date since Nov. 1, 1907 aggregate 29,169 cars of which 4724 were lemons. To same date last year 27,372 of which 3398 were lemons.

NEW YORK, Oct. 13.—Five cars of Valencias and one mixed car of citrus fruit sold. The market is very strong. Weather clear, cool and favorable.

VALENCIAS—
Bunker Hill Cal Cit Union.....3.75
Golden Orchard Ind Ft Co.....4.25
Citrus Belle Ind Ft Co.....3.35
Stag ACG Ft Ex..... .....5.50
Pointer ACG Ft Ex..... ..3.55
Sweetheart Highgrove Ft Ex.....4.20
Eagle Highgrove Ft Ex..... ....3.65
Yankee Doodle Highgrove Fe Ex..2.90
Caledonia xc T Strain..... .....3.95
Cambria sd T Strain..... .....3.05
Honest Pack xc Tustin Pk Co.....3.75
Lucky sd Tustin Pk Co.....3.10

GRAPEFRUIT—(Halves.)
Sweetheart Highgrove Ft Ex.. ..1.05
Eagle Highgrove Ft Ex..... 75

PHILADELPHIA, Oct. 13.—One car Valencias and one car lemons sold. Weather cool. Market is strong. Two cars on track.

VALENCIAS—
Carmencita ST Ft Ex Fullerton..4.32
Colombo ST Ft Ex Fullerton.....3.99

LEMONS—
Las Fuentes Crocker S. Summerld 4.42
Montecito Crocker S Summerld....3.54

NEW YORK, Oct. 12.—Six cars Valencias and one car of lemons sold. The market is very strong and active. Prices higher. Weather clear, cool, favorable.

VALENCIAS. Avg.
Old Mission C C Chapman.....$6.15
Golden Eagle C C Chapman.....4.15
San Rafael N W Bailey.....4.20
San Pasqual N W Bailey.....3.50
Orchard National O Co..... ..5.00
Standard National O Co.... .....3.95
Victoria AH Fruit Ex.....4.30
Quail OK Ft Ex..... .....3.70
Coyote OK Ft Ex..... .....3.20
Golden Orchard Ind Ft Co.....2.95
Citrus Belle Ind Ft Co.....3.10

LEMONS.
Selected N W Blanchard.... .....5.45
Loma Limoneira Co..... ....4.35
Selected 300s..... ....6.00
Loma 300s.... ....4.75

PITTSBURG, Oct. 12.—Two cars sold, nothing on track. Weather cool. Market is steady.

VALENCIAS.
Coyote OK Ft Ex..... .....2.35
Blue Jay OK Ft Ex.....2.10

ST LOUIS, Oct. 12.—Weather cool. The market is firm on good stock. Three cars sold, four on track.

VALENCIAS.
Floral SB Ft Ex Colton.....3.50
Rancho SB Ft Ex Colton.....2.65
Southland Beauties QC Ft Ex Cor. 2.85
Justrite QC Ft Ex Corona.....2.50
Minerva SS Ft Ex Corona.....1.45
Planet SS Ft Ex El Modena.....4.55
Searchlight SS Ft Ex El Modena..4.10

LEMONS.
Searchlight SS Ft Ex El Modena..3.25

BOSTON, Oct. 12.—One car sold. Weather cool. Market is very strong. One car on track.

VALENCIAS.
Volunteer SA Ft Ex N Pomona....4.00

KILL THE ANTS.

While in this office recently Prof. R. S. Woglum, in charge of the field investigations of fumigation in California, referred to an experiment which he and Mr. Wm. Wood had tried in ridding a place of ants, which was so successful that we think it well worth quoting for the benefit of Cultivator subscribers. A daily paper referring to the matter has spoken of it as Prof. Woglum's success with the Argentine ant. He assures us, however, that he knows nothing whatever of the Argentine ant but the life habit of that ant is practically the same as the native ants on which his experiment was so successful.

The ant was the ordinary small red ant and infested the place where the office work of the investigation force was all done and was such a pest that something must be done. Prof. Woglum's work with the fumigation being largely with cyanide of potassium as the active agent he first turned to that to discourage the pest of ants. Working with Mr. Wood, who is county inspector for that district, they made a weak solution of the cyanide in water and sprinkled over the ground where there were myriads of the little pests. The rapidity with which they curled up and died was very satisfactory. They then took up some systematic investigations and experimented by pouring some of the solution in the holes occupied by the ants In some cases these holes never showed any life thereafter. In others a little weak effort on the part of those which were left was discouraged by a second application which almost invariably resulted in the death of the whole bunch.

The solution first tried was half an ounce of cyanide to a gallon of water. Later he found rather better results by increasing the strength to one ounce to one gallon of water. At the price at which cyanide may be had in quantities this makes the cost of the solution less than two cents per gallon. This is so exceedingly cheap that it should be tried by anyone who is troubled by the ant pest and certainly is well worth the trial on the Argentine ant which is causing so much apprehension in several sections of the state. It seems to be the fumes of the cyanide which kills, so that a light sprinkling is all that is necessary.

CONTROL THE FLOODS.

The good that will result through the control of the flood waters of the great Central California drainage basin can scarcely be appreciated by the average citizen who does not give the subject careful consideration. The control of the flood waters of the Sacramento and San Joaquin means, first, the reclamation of the large areas of flooded lands that at the present time are subjected to frequent inundations, creating great loss of crop, and destruction of dikes constructed to protect these crops on the low lying lands.

The construction of ample reservoir capacity to hold back the flood waters, and thus control the flood wave during the rainy season would be justified by the benefit that will accrue because of the freeing of low lands from the danger of floods alone; but the storage of flood waters will admit of threefold use—will make available the excessive moisture of winter for the irrigation of the semi-arid lands of the Sacramento and San Joaquin valleys during the dry season of the summer months, and help to maintain the navigability of the streams. Storage reservoirs on the Pit river and on minor tributaries of the Sacramento will provide capacity of impounding flood waters ample for the irrigation of the uplands of the valley. The storage of flood waters will overcome much of the danger from disastrous floods in the low lands; will make available the waste floods of winter for irrigation in the dry months of summer; and with a reasonable amount of work expended will make the Sacramento river available as a permanent artery of commerce.—The Great West.

IMPROVE THE RIVERS.

In response to an invitation extended by the River Improvement and Drainage Association of California, Brigadier-General William M. Marshall, the recently appointed chief of engineers, U. S. Army, has written to the association expressing the hope that he may be able, as invited by it, to visit California in the near future and have an opportunity to personally inspect California's harbors and waterways. The association feels that such a trip would greatly impress the new head of the engineer corps with the necessity for inaugurating a broad and comprehensive scheme of improvement work by the Federal government.

Some years ago, under the auspices of the association the then Secretary of War Taft was taken up the rivers on a trip of investigation, and in January last a committee from the Board of Engineers for Rivers and Harbors made a thorough inspection of the rivers and harbors of the state, coming to California at the suggestion and invitation of the river association. The result of their trip was the recommendation to the chief of engineers for comprehensive survey of the rivers. The work is now being done.

The interest evinced in California's welfare and the state's claims for federal attention by the new administration in the engineer corps gives assurance that a liberal policy for improvement in the state will be continued.

FIRST AT NATIONAL CONGRESS.

The National Wood Pipe Co. has been awarded first place for its display of wood pipe at the National Irrigation Congress recently closed at Albuquerque. This pipe is winning its way more and more all over the country and the award is only official recognition of the worth recognized by patrons who have used the pipe.

FLOW OF THE AMERICAN NILE.

A comparison of the flow of the Nile and the Colorado River of the West, which has sometimes been termed the American Nile, is given in Water-Supply Paper 211, just published by the Geological Survey. The maximum flow of the Colorado is about 110,000 second-feet; that of the Nile is about 353,000 second-feet; while the minimum flow of the Colorado is about 2500 second-feet and that of the Nile about 14,500 second-feet.

Like the Nile the Colorado is subject to an annual rise that comes at the time when it is most needed for irrigation, but as the stream is far below the level of most of the irrigable lands, its waters are available for use on a comparatively small area, though two pumping plants at Yuma and several others on the river above that place lift water for irrigation.

CONSUMPTION PREVENTIVE.

Fresh air is the doctor.

Don't live, study or sleep in rooms which are not full of fresh air.

Don't live in dusty air. Mop up dust with a damp cloth. Never sweep your rooms with a dry broom.

Don't eat with soiled hands. Wash them always before you go to table.

Don't keep soiled handkerchiefs in your pocket.

Seek sunlight.

Day and night, winter and summer, keep open the windows where you sleep.

Sleeping alone is well for the afflicted as well as for the well. Frequent bathing is highly advisable. To avoid indiscriminate expectoration is a duty

Plain food and plenty of it is the bill of fare for persons consumptively inclined.

Most of those who die from tuberculosis have neglected most of these rules of avoidance.

Consumption can be cured, in all but the advanced stages, by careful observance of sanitation. Fresh air, sunlight and food are its medicines.

Thou must be true to thyself
If thou the truth wouldst teach;
Thy soul must overflow, if thou
Another's soul wouldst reach!
It needs the overflow of heart
To give the lips full speech.
Think truly, and thy thoughts
Shall the world's famine feed;
Speak truly, and each word of thine
Shall be a fruitful seed;
Live truly, and thy life shall be
A great and noble creed.

—Horatio Bonar.

If a man could have half his wishes he would double his trouble.—Frank lin.

Cultivator Order Blank

Balance of This Year Free—For New Subscribers Only

_____190

CULTIVATOR PUB. CO.
115 1-2 No. Broadway, Los Angeles

Gentlemen—Enclosed find $1.00 (Canadian and Foreign, $1.50) for which please send the ***Cultivator*** to the following address from date to January , 1910.

NAME _____ P. O. ADDRESS _____

Signed _____

Address _____

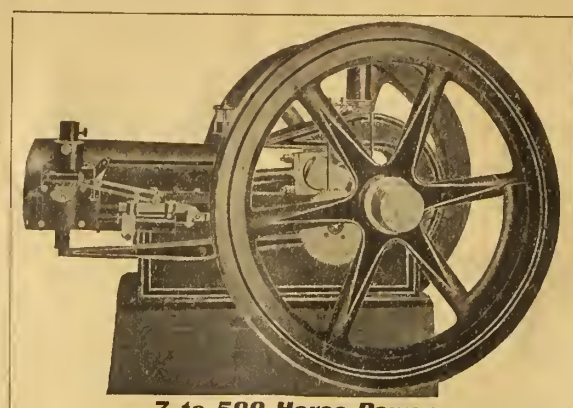
The Popular

Western

Built In the West **Best** For the West

FACTORY AT YOUR DOOR

LONGEST LIFE LEAST FUEL FEWEST PARTS ALWAYS GOES



7 to 500 Horse Power

Irrigation Plants Designed Constructed Installed

U. S. GOVERNMENT TEST

35 H. P. Western Engine Been Run 2 Years

RAN 87 DAYS DAY AND NIGHT

With One 20-Minute Stop to Lace a Belt

Send for the Copy of Test

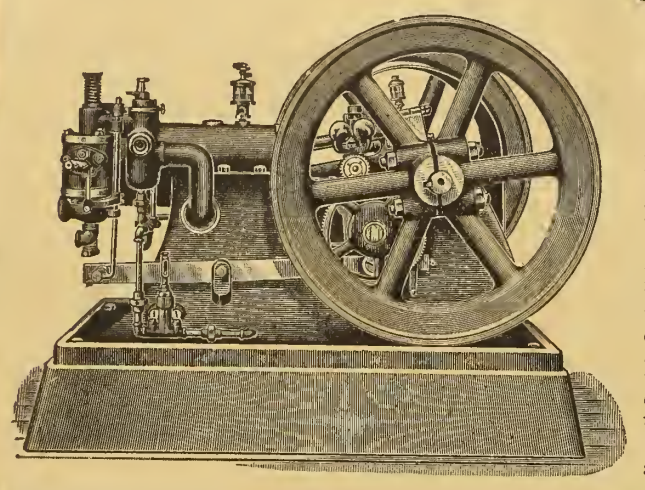
Western Gas Engine Co.

Works and Office:

908 to 932 No. Main St. Los Angeles, Cal.

Send for Catalogue.

Alamo Gas and Oil Hoisting and Stationary Engines

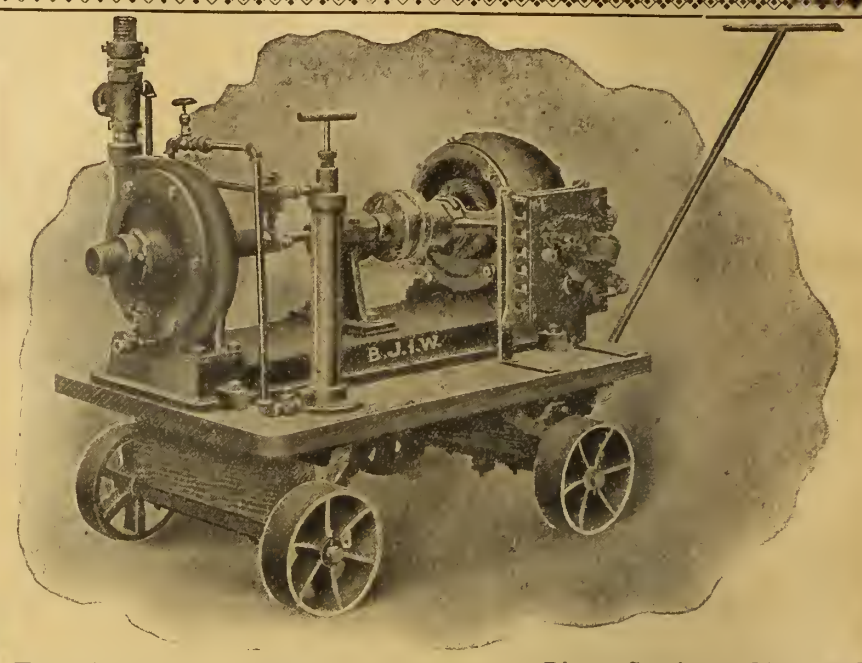


Best in price, appearance and quality. Self-starting and small operating cost. A complete line of repair parts and accessories always on hand.

Complete pumping plants installed and we are prepared to construct all kinds of mining machinery on contract.

Write for catalog and prices

Harrison Machine Works 719-721 N. Main St. Los Angeles, Cal.

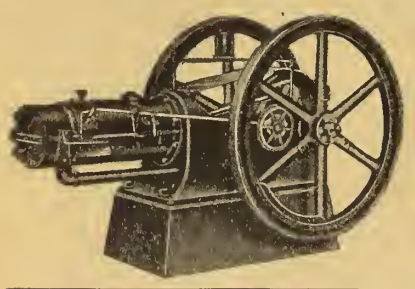


Jackson Wine Pump Direct Coupled to Motor and Mounted on Truck. Write for Bulletin 25.

Works: Carlton Station West Berkeley **Byron Jackson Iron Works** Branches: San Francisco Los Angeles Portland

Commercial Gas Engines

Pump More Water

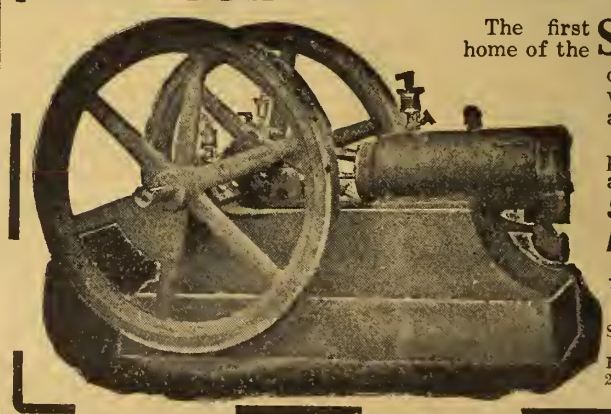


a given height with one gallon of No. 2 distillate than our competitors. Send for Bulletin No. 12 and see how we do it.

Commercial Engine Co.

953-955 No. Main St. Los Angeles, Cal.

Samson Gasoline and Distillate Engines



The first home of the SAMSON engine is a large one. Its second home, which is everlasting, is a happy one.

They may be compared with the sea—always ready to roll.

Samson Iron Works

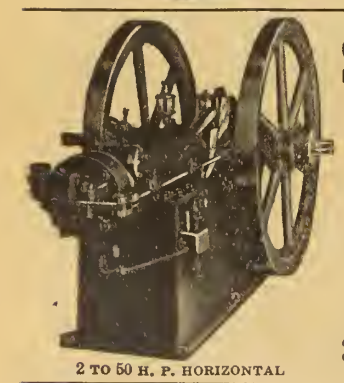
Office and Factory: 1100 to 1198 Aurora St. Stockton, Cal.

BRANCHES:

San Francisco, Cor. Market and First Sts.

Fresno, 920 J St.

204 N. Los Angeles St. Los Angeles



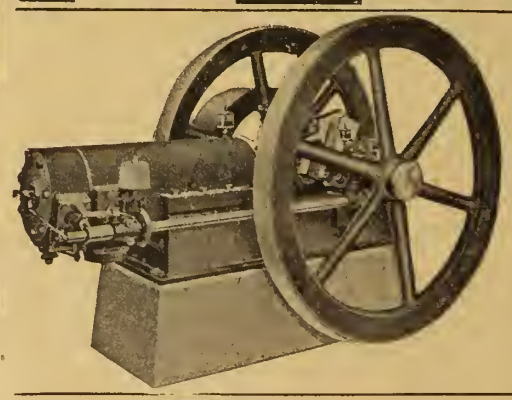
2 TO 50 H. P. HORIZONTAL

STOVER GAS ENGINES

The simplest and the best. We have had long experience installing pumping plants. We know our business. See us before you buy. 2 to 50 H. P.

LIVINGSTON & LEE

352 So. Los Angeles St., Los Angeles, Cal.



HERCULES DISTILLATE ENGINE

Heavy, Strong and Simple in Construction

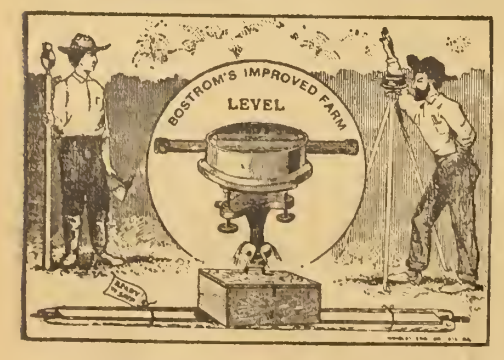
The Right Engine at the Right Price

Horizontal and Vertical; All Sizes. Buy direct from the manufacturer and save agent's commission. Send for our new Catalogue C.

The Hercules Gas Engine Works

351 Market St., San Francisco

Telephone Douglas 3630



BOSTROM'S IMPROVED FARM LEVEL

Used for irrigation and drainage work. Cheapest and best level yet invented for farm use. Has the latest patented improvements in simplicity and usefulness. Can be operated by any one. Price including telescope tripod and target rod $15.00.

PALACE HARDWARE COMPANY

581 Market Street, San Francisco.

Coast Agents. Send for Circular.

A Handy Little Engine

Just the thing to run the feed cutter, the pump, the churn, the grinder, or anything on the ranch. It's well named

The Little Wonder

Write or call on

Wm. Gregory

602 No. Main St. Los Angeles, Cal.

SECOND HAND PIPE

We will sell you pipe that can be used for any purpose. ***Satisfaction guaranteed*** or money returned. We handle all sizes of standard pipe and casing. Shipments made on same day as order is received. Price of pipe is low now. Write for our prices.

Pacific Pipe Company

S. W. Corner Howard and Main Streets, San Francisco, California

630.5
CA

California Cultivator

Published Weekly — One Dollar a Year

Los Angeles — October 22, 1908 — San Francisco

Contrasting Winter Scenes

December Back East and in the
Salt River Valley of Arizona

The Oldest Savings Bank in California

FOUNDED IN 1857

The Savings and Loan Society

101 Montgomery St., Cor. Sutter St., San Francisco

CAPITAL FULLY PAID $1,000,000.00

Exclusively a Savings Bank whose policy is for ***Conservatism*** and ***Safety***, the result of ***50 years experience.***
Deposits may be made and withdrawn by mail.

San Francisco Savings Union

Founded June 18, 1862 **Northwest Cor. California and Montgomery Sts., San Francisco**

Conducts a Savings Bank Business Exclusively

Capital Paid Up, $1,000,000.00 Surplus, $1,183,632.00

Total Assets, $27,508,850.00

E. B. POND, President.

W. C. B. de FREMERY AND C. O. G. MILLER, ... Vice-Presidents
LOVELL WHITE, Cashier. . . . . R. M. WELCH, Asst. Cashier.

Directors: John F. Merrill, Wm. A. Magee, W. C. B. de Fremery, H. C. Breeden, Jacob Barth, Fred H. Beaver, Wakefield Baker, C. O. G. Miller, E. B. Pond.

Every facility afforded for opening accounts and making deposits and withdrawals by mail. Correspondence inviteed.

WILLIAMS' GOOSE-NECK CULTIVATOR

Especially adapted for citrus orchards. Sizes 8 to 14 feet. Lightest draft. Free trial to responsible parties. No agents. You pay only one profit. Write today.

WILLIAMS & SON, Manufacturers
Orange, California

Crimson Winter Rhubarb

$1.50 a Dozen $6.00 per 100
$40.00 per 1000

Now is a good time to plant.
Pedigreed Stock.

Fruit Trees and Berry Plants of All Kinds

J. B. Wagner, Pasadena, Cal.

The Rhubarb and Berry Specialist

Dept. F

Red Cross Wind Mill
Is built right, Works right. Runs in light wind. Has ball bearing turntable and outer thrust. Easy mill to set up and take care of. Built upon honor.

Woodin & Little Pump House

70-72 Fremont Street, San Francisco

PUMPS FOR EVERY SERVICE AND USE

Pumps for Irrigation, Road Sprinkling, Electric Motors, Gasoline Engines, Spraying, Whitewashing, Wine Pumping, Wind Mills, Hand and Power Use, Steam, etc.

Gasoline Engines Wind Mills
Tanks Pipe Pipe Fittings

SEND FOR CATALOGUE

Cultivator Order Blank

Balance of This Year Free—For New Subscribers Only

_____190

CULTIVATOR PUB. CO.
115 1-2 No. Broadway, Los Angeles

Gentlemen—Enclosed find $1.00 (Canadian and Foreign, $1.50) for which please send the ***Cultivator*** to the following address from date to January 1, 1910.

NAME _____ P. O. ADDRESS _____

Signed _____

Address _____

Garden Tools

Lightest
Strongest
Neatest and
Best

The Most Accurate Seeders and the Simplest and Most Easily Adjusted Seeders are possessed by

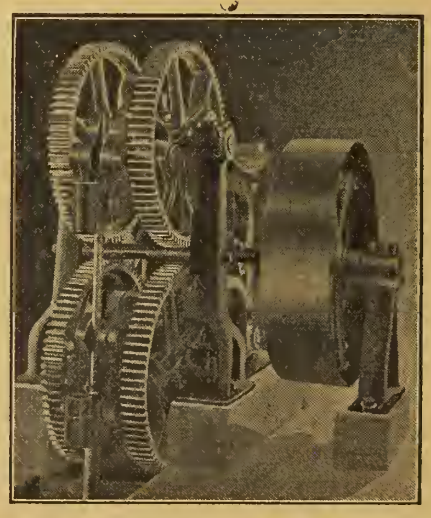
Iron Age Garden Tools

Send for Profusely Illustrated Booklet

Newell Mathews Co.

200 North Los Angeles Street
Los Angeles, California

New Pomona Double Plunger Deep Well Pump Head



Most Efficient Deep Well Pump in the State

It Is Made in California

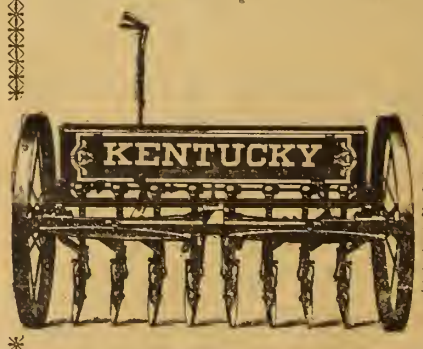
Built in Three Sizes —from Ten to Forty Horse Power

It is the smoothest running deep well pump because there are no dead centers, no jerk or jar, and no danger of breaking the pump rods. Be sure and write for our big catalogue. Watch this space for further information.

Pomona Manufacturing Co.

Pomona, Cal.

Kentucky Disc Drills



meet every requirement of particular Farmers. Constructed on correct mechanical principles, of the best material obtainable, they are strong and lasting. KENTUCKY Conical Disc Bearings are unique. Of fairly large diameter, they are narrow, giving greatest clearance between discs. Dust proof, oil retaining and adjustable. Over 250,000 in use, giving perfect service, have demonstrated the superiority of the Kentucky Disc Bearing.

Write us for Catalogue of the complete

KENTUCKY LINE

Pacific Implement Co. 135 Kansas St. San Francisco

California Cultivator

Vol. XXXI.—No. 17 Los Angeles, California, Thursday, October 22, 1908 Subscription $1 a Year

Celery Growing in California

An Address by H. S. Hazeltine, an Orange County Grower, Before the Farmers' Institute Recently Held at Wintersburg

THE celery industry of Orange county, we have no doubt, enjoyed the greatest period of prosperity without a reverse of any one of California's products. For twelve years the crop grew with vigor, possessing all the necessary qualities for shipping and market. The farmers thought the celery was immune from all pests and disease, and why not, in such a favored place. The soil was ideal for celery, and so rich that it would never need any fertilizer other than a crop of clover, rape or vetch; artesian water so plentiful that the crop would never want for moisture during the hot summer months or dry freezing winters.

The climate was all that could be desired, breezes from the Pacific ocean tempered and moistened the atmosphere, also brought in frequent fogs, all of which was conducive to celery culture. Desert winds would visit the district occasionally in winter, just often enough to kill all fungous growth that might be taking root. In fact, a more natural and ideal spot for celery culture, from a grower's standpoint, could not be found.

The Blight Appears.

But during the winter of 1906-7 the celery district, for some cause, (many believe the filling of the Salton Basin responsible) failed to get any desert winds, and during the latter part of January Orange county was visited with a very warm rain followed by an exceptionally hot and cloudy spell of weather. It was during this period that the blight first made its appearance in California. The celery was over-ripe at the time, on account of car shortage during the fore part of the season, and with poor transportation service the remainder of the season, it caused the growers a tremendous loss.

This, however, did not discourage the farmers, as the same acreage was planted the following season, 1907-8, with no preparation whatever for protecting the crop from disease. The crop grew with unusual vigor until the middle of September when some blight made its appearance and retarded the growth to considerable extent. This was considered of little consequence at the time, but early in October a light rain fell and, like the rain in January of the previous season, was followed by a sultry spell with occasional showers and, as a natural consequence, the blight spread rapidly to all parts of the fields, many crops were badly damaged, and shipments would have resulted very disastrously had not the utmost precaution been exercised in preparing the celery for shipment, and excellent service been rendered by the railroad company, in well equipped cars, ample icing facilities, quick time and prompt delivery.

Experience has taught us much along the above lines, and the result was a fair price received by the growers for shipments in November. The weather was more favorable for celery and less favorable for blight growth during December and January, and the celery outgrew the disease to a certain extent, making shipments fairly satisfactory. However, the whole crop was affected with a fungous growth and only waiting for favorable weather to develop it, and as warm rainy weather is sure to come in early February the farmers were not much surprised to find their crops totally destroyed by the middle of that month.

Salvation in Spraying.

Spraying with Bordeaux mixture, as an experiment, had been carried on during the winter months under the direction of Prof. Ralph E. Smith of Whittier, and the result was wonderful to note. Notwithstanding the work was begun after the celery was badly affected, the crop was preserved and very little blight was noticeable at time of shipment. It might be mentioned that the celery shipped well and brought high prices in the market on inspection. This experiment furnished the only ray of hope for the celery growers, and acting under the advice of Prof. Smith, the farmers were encouraged to plant another crop, although very small as compared with former years. Prof. J. H. Ramsey of Whittier was placed in charge of the crop at the beginning, and has directed the work of caring for the celery from a scientific standpoint while the Celery Growers' Association and many individuals have co-operated with him in carrying out the work in detail. Prof. Ramsey has visited the district frequently, inspecting the work and noting results. He is ably assisted by Mr. W. E. Gerhart, an employee of the Celery Growers' Association, who devotes his entire time to spray work, going from farm to farm instructing the growers how to mix and apply the spray, and at the proper time.

Remarkable Results Obtained.

It is with pride that we report the remarkable results achieved by this work. Time and again the blight has taken hold of crops which have been neglected to some extent by indifferent farmers, and by applying the spray vigorously the celery has been brought out in perfect condition. The Bordeaux mixture seems to act as a tonic for the plants and the oftener applied the faster the crop seems to grow, and where the celery is of sufficient size to determine the quality, we notice the exceptionally heavy foliage about the plant, something we have not seen since early days of the industry.

Although the crop conditions, as stated above, are most favorable at the present time, we do not know what is before us, but venture to say that if the farmers carry out the work according to the instructions given them by Mr. Gerhart, we will harvest a crop that will be a credit to all concerned.

* * *

CELERY DISTRICTS.

Celery is now being grown in nearly every state in the union for local consumption; however, there are only a few states which have attained any reputation as celery producers from a commercial standpoint, and these states have come to the front almost as rapidly and prominently as has California.

Florida is our greatest competitor, shipping celery into the market at a time when we are enjoying our best trade, February and March, spoiling all opportunities for high prices and frequently compelling us to sell at low prices. Florida has some advantages and many drawbacks. Let us compare her with California.

Florida vs. California.

Florida's climate is changeable, and unfavorable for celery many times during a season; Southern California climate as a rule is ideal.

Florida soil is light and sandy, containing very little of food necessary for plant life, especially celery. Fertilizer must necessarily be used and we are told it is necessary to apply it to the value of $250 per acre to insure a good crop of celery. California soil is rich, and with a green crop, such as clover or rape to plow under each year, produces satisfactorily without any fertilizer.

Help, we understand, can be secured a little cheaper in Florida than in California.

As to yield, Florida growers run their rows much closer than California growers and plant the celery double in the rows, bleaching with boards. By planting in this manner the yield is more than three times that of California per acre.

Freight rates are considerably less to eastern cities than from California, but equipment and service is much inferior to that of ours.

When it comes to quality, we will certainly not admit that our celery is inferior to theirs, as we are told by dealers that they prefer our stock to any other, and Florida growers tell us that they are told the same story by the dealers, and we presume they are, but we believe dealers prefer to handle our product in preference to any other on account of its keeping qualities, thereby insuring them a profit on the purchase.

Now then, we have climate, soil, transportation advantage and quality of product, as against Florida's big yield and low freight rate, which would be much in her favor should we not consider the enormous expense of fertilizing and the amount of money invested in lumber for bleaching the crop, which fully offsets her advantages, and places California in a position to compete with her in the eastern market, so long as our crop is in its normal condition. Florida's crop will amount to about 1500 cars the coming season.

Michigan Competition.

Michigan is our second largest competitor and ships into the market during the latter part of the summer and fall, holding more or less of her product, according to the season, until early in January.

The quality of the Michigan celery during November and December is much inferior to California's product and sells at about one-third the price, and is mostly used by restaurant and hotel men for soups and salads, or by cheap restaurants in some instances as a relish; therefore, you will note that while the Michigan crop supplies the demand for small, cheap celery, it interferes very little with large, fancy California stock.

New York State.

Our third largest competitor is the Empire State, which produces several hundred carloads of celery each year; and the quality is far superior to that of the Florida or Michigan product, and fully equals California's in size, flavor and hardness; but the territory is limited and the crop, always in good demand, is cleaned up early in December, or before the bulk of California celery is ready for market.

Middle West Product.

Colorado, Nebraska, Illinois, Ohio and Missouri must be recognized as factors in the celery deal, each state supplying its local cities with celery until about Christmas time, excepting Colorado, which depends upon local celery until nearly February. Colorado celery has an excellent flavor and possesses good keeping qualities; in fact, compares favorably with that of California and New York State.

Northern California.

Northern California will always produce more or less celery for eastern shipment, according to weather conditions. There is nothing to prevent that locality from having plenty of celery for early and late market, but during cold winters it

Continued on Page 407.

BEST FOR ALL AXLES

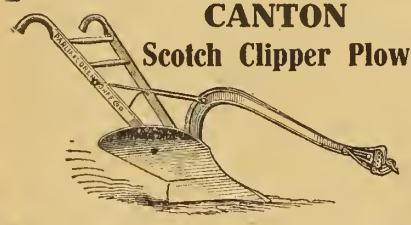
MICA AXLE GREASE

You will make more trips, draw bigger loads, save undue wear on box and axle, and keep the hard-working horse in better shape by an occasional application of Mica Axle Grease. Nothing like it to take the painful, heavy, downward drag out of a big load. Ask the dealer for Mica Axle Grease.

STANDARD OIL COMPANY (Incorporated)

The Right Kind

CANTON Scotch Clipper Plows



CAN ALWAYS BE FOUND IN THE CELEBRATED

Canton Clipper Line

Wood and Steel Beam Walking Plows
Sulky and Gang Plows
Subsoil and Road and Grading Plows
Orchard and Vineyard Plows

ALL SIZES AND PATTERNS FOR ALL KINDS OF WORK

Send for Catalogue

Pacific Implement Co.

133-153 Kansas St. San Francisco, Cal.
General Agents
B. HAYMAN, Agent, Los Angeles, Cal.

When writing advertisers, mention Cultivator.

Notice to Orchardists

Now is the time to plant your cover crops. Plant Vetch, Blue peas and White peas in sandy soils or where there is slight alkali. Plant Burr Clover or Foenugreek on heavy soil. Write us for prices and for any particular information you may wish.

Johnson & Musser Seed Co.
113 N. Main St., Los Angeles, Cal.

Absolutely Safe 6% Bonds

We sell strictly safe Oklahoma school, county Municipal and Street Improvement Bonds. We pay 4% on deposits. Guaranteed by State Laws of Oklahoma. Capital $200,000.

Write for Bond Circular A 49

OKLAHOMA TRUST CO., Muskogee, Okla.

When writing advertisers, mention Cultivator.

With the Citrus Growers

LEMON IMPORTERS.

Lemon importers in New York are by the ears over the action of the health board of that city, insisting on full sized boxes and that the importer cease handling "short" boxes The president of the association deemed the demand wise and proper and issued a circular commending it. This stirred up the nest and resignations from directors followed.

Regarding the situation the Packer says:

Mr. Zorn said that he did not intend to resign as president of the New York Fruit Exchange unless the majority of the members asked him to. He said that if that should come to pass he would continue then as an ordinary member and still stand pat on his letter.

It seems as though before the importers sent their resignations they agreed to a proviso that in case Mr Zorn would resign as president they would withdraw their resignations.

There is some doubt in the minds of some of the dealers as to whether the health department which issued an ultimatum to receivers that the size of lemons and boxes must represent what they are branded has any jurisdiction in this case. Inspector Fuller of the health department thinks he has. However, some of the importers say that the lemons are sound and highly fit for human consumption If they were not the health department would have a say so, but they cannot see where the health department has anything to say about sound fruit being unlawfully sold.

It seems as though the State Agricultural Department should take a hand in this and settle the whole matter. It was only a few months ago that the agricultural department of the state dealt a body blow to the short apple barrel. It can do something to the short lemon boxes by demanding that the contents of the box and the box itself be branded properly. Strange to say, however, the matter has not been taken up with the Department of Agriculture.

MULCH DEEPLY.

Mulch is an important factor conserving moisture. Mulch as deeply as possible. The experiment of mulching and cultivating six inches deep and three inches deep was tried with two orchards during a very dry winter some years ago. A third orchard was allowed to go without mulch and without cultivation. The orchard that was given a deep mulch and cultivation produced fine fruit of an excellent quality. The orchard with the three inch mulch and cultivation produced a large crop of fruit but of slightly inferior quality, while the third orchard produced little fruit and that of poor quality. Great benefit, also, is received from fall plowing and some benefit, but slightly less, from summer fallowing. The processes are chiefly to retain moisture in the ground.—Dr. R H. Laughridge.

LOUISIANA ORANGE CROP.

A dispatch from New Orleans in a recent Packer says that the present outlook for the Louisiana orange crop indicates that the yield this year will be about 30 per cent larger than the last year's production is the opinion of local fruit and produce men who have recently made a study of the situation. This is so, it is stated, despite statements to the contrary made some weeks ago. It is stated that the crop, which has already begun to move slowly, will soon be moving in volume. Up to the present the stock received in the local market has been fair. It is improving, too, and before long it is expected New Orleans will be getting some of the best Louisiana oranges ever shipped into the local market. The prices today on the ordinary grades range from $1.50 to $3 per box.

THE VALUE OF MANURE.

An average cow, of 1000 pounds weight, fed as a dairy cow should be. will throw off thirteen dollars worth of nitrogen and potash a year in her urine, says Mr. Hoard in a recent editorial in the Dairyman. A horse will throw off eighteen dollars worth

Every farmer has observed in his pasture how green and luxuriantly the grass grows where the cows have deposited urine. He can see from this how much greater is its fertilizing value than manure.

Yet we have observed that not one dairy farmer in a hundred has made any real practical effort to save the urine of his cows and horses in their stabling. It is lost in three ways. Either the stable floor is not water tight, as it should be, and it leaks through into the soil below, or it is piled up in heaps in the barn-yard and is not hauled out every day on the land, or no absorbents are used to help hold the nitrogen and potash until the land can absorb them.

No real thinking, intelligent man. who knows anything of the value of the urine and how it is wasted, will handle his manure as the majority of the farmers do handle it. How many farmers who use plank floors ever calk them with tarred rope to make them water tight so the urine will not leak into the ground below? How many use land plaster or ground phosphate rock or both, every day in their stable gutters to absorb this great value till the land can use it? How many haul out their manure every day in winter, so that as much as possible of all these valuable elements may go to the soil and not elsewhere, as soon as possible?

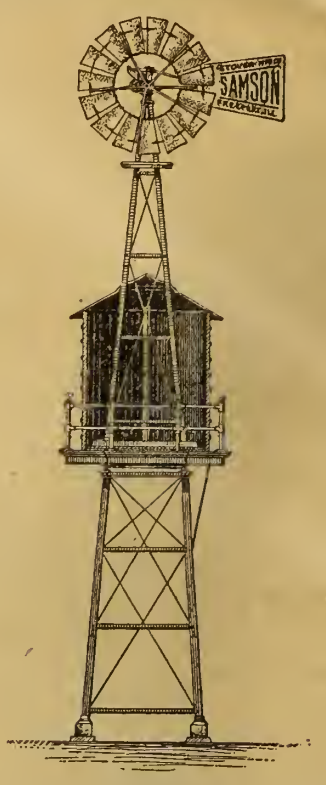
How many farmers sprinkle land plaster or phosphate rock in their summer accumulations of manure so that the nitrogen and other elements may not be lost by evaporation and leaching by rain? These are mighty pertinent questions. They reach down to the state of knowledge the farmer possesses; down to the practice he follows; down to the real situation and the enormous waste of manure that is going on.

GYPSUM vs. HARDPAN.

The problem of hardpan has been solved, it is said. V. Rambo has lands between Lerdo and Famossa on which for years he has been unsuccessfully trying to produce vines and trees. Owing to the hardpan lying close to the surface, no results were obtained. Someone told Mr. Rambo that someone else had read somewhere that if gypsum were spread over the surface of the ground the hardpan would dissolve. He tried it on a few acres and the scheme worked. He then scattered gypsum over 160 acres and now has a quarter section of land as good as can be found anywhere. The material contains the elements which, carried down to hardpan, causes that substance to disintegrate, much as gasoline "cuts" grease.—Bakersfield Californian.

SAMSON WIND MILLS

Have double gears, removable bearings and center lift, which double the life of the mill. They will last longer, pump more water and give better satisfaction than any other WIND MILL.



This is an up-to-date Sub-structure, Tank and Wind Mill outfit complete; substantial, economical and attractive. We build all kinds. Write us or our general agents for full information and prices, description &c., before purchasing.

The STOVER MFG. CO.
FREEPORT - ILLINOIS
30 California Avenue
CRANE CO., LOS ANGELES and SAN FRANCISCO
General Agents for California

Gold Medal
Citrus Trees

Are fully described in our treatise of Citrus Culture, which is a trifle the best thing of its kind ever published. Contains about 50,000 words and 100 illustrations telling about oranges and lemons from the seed bed to the bearing orchard. Price 25 cents. Remember we are the largest producers of Citrus Trees in the world and stand ready to serve you with the finest nursery stock that can be grown. Correspondence invited.

San Dimas Citrus Nurseries
San Dimas, Cal
R. M. Teague, Prop.

Covina Orange Groves

Buy an orange grove at Covina and live where you can have all the advantages of the city right at your door. This is the greatest orange section in California and is especially adapted to growing the Valencia Orange. These always net the grower from $2.25 to $4.00 per box. A small grove of Navel and Valencia Oranges will make you independent for life. I have some special hargains near the electric line that you will be interested in. Write me for particulars.

Jerome Reynolds - Covina, Cal.

When It Rains

you need something to pass the time in the most enjoyable way. Nothing equals my Portable Billiard and Pool Tables for that. Excellent for all ages and both sexes. No special room, nor much money required. Why don't you send for catalog?

C. Ridderhof, Laughlin Bldg., Los Angeles

Deciduous Fruit Culture

By J. W. Mills

FRUIT TREE TROUBLES.

There was little to worry the California fruit grower when the industry first became of commercial importance, except the railroads and commission merchants. When the Eastern markets were first opened to the California grower there was a general rush to plant varieties of fruit that brought good prices in the various markets, and as a result large quantities of nursery stock were imported from different countries to satisfy the demand.

Aspidiotus Perniciosus.

The Santa Clara valley, Santa Clara county, was the pioneer section in growing deciduous fruits in commercial quantities, and it was there that aspidiotus perniciosus (San Jose) scale was introduced, or at least discovered in California. Much to the chagrin of the city of San Jose, its name is the symbol of dread and disgust to every grower of deciduous fruits from the Pacific to the Atlantic. The thousands of dollars this insect has cost the fruit growers will never be counted.

This was the most destructive and expensive fruit pest that had ever confronted the grower, and all sorts of remedies were tried with little effect until the lime, salt and sulphur remedy was discovered. This grew out of a sheep dip solution which was thrown on some badly infected fruit trees after a sheep raiser had finished dipping his sheep for scab. The lime, salt and sulphur wash is entirely satisfactory for this scale. We have seen two sprayings clean perfectly a 200-acre orchard of large peach and prune trees.

There is a natural enemy that holds this scale in check to a certain degree, but it is still very destructive at times if left unchecked, and will eventually kill a tree. It sometimes gets on the fruit, especially pears and apples, in which case it must be sprayed with a wash that will kill the scale on the fruit without injury to it. The resin wash will do this, but it will not free the whole tree of the pest, as it is impossible to do this when the leaves are on the trees. The trees thrive better when sprayed with the lime, salt and sulphur wash and it is often used independent of the San Jose scale. A thorough winter spraying with this will cure many tree ills. It will kill a large percentage of red spiders on deciduous trees if applied in the spring just before the blossoms or leaves appear. It will not kill the eggs but will send off the sulphur fumes at close range and smother most of the young spiders as they emerge from the eggs. Spraying at the same period will also kill the peach worm and hold shot hole fungus in subjection.

Root Knot.

About 1888 deciduous fruit growers began to be alarmed over the appearance of root or common knot on the roots of their trees. It was at first supposed that it only attacked peach roots. This was because nearly all kinds of deciduous fruit trees, except almonds, were grown on peach root. It was soon found to infest all kinds of deciduous fruit tree roots and even those of rose bushes. The trouble soon became alarming and was one of the standing questions for discussion at all horticultural meetings This disease has caused more wholesale loss to the fruit growers in California than any other trouble affecting the health of trees, not excepting pear blight. As a single example, one fine orchard of 640 acres in the San Joaquin valley became so badly diseased that nearly all the trees could be broken off at the ground by the hand. These trees appeared to be perfectly healthy until they were four years old. The disease became general all over the coast and extending to the western states.

Old trees may become quite badly infected in the lower root system and continue to bear profitable crops, but to what extent the profits are reduced cannot be calculated, as the extent of the disease and its effect cannot be traced. The extent of the injury to the productiveness corresponds to the amount of diseased roots and the position of infection. If it were only the reduction in the amount of fruit produced it would not be such a loss, but the poorer quality of the product constitutes a heavy loss.

It was once supposed that peach pits from seedling trees were immune, but this is not true. Of all the diseases known to the California fruit grower this is the most troublesome. Trees absolutely healthy and with clean roots will make a magnificent growth for a year or two and in one season be rendered worthless. It comes like a thief in the night, but cannot be driven away. Eradication of the disease means in most cases the uprooting of the trees.

Curl Leaf.

Curl leaf of the peach was once a mysterious disease and was supposed to be due to wet winters. It is a fungous growth that thrives best during wet seasons, certain varieties being immune, such as Tuscan Cling, the Alexander type and some others, while most of the southern type are very susceptible.

The work of Prof. Newton C. Pierce in the Rivera orchard on the Feather River shows that it can be controlled by the use of Bordeaux mixture. Every peach grower should procure a copy of this valuable book (Peach Curl, Its Nature and Treatment,) which can be had for a few cents by applying to the Superintendent of Public Documents, Washington, D. C.

This report shows the wonderful increase in the productiveness of peach trees when curl leaf has been treated with Bordeaux mixture.

Prune Rust.

Another very destructive fungous disease is prune rust. It appears on the under side of the leaves in small brown spots and finally causes the leaves to drop. In two months after it attacks a tree there will not be a leaf left. It attacks the prunes, most varieties of plums and almond trees. Native American plums, so far as we know, are not subject to it. A dozen or more varieties growing at the Pomona Experiment Station were not affected, while European varieties all around them were badly affected. Wayland was particularly vigorous and green under these conditions. Prof. Pierce considers it a valuable variety to use as a cross in plant breeding to impart hardiness and resistance.

Continued on Page 403.

Placer Nurseries

We have now growing for next season's delivery a large stock of all leading varieties of trees and vines. We propagate only the best commercial sorts. Our trees and vines are the best that good care can produce and in their selection, propagation and growing we spare no labor or expense; and they are true to name. That is what you want.

Contract now the trees and vines you will want for next season's planting.

Write us.

Silva & Bergtholdt Company
Newcastle, California

TREE TANGLEFOOT

A Sticky Preparation Applied Directly to the Bark of the Trees

Will not injure trees. A band 5 inches wide and 1-16-inch thick cannot be crossed by any climbing insect pest. Remains sticky five to ten times as long as any other known substance. You can test it at slight expense, as no apparatus is required. Used by the carload in New England against the Gypsy and Brown-Tail Moths. In California it preserves prune orchards from the Canker Worm. Wherever the Gypsy or Brown-tail Moths, Tussock Moths, Fall or Spring Canker Worm or Web Worm appear TREE TANGLEFOOT is of great value, and should be used when the caterpillars begin to crawl while they are very young.

Price 25c per lb. Liberal discount on quantities. The only safe and effective banding preparation. Send for testimonials.

THE O. & W. THUM COMPANY
Manufacturers of Tanglefoot Fly Paper — Grand Rapids, Michigan

George B. Warner's Orange County Nurseries

Established 1889

Grower and Dealer in Citrus and Deciduous Trees of all Standard Varieties

Soft Shell Walnut Trees, 1, 2, and 3 years old. Grafted Placentia on Native Black Walnut Root and Soft Shell Root. Street and Ornamental Trees, Palms, Dracænas, Blue, Red and Sugar Gums (large stock.) Write for prices.

Sales Yard—Corner Sixth and Main
Residence—Tenth and Bush Sts
Santa Ana, California
Phone—S. S. Red 92

TENTS

Fumigating and Lemon Curing Tents our Specialties

Irrigating Hose, all sizes. Prices and Samples quoted upon application. Write your wants
Wagon Covers, Hay Covers, and Canvas Covers of Every Description.

Mellus Bros. & Co
Phones—Home, F 4871; S. S., Main 3500
250 East Fifth St., Los Angeles, Cal.

When writing advertisers, mention Cultivator.

Vote for Senate Amendment Number One

Written for the Cultivator by John Tuohy of Tulare. Mr. Tuohy is chairman of the State Grange Committee on taxation which at its recent meeting at Sacramento unanimously endorsed the Senate Constitutional Amendment No. 1 and urges all farmers to vote for it.

WHEN California was organized as a state and its constitution studied, formed and adopted, it was provided in it that its government should be maintained by a tax on property, and for that purpose all property, real and personal, should, according to its cash value, bear an equal pro rata of the tax. Fifty-eight years of practical trial of this system of revenue has proved its unworthiness, has proved that only a small portion of one class of property, for taxable purposes, can be ascertained, and in many cases, when ascertained, its cash value is not readily determined. The full amount of personal property can never be fully ascertained. No system of penalty incurring oaths has ever done it or will ever do it. It can be ascertained only by the truthful admission of the honest citizen, willing and anxious to bear, as every citizen should be, his equitable pro rata of governmental expense. Students of government and expert investigators of our revenue laws have for years denounced our present system as unjust and its attempted enforcement a school of perjury and a mockery.

The State Grange has given years to the study of a better system of taxation for state and county purposes. This study has led it to similar conclusions to those arrived at by the California Commission on Revenue and Taxation. It believes the revenue system recommended by the Commission and provided for by the amendment, is the very best our social and industrial conditions will permit. The Commission is composed of able, impartial, careful men. They have given years to the study of the subject. Its conclusions and the revenue systems provided by it should have our approval. It has the approval of the State Grange, Patrons of Husbandry of California.

That there would be some opposition to any revenue system the Commission or the Legislature or both could devise, was anticipated. That opposition has materialized. It does not propose a better system of its own. It does not deny the present revenue system is criminally discriminative between classes of tax-payers. The defect is in the system. The opposition desires the continuance of that discrimination and defect, and for that purpose the continuance of the present revenue system. It is claimed the "cow counties" only will be benefited by it, the large cities not. That the revenue provided for the state will be insufficient. That the state must have additional revenue and this must be provided for by a general property tax. That the railroads and public utility corporations will have a fixed rate of tax and are exempt from special taxes; that the railroads will corrupt and buy the State Board of Equalization and manipulate assessments and falsify their books.

Supposing the "cow counties" will be benefited by the new revenue system. Have they not for fifty-eight years borne a tax of 10 per cent. on their gross incomes where the manufacturers have paid a tax of 2 per cent. If their property is relieved of a state tax is it not also deprived of a pro rata of railroad tax? Will not their lands be taxed for four-fifths of the revenue for county purposes still? Will not their personal property be more searchingly and scrutinizingly ascertained than that of the cities? The State Grange passed resolutions protesting against this discrimination in favor of cities. Let the personal property of the cities be assessed by the same sown, itemized schedules made obligatory on the farmer and see how their assessment rolls will increase. The kickers in the cities assert they will, under the new system, have more taxes to pay, and it is only in a few large cities like Los Angeles and San Francisco that there are kickers, but they give no figures. The Commission on Revenue and Taxation has figured out what the difference will be and the figures are to the cities' credit; and this is so, but were it not so justice requires that they should contribute a greater pro rata of tax than they have done, and farming property less, and it should be paid from a moral sense of equity in taxation and of duty to the State as good citizens. The Commission on Revenue and Taxation, after a two years' study and investigation, have decided that a tax of 4 per cent on the gross income of railroads will be equivalent to a tax of 1 per cent on the true cash value of its property at its or their true cash value. The report of the Commission also shows that the revenue provided for the state by the system it has formulated will be ample and that if it is not, it points to other means by which the deficiency can be made up, and will be made up without recourse to a general property tax for state purposes. It is charged that the railroads will corrupt and debauch the State Board of Equalization and falsify their own books to evade the payment of a just pro rata of tax. This is too reprehensible a charge for consideration and it is only an assertion. The state will elect honest men and those men will do their duty, and the railroads will not falsify their books that they submit for examination to honest and fair-minded state officials. In a fair consideration of the subject such charges are not admissable. No court of equity would tolerate them.

The payment of a fixed amount of taxes by the railroads and other incorporations as proposed by Senate Constitutional Amendment No. 1 will to a great extent eliminate them from the power of the grafter and give better and more honest officials. Temptation will be removed from them. Adopt the amendment and try it.

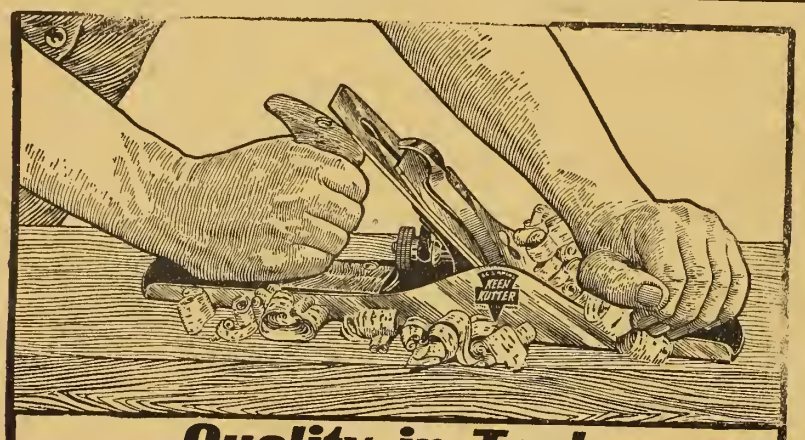
If the large cities, for public utility purposes, incur a large bonded indebtedness requiring 5 to 20 cents additional on every $100 to meet it, I would ask would they then be paying more than one per cent on the true value of their property? And will the increased income from the increased business of the corporations be a full equivalent to it?

The Patrons of Husbandry do not ask for a system of taxation that will have no item or incident of injustice, that is not imaginable, but they do ask that the present system of taxation be abolished because its practical enforcement unjustly discriminates against them and they do ask the adoption of Constitutional Amendment No. 1 because it is nearer equitable in its requirements. They will even then pay a higher pro rata of state and county taxes than will the city tax-payer.—John Tuohy.

MCDONALD PEACH.

A late freestone peach with good flavor and good keeping and carrying quality will add to the wealth of the peach growers of California. Such a peach has been grown and tried under most all conditions and in many soils. It has proved an excellent bearer year in and year out. It is several years since the good qualities of this peach were first discovered in a seedling tree grown by Mr. McDonald in the San Bernardino mountains. Samples were brought to the office of the Cultivator when G. H. A. Goodwin was its editor and he named it the McDonald Peach. Year after year its testing under different conditions has been watched, several of the trees being grown in Gardena and producing exceptionally fine fruit. This year Mr. A. Yarnell, 4524 Central Avenue, Los Angeles, has trees for sale and in quantity so that they may be supplied to planters who may wish to test this exceptionally fine peach.

It was tested by Mr. J. W. Mills, then in charge of the Citrus Experiment Station at Riverside, and pronounced by him "an entirely new and distinct peach and in his opinion a very valuable addition to the peach industry." In size the peach is medium to large, sometimes weighing 14 ounces, and 11 inches in circumference. Fruit is fully ripe by the middle of October, is a rich rosy red on the outside with flesh a deep yellow. Circulars may be had by addressing C. A. McDonald, Box 662, Colton, or may be had at the nurseries of Mr. Yarnell at above address.



Quality in Tools

Tools for the workshop, farm or home must be tools of quality. A plane, for instance, to smooth a board properly, must have a keen blade, carefully adjusted—its surface must be true and it must fit the hand.

KEEN KUTTER
Tools and Cutlery

are carefully inspected, adjusted and tested before leaving the factory.

Look for the Keen Kutter trademark on every tool you buy—it guarantees the tool to be satisfactory or money refunded.

The name Keen Kutter covers a full line of tools for shop, garden and farm, as well as scissors, shears, pocket knives, razors and table cutlery.

If not at your dealer's, write us.

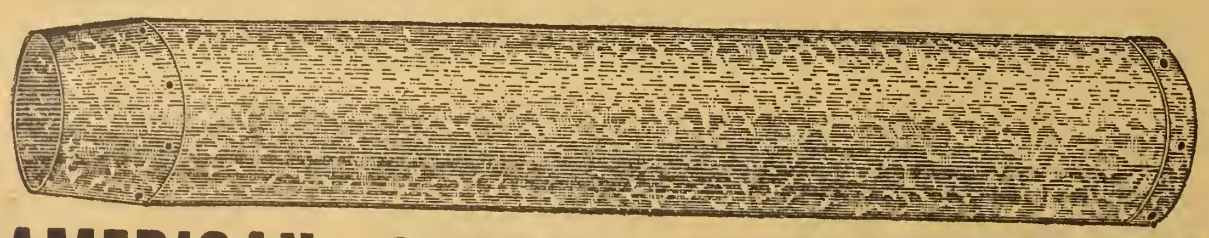
E. C. SIMMONS KEEN KUTTER TRADE ST. LOUIS MARK U.S.A.

SIMMONS HARDWARE COMPANY (Inc.), St. Louis and New York, U. S. A.

ARNOTT HARNESS $10.00 to $80.00

Everything guaranteed. Money back if not satisfactory. Factory in Los Angeles. California leather for all uses. Send for No. 10, eighty page FREE Catalogue.

ARNOTT & COMPANY 112–118 So. Los Angeles St. Los Angeles, Calif.



AMERICAN SURFACE IRRIGATION PIPE

SAVES WATER, GRADING AND TIME

The **only** way to **irrigate Alfalfa. Cheaper** than **Flumes.** This is only **one** of our **specialties. We make Riveted Water Pipe** in lengths of **ten feet** from **single sheets.** Let us **prove** to you that **we make Pipe** and **Tanks right.** WRITE FOR CATALOGUE.

AMERICAN STEEL PIPE & TANK COMPANY

FORMERLY TALLERDAY MANUFACTURING COMPANY

636-7 Pacific Electric Building Los Angeles, Cal

Agricultural Education in California

Address at the State Farmers' Institute, University Farm, October 8, 1908, by E. J. Wickson, Dean of the College of Agriculture of the University of California.

CALIFORNIA is advancing so fast in provisions for agricultural education that it is timely to assemble the various undertakings so that they can be covered by a comprehensive glance and possibly some ideas formed of their mutual relations and obligations. Such a view will necessarily be superficial and only suggestive of some of the truths deep in the needs of mankind and in the educational philosophy which helps us to know how to minister to them wisely and effectively. It must be insisted upon, however, that provisions for agricultural education which the people are now demanding in all but strictly urban schools, are fully warranted:

First, because they aim directly at a higher life—in thoughtful and effective individual labor, in family health, comfort and content, and in better citizenship.

Second, because they are the entrance to a higher and truer educational effort—which shall develop accurate perception and correct conception from the study of immediate environment; proceeding thence to broader conceptions of mankind and of the universe. In this respect the new ideals and purposes which are accomplishing a revolution in our methods and philosophy of education are vastly superior to the old, just as the scientific method of reasoning by drawing the truth from many careful observations is a safer and surer way than to jump at something supposed to be true and then bending all the resources of the mind to establish it. The changes in our educational ideals and methods are, in fact, due to direct application of the scientific methods of observation and reasoning to the common and universal affairs of life.

The Newer and Better Way.

There may possibly have been some excuse or possibly even a reason for the old conception of education as a thing which would give a man power and comfort in some possession of wisdom wholly apart from and beyond his life problem; something akin to the old monastic conception of education, but such a purpose in education is passing from view. Manifestly a man should rise to the contemplation of the lofty delights of learning through the elevation of his life and in the light of such elevation, and not by vain efforts to escape from life's burdens. Such an upward course demands imperatively that all men should be taught to live well and to labor efficiently—then let those rise who can. Fortunately the same elementary training which befits a man to his environment and helps him to improve that environment, gives him the fullest efficiency in vocational labor, if he limits his effort to this, and is also the best foundation to build his lofty castle of science and culture, if he choose to do that and has the mind for it. From a humanitarian point of view it is incalculably better that those who fail at such castle-building should fall back to a plane of vocational efficiency than, lacking such training, they should drop to social uselessness or dangerousness.

The proper purposes of education, then, are to enable men to live better, because they can work better. The immediate application of this principle to agricultural education can hardly be described better than they were by President Roosevelt in a recent letter in these words:

"The great rural interests are human interests, and good crops are of little value to the farmer unless they open the door to a good kind of life on the farm. It is especially important that whatever will serve to prepare country children for life on the farm, and whatever will brighten home life in the country and make it richer and more attractive for the mothers, wives and daughters of farmers, should be done promptly, thoroughly and gladly. . . . The farmers have hitherto had less than their full share of public attention along the lines of business and social life. There is too much belief among all our people that the prizes of life lie away from the farm. I am, therefore, anxious to bring before the people of the United States the question of securing better business and better living on the farm. . . . to make country life more gainful, more attractive and fuller of opportunities, pleasures and rewards for the men, women and children of the farms."

The same ends should, of course, be attained for all other faithful workers, and although much can be achieved for our present adult population by enlightened and effective organization for promotive and protective ends, the great hope for the workers of the future must lie in the improvement of the schools by the introduction of a just proportion of subjects which underlie and pertain to local industries and which, when properly taught, make both for mental discipline and for livelihood. This effort is receiving the earnest support of statesmen and educational philosophers, of parents and of teachers, and the children themselves show by their quickened interest and application that once again in the world's history little children can teach wise men wisdom.

The Attitude of California Teachers.

As the course of reforms in education, which I have thus tried to suggest, is now in progress in all civilized nations and may thus be truly characterized as a world movement, it is gratifying to know that California has full faith and active participation in it. Teachers in primary and grammar grades in all parts of the state are seeking suggestions as to forms of elementary science which can be taught rationally and endeavoring to master themselves the knowledge of fact and method of demonstration which will really help the children to know and understand what nature is doing around and beneath them. Nearly, if not quite, all of our five normal schools are supplied with good special instructors and outfits and are trying to teach the teachers how to do less with books and more with the nature, significance and relations of things which children naturally like to gather and work with and wonder what their uses are. Our high school trustees and teachers are eager to employ the uni-

Continued on Page 392.

30,000,000 Messages a Day

go through Western Electric Telephones.

Messages from Boston to Omaha (1500 miles), New York to Chicago (900 miles), and from Chicago to Atlanta, (800 miles), go through Western Electric Telephones.

The telephone business of New York, the largest of any city in the world, goes through 310,000 Western Electric Telephones, is handled on Western Electric Switchboards, and carried by Western Electric Equipment.

Western Electric Apparatus and Equipment

is the standard of quality, efficiency, reliability and durability.

Western Electric Quality is, if possible, more essential in a rural, than in a city line. The distance between subscribers is longer and other methods of communication harder. It will pay you to

Write for Bookiet 71 'Rural Telephone Equipments"—Sent Free

WESTERN ELECTRIC COMPANY

Eastern: New York, Philadelphia, Boston, Pittsburg, Atlanta
Central: Chicago, Indianapolis, Cincinnati, Saint Paul
Manufacturers and Suppliers of all Apparatus and Equipment used in the Construction, Operation and Maintenance of Telephone Plants.
Western: Saint Louis, Kansas City, Denver, Dallas, Omaha
Pacific: San Francisco, Los Angeles, Seattle, Salt Lake City

NORTHERN ELECTRIC & MANUFACTURING CO., LTD., MONTREAL AND WINNIPEG
Write Our Nearest House

EUCALYPTUS Growers of Commercial and Ornamental Eucalypti
EKSTEIN & EKSTEIN, Modesta Euc. Nursery, Modesta, Cal.
EKSTEIN BROS., Vignolo Euc. Nursery, Anaheim, Cal.

Eucalyptus

We have made a specialty of eucalyptus for the past ten years. We are no mushroom concern. We are prepared to accept contracts for raising eucalyptus for next season's planting. Take advantage of our **Low Prices on Contracts. Do It Now.** Twenty of the leading varieties to be seen at our nursery.

Saint & Warner
Sycamore Grove Nurseries
4584 PASADENA AVE., LOS ANGELES

For the Season of 1908-09
We Shall Have to Offer
Pedigreed Fruit Trees
SEVERAL NEW FRUITS AND NUTS OF IMMENSE VALUE TO CALIFORNIA
Eucalyptus Trees
BY THE 1000 OR 100,000
NO BETTER STOCK GROWN
Please send us your name and address, and you will get all particulars.
Leonard Coates Nursery Co. Inc.
Morganhill, Santa Clara Co., Cal.

EUCALYPTUS SEED

Eucalyptus rostrata, the Red Gum
E. corynocalyx, the Sugar Gum
E. tereticornis, the Forest Red Gum
E. globulus, the Blue Gum
E. citriodora, Lemon-Scented Gum
E. cornuta, the Yate Tree
E. polyanthema, the Red Box
E. leucoxylon, Victorian Iron Bark
and Many Other Valuable Sorts

I shall be pleased to correspond with prospective buyers and give particulars as to prices on the seeds I am offering. Trial packets of any variety 15c each, 2 for 25c, or twelve for $1.25. Also young trees of many varieties for sale. Send for circular and cultural directions.

THEODORE PAYNE
NURSERYMAN AND SEEDSMAN
Home Phone A2480
345 S. MAIN ST., LOS ANGELES

Australian Eucalyptus Seed

Our Mr. R. S. Webb (a native Australian) has just returned from that country with seventeen varieties of Eucalyptus seed, comprising the varieties that have been tried in Australia, and each variety is the best for the particular purpose for which it is used, or for the particular soil and climatic conditions where they grow.

The following are some of the varieties of Eucalyptus trees preferred by the lumbermen and manufacturers of Australia:

1. Iron Bark (Panniculata)
2. Microcorys (Tallow Wood)
3. Black Butt (Pilularis)
4. Turpentine (Syncarpis)
5. Resinefera (Mahogany)
6. Tereticornis (Red Gum)
7. Saligna (Blue Gum)
8. Corynocalyx (Sugar Gum)
10. Spotted Gum (Maculata)
11. Jarrah (Marginata)
12. Sideroxylon (Iron Bark)

We will have trees of the above varieties for sale about February 1st.

JOHNSON & MUSSER SEED CO.
113 115 N. Main St. Los Angeles, Cal.

Eucalyptus Rostrata

Seed for sale $2.50 a pound, delivered
Fresh Choice Seed.
Encenitas Floral & Produce Co.
Encenitas, California

THE COLLIE DOG.

Collies are one of the best breeds of dogs for the farm. They are useful to the shepherd and drover and possess an unusual amount of intelligence. Those who are fortunate enough to own good ones are particularly attached to them. The collie should be given good attention, but at the same time he should not be kept too fat. He needs exercise to keep him in good muscular condition. Twice a day he should be fed cooked food. He should be washed regularly when the weather will permit. When the weather will not permit of washing the coat should be dusted with tobacco dust powder.—Journal of Agriculture.

IT'S PENNY WISE

Policy to set out a good tree, costing good money, and then let the sun burn the bark or the rabbits gnaw it, when for $1 an acre you can get Yucca Tree Protectors that are practically indestructible. Write for free sample of the wrap. Yucca Manufacturing Company, 1380 Willow street, Los Angeles.

TREES

Season 1908-9

Order Now for Future Delivery

If your trees are purchased from the Fancher Creek Nurseries they will be true tc name, well developed, with good roots.

FOR 25 YEARS we have been engaged in growing reliable nursery stock. Our thorough knowledge of every branch of the business makes it possible for us to raise and deliver stock that meets the demands of this country, and gives satisfaction to growers.

Last year we did the largest business in our history. This year our stock of

Deciduous, Citrus and Ornamental Trees, Grape Vines and Rose Bushes

is more complete and better than ever.

We are sole propagators and disseminators of

Luther Burbank's New Creations

Valuable Burbank Booklet illustrated in colors mailed for 25c.

SALESMEN WANTED

PAID-UP CAPITAL $ 200,000.00

FANCHER CREEK NURSERIES

INC.

Geo. C. Roeding Pres. & Mgr.

Box 12 Fresno, California, U.S.A.

SEED

We are now in our ***New Store*** and are able to serve you better than ever before. All seed ***Fresh*** and ***Full of Life.*** If you have had trouble with poor seed try ours and be satisfied.

We are headquarters on ***Eucalyptus—Trees and Plants*** — 6 pkts. of leading varieties, 50c postpaid.

Full line of Trees and Plants.

Morris & Snow Seed Co.

425 So. Main St., Los Angeles

Improved Berry Plants

Bred for Big Berries

We are NOT in the berry business but make a speciality of propagating strong healthy plants for the home garden or commercial plantation. We help our customers to succeed. EVERY order receives our special attention. Our catalog tells the rest.

G. H. HOPKINS & SON

Burbank, Cal.

Pacific Seed Co.

C. Bagnall, Prop.

GROWERS AND IMPORTERS OF

Grass, Vegetable and Flower Seeds

All Kinds of Bulbs and Onion Sets

609 J St., Sacramento, Cal.

Send for Catalogue. Please mention Cultivator.

SEED GRAIN

Black and Red Oats, Wheat, Barley, Bean Screenings, Etc.

constantly on hand and for sale at lowest market rates

Bray Brothers Buyers of Grain and Beans Members Merchants Exc.

220 Clay St., San Francisco, Cal.

Established in 1856. Correspondence Invited.

AGRICULTURAL EDUCATION IN CALIFORNIA.

Continued from Pege 391,

versal interest in science to extend and diversify their studies so that they can hold more pupils to higher courses of instruction. In all these efforts which are commendable there is also what may be described as almost a thirst to render these new subjects practical, which means to command the further respect and interest of pupils by showing how all these fresh facts and new ideas are directly valuable and helpful in the work which people are doing in the fields, orchards and shops around them. When one becomes aware of how quick and eager the children are to connect their school life with the adult work which their parents and friends are doing, it becomes almost incomprehensible why for centuries educators have taken their subjects from almost everything under the sun but industry.

This effort to bring all the rural schools into close educational relation with their industrial environment is advancing in California about as rapidly as it can successfully. Such work cannot be mastered as easily as the old lines of book subjects; it is vastly harder for the teacher to keep just a little ahead of his class, which is unfortunately the measure of the ambition of too many teachers. Just as soon as you give a child his liberty among the things which surround him he is apt to drive his teacher up a tree at his first rush. Teachers must, therefore, be specially trained; they must at least know what they ought to be able to explain and what the wisest man in the world would not undertake to explain. Teachers are preparing themselves for this work; our State Teachers' Association is continually assisting them, and our State and County Superintendents and Teachers' Institutes are working earnestly in the same direction. The outlook is very gratifying and encouraging, but the ultimate attainment will take much time.

The California Polytechnic School.

But California is doing more than promoting this general introduction of vocational subjects into the rural common schools. The state is building up a system of special schools of the industrial class, by public appropriation and by personal bequest, which will have marked influence not only in the development of our industries but in the reformation of our whole school system. Reference in this connection may properly be restricted to institutions dealing with agricultural subjects. A flourishing agricultural high school, which is in some respects a pioneer in its class, is the California Polytechnic School at San Luis Obispo. It deals with mechanical subjects also, and is well equipped with instructors and shops for such subjects, but it holds distinctly a rural point of view and its main work is in agriculture and household arts with special instructors, buildings, tools, live stock and other facilities for practical work and demonstrations. Situated upon a farm of over 300 acres and destined to teach during the year which opens this month not less than 175 pupils gathered from different parts of the state, this California public school, liberally supported by the state, not only affords instruction connected directly with livelihood to the hundreds who have attended since its opening five years ago, but it stands as an exponent of the popular approval of an effort which makes industrial subjects a leading feature in a school of secondary or high school grade.

University Farm and Kearney Schools.

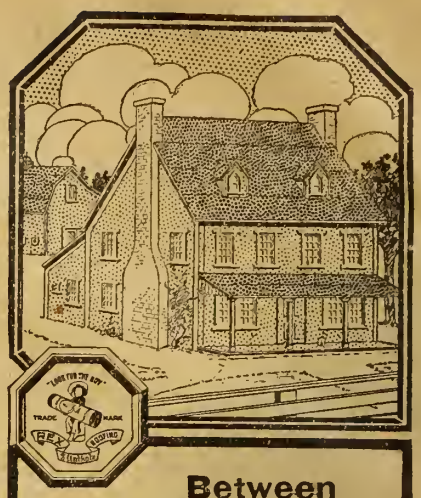
Another notable attainment in agricultural education in California is the purchase and equipment of the University Farm at Davis, in Yolo county, as a part of the instructional outfit of the College of Agriculture of the University of California. Under the law this institution will provide instruction of several grades, for all of which the outfit of buildings, live stock, implements and lands will be available. Here farming and farm manufactures will be conducted upon an actual and commercial basis so far as feasible in connection with instructional operations. The best equipped creamery in the state is now turning out about 250 pounds of butter daily, and a model dairy barn is now nearly completed, while numerous other buildings for various purposes are already constructed or in progress. All these facilities and the 780 acres of fine valley land upon which they are provided will be the collective outfit for a sries of short practical courses in all branches of agriculture which will afford youth and adults alike opportunity to become acquainted with the best California farming practices. Besides these courses for all who desire them, the University Farm will also have courses in farm life and work for the regular students of agriculture in the university and high school instruction in agriculture for boys who have finished the grammar school. The University Farm will then afford instruction in practical agriculture in all its branches to those of all ages, each according to his needs and desires, and it may be approached through the high school or the University, or without either. It is difficult to see how practical instruction, for which there is believed to be a great popular demand, could be made more available.

Another institution for agricultural and horticultural education in which it is hoped that the great San Joaquin Valley will take particular interest, will be opened in due time upon the Kearney estate near Fresno, which was bequeathed to the university by the late M. Theodore Kearney for such purposes. This property has not yet come into the possession of the University, but when it does so the work of planning and providing an agricultural school and experiment station especially adapted to the needs of this great valley, as the donor desired it to be, will begin.

Agriculture in the University.

In one way or another, all these gratifying advancements in agricultural education in California are connected with or proceeding from the College of Agriculture of the University of California. Teachers of elementary agriculture in the lower schools are largely University graduates or those who, having secured general training elsewhere, have sought special preparation in agriculture at the University. Upon the University will devolve the duty to largely increase its work in this line, cordially co-operating with the normal schools and with other universities to the end that those desiring to teach agriculture in California shall be able to teach California agriculture. In this effort the University departments

Continued on Page 401.



Between The Elements And You

The north side of the house may get the north wind, the south side the sun, the east the rain storm, the west the snow storm, but the roof gets all. Therefore look well to your roofing.

REX FLINTKOTE ROOFING

is made of wool felt, rendered absolutely proof against water by our saturating materials, and so resistant against fire that you can place a live coal on its surface without danger.

SEND FOR FREE SAMPLES

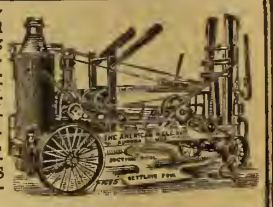
and our valuable booklet on roofing. Make the fire test, try its strength, note its pliability; if you go to your dealers, be sure you are given the "Look for the Boy" trade-mark kind.

J. A. & W. BIRD & CO.

39 India Street, Boston, Mass.

Pacific Coast Agents: W. P. Fuller & Co., San Francisco, Sacramento, Oakland, Stockton, Los Angeles, San Diego, Portland, Seattle, Tacoma, Spokane.

$10 a day may be earned by a man using our machinery. Some earn more. FULL LINE for prospecting for water, coal, mineral, oil, etc. Any DEPTH, any DIAMETER. PUMPS also. Free catalogue.



THE AMERICAN WELL WORKS

AURORA, ILL., U. S. A.

BRANCH OFFICES

Chicago, Ill., First National Bank Building
New York, N. Y., 2-4 Stone St.
San Francisco, Cal., 305 Market St.
New Orleans, La., J. H. Menge & Co.
R. B. Whitacre & Co., 205 Robert St., St. Paul, Minn.
Dallas, Texas Joplin, Mo.

300,000 Berry Plants

Perries of all kinds, Fruit Trees, Roses, Oranges, Lemons, Seeds, Etc.

Send for the most descripted Berry List on the Coast. FREE.

A. Mitting

Lock Box 380 Santa Cruz, Cal.

Burr Clover

Recleaned, Hulled Burr Clover Seed

Quotations for Any Quantity Upon Application.

Canada Field Peas

E. L. Koethen Riverside Cal.

Live Stock and Dairy

By Mrs. Minna E. Sherman

TYPE IN COWS.

THE difference between the type of a dairy cow and a beef cow is marked in the pure bred animal, but the shade of difference between the best and the next below the standard, is not great. At the top it is small but like any other wedge it is a forcing open the block. The difference between common cows and well bred ones is very wide. The common cow is an animal that is neither beef or dairy stock. Yet, every day, people are telling of cows that are dual purpose animals. What are the common raisers of cows doing anyway? Merely raising cows to feed them and to receive scanty returns of milk. Yet, there are many cows of merit that have no pedigrees. Why not try to raise a few of these? A good sire and you will soon have good milk cows. At the present time things are dull and cows are shaded in prices. It is a good time for buyers to select a few head of well graded up cows to have milkers at once. Then head the herd with a good sire of the same breed and see what a few years will do for you in the way of raising the production of the herd.

Common Stock.

While for a long-time business there is much money in the pure bred stock, there is, also, a little money in the common cows. When a man is a fair judge of dairy stock he can do well in buying cows and bringing them into good condition, raising a calf perhaps from each one and then selling them as family cows. In other words, he can sell his knowledge of dairy quality to others.

The heifers of the best cows will be of half the blood of the registered sire and will bring the young animals into good form rapidly. There is nothing more desirable from a dairy point of view than a uniform herd of cows. Now, while we naturally think of pure bred cows as better than grades, and to be preferred, the quality of the cows must be held up by careful and discriminating breeding and feeding. There are pedigreed scrubs to be found all over the country. I have been at several fairs during the past two months and was pained to see some of the animals that wore the blue ribbons. The fact I hope to see come to the front in the judging of registered dairy cows is not giving any ribbons when the animals do not deserve it. I saw herds this year win at fairs that had I been judging I should have cut them out the class altogether. A cow that receives a blue ribbon should be typical of her breed. The dairy preference tests, of course would be an exception to this rule.

Blue Ribbon Cows.

I saw at one fair among the dairy stock of pure bred cattle, one heifer, one sire and one mature cow all of different breeds that were good blue ribbon stock, the only ones out of a hundred or more head that had the blue blood and the blue blooded style or type. These, often pure bred cows, were good, valuable dairy animals, no doubt, but not one had the right to a prize as either Jersey, Holstein, Swiss, or Aryshire. The type was poor. The Holsteins were big black duns and silver grays, but the Jerseys were not Jersified, nor the Holsteins Holstienesque. Now, lest this be misunderstood I will tell you of a cow I raised that won out for several years at the State Fair. She was a great producer and had a right to her ribbon as a dairy cow, but no right to it as a Holstein, as she was off type. Her breeding was gilt edged but she either reverted or was a freak. Her daughters should make good cows by careful selection of the sires they were bred to, probably give good calves, but her sons would have to be vealed.

The Results.

This, not condemning the sons of high producing cows, that are freaks, pulls down the breed. Why? Because the form or type has been built up by rigid selection and the animal is in balance. Heart, lungs and milk organs as well as stomach capacity are able to work together. Change one ever so little, decrease the heart or lung capacity and the cow is not as good an animal physically. Then use her son to head a herd and to pass on the ill-balanced capacity and the stock is running to seed rapidly. The freaking propensity is very strong when it breaks through the long established inheritance and must be watched that it is suppressed in the female decendants and wiped out by not using a sire that has any freak blood in him.

Balance.

Have you ever thought about it in regard to a cow? If it was not the result of the inward modifications of the cow how did it result? The Jersey for instance has had short grasses and a tether strap in her home. The people wished butter, not milk, and the lack of heavy grass has brought it into the cow type. Then the nerve system became tense to fit the nervous energy of fat production. The Holstein stood in heavy grass, the people wanted milk for cheese and the amount of milk became the feature rather than butter-fat. The cows grew bulky and heavy, gentle and tranquil as they gave out great volumes of milk. Now if you should conclude to raise the fat production of the Holstein, the fight has to be kept up to hold her size.

The increased milk flow of the Jersey in the United States has increased her size somewhat of late years. Therefore, the outward is after all a part of the inward form. When we lose sight of the type we are forgetting that the breeds must be bred each to its own particular form. If you do not like a small cow stop raising Jerseys; if you do not like a big cow stop raising Holsteins.

No one should try to make any pure breed of cattle to fit his idea except after constant studying of them at their best. I do not know where this training can be received, for the fairs do not give it. They simply give the ribbon to the best animal of its breed on exhibition. The animal may be the best at that fair and yet a scaly specimen of the breed. I saw in three hundred head of cows and heifers only seventeen that were typical and fine examples of their respective dairy breeds. I saw many, many lovely milch cows that were well worth owning, at the fairs, but imperfect as types of dairy show cows.—M. E. Sherman.

Cream Separators, all sizes, all prices. O. J. Weber Co., 555-557 S. Los Angeles street, Los Angeles.

Owners of Live Stock in California Should Insure in Their Own Association,

THE CALIFORNIA MUTUAL LIVE STOCK INSURANCE ASSOCIATION

BECAUSE . . .

It is the only institution of the kind organized under the laws of California with the home office in this State.

We insure live stock against death from disease, fire, lightning, tornado, cyclones and every casualty; also through accident which may necessitate the death of any animal.

Losses are paid promptly without discount and without unnecessary delay.

We have a guaranty deposit under the control of the State Treasurer for the protection of our members and policy holders.

There is $100 of values lost to farmers by death of stock, by disease and accident, where $1 is lost by fire.

We have no dividends or profits paid to idle office holders.

The business of the Association is conducted as economically as is consistent with good management, and the earnings are divided among the policy holders.

This is an age of Mutual Insurance, and it is true the cheapest and strongest companies in the United States to-day are composed of and managed by the policy holders, who are farmers and stockmen, as has been demonstrated in the East.

The directors and officers are elected annually by the policy holders.

WHY PAY LARGE PREMIUMS FOR PROFIT TO EASTERN COMPANIES WHEN YOU CAN CO-OPERATE WITH YOUR FELLOW FARMER AND STOCKMAN AND SECURE YOUR INSURANCE AT COST?

A Few of Our Many Losses Paid Recently:

Great Eastern Tran. Co.	Los Angeles, Cal.	$110.00
E. R. Kellam	Los Angeles, Cal.	85.00
Diamond Coal Co	Los Angeles, Cal.	70.00
J. N. Osterhoff	Los Angeles, Cal.	200.00
Pioneer Truck Co	Los Angeles, Cal.	300.00
The Connell Co	Los Angeles, Cal.	187.50
J. D. Smith	Los Angeles, Cal.	85.00
Chas. W. Herder	Redlands, Cal.	50.00
Garden City Transfer Co	Los Angeles, Cal.	100.00
Long Beach Milling Co	Long Beach	130.00
Chas. H. Eager	Los Angeles, Cal.	135.00
Belle Vernon Farms Co	Los Angeles, Cal.	270.00
Alpine Dairy Co	Los Angeles, Cal.	220.00
H. A. Bingham Cre'ry Co	Los Angeles, Cal.	40.00
Glen Holly Dairy Co	Los Angeles, Cal.	60.00
J. A. Tisdale	Mentone, Cal.	150.00
S. M. Hill	Santa Ana, Cal.	100.00
Chas. E. Dryden	Los Angeles, Cal.	125.00
Wm. Wilson	San Diego, Cal.	200.00
Fred Larder	Los Gatos, Cal.	350.00
Llewellyn Iron Works	Los Angeles, Cal.	200.00
Eagle Liv. & Car. Co	Los Angeles, Cal.	100.00
Mrs. Helene Hazell	Arlington, Cal.	100.00
Dolph Barnicott	Newcastle, Cal.	150.00
E. D. Morrison	Modesta, Cal.	100.00
Frank S. Herr	Pasadena, Cal.	300.00
John Compasso	Napa, Cal.	100.00
J. A. Glenn	Mojave, Cal.	71.40
Jesus Saenz	Palms, Cal.	30.00
A. W. Bannister	Bakersfield, Cal.	50.00
P. W. Brooks	Holtville, Cal.	30.00
Frank S. Seiler	Chico, Cal.	37.50
Johnson & Greening	Fresno, Cal.	150.00
J. M. Ahrendes	Stockton, Cal.	30.00
M. T. Machado	Duttons Land'g, Cal.	75.00
H. E. Kinkade	Newman, Cal.	30.00
E. Pendleton	Los Angeles, Cal.	100.00
Carl Nielsen	Salinas, Cal.	150.00
Joe R. Fernandez	Turlock, Cal.	30.00
Peter Mathiesen	Los Banos, Cal.	37.50
Azvedo Bros.	Duttons Land'g, Cal.	50.00
Baciarini & Yolo	Duttons Land'g, Cal.	75.00
M. T. Machado	Duttons Land'g, Cal.	250.00

A Few of the Many Testimonials We Are Receiving Daily

Fresno, Calif., August, 29, 1908.

California Mutual Live Stock Ins. Ass'n.,
Los Angeles, California.

Gentlemen:—

We are in receipt of your check for $150, indemnity for the loss of one horse.

We had upon investigation found that your application and by-laws were not complicated, were easy to understand and did not contain so many technicalities as some companies we had investigated that are doing business from foreign states. We also found that this was the only company organized under the State laws of California that was writing live stock insurance in this State. We therefore insured our stock and would not under any consideration do without insurance in your company.

We are more than pleased with the promptness with which payment was made for this loss.

Yours respectfully,
JOHNSON & GREENING.

Los Gatos, August 6th, 1908.

To Whom It May Concern:

This is to certify that I sustained a loss in the California Mutual Live Stock Insurance Association, of which I am a member, to the amount of $350, by the death of two horses. Thanks to the promptness of the Association I have this day received payment in full, through their State agent, Mr. F. H. Hilliker, and cheerfully recommend the Association to all.

I consider it safe, prompt and reliable and an association that all farmers and stock men should go into, as it furnishes absolute protection at cost.

Very respectfully,
FRED LARDER.

Cal. Mutual Live Stock Ins. Ass'n., Newcastle, August 20th. 1908.
Los Angeles, Cal.

Gentlemen:—

Your General Agents, Messrs. Allen & Hunter called on me to-day and handed me your check for $150.00, payment in full for the loss of one of my horses. I certainly appreciate the promptness with which you have met this claim, and I consider it a very good plan to insure our stock against loss by death the same as other property.

I will recommend your Company to my friends.

Wishing you success, Yours resp'y,
RALPH BARNICOTT.

REFERENCES

National Bank of California, Los Angeles, Calif.
Security Savings Bank, Los Angeles, California.
Bank of Germany. Oakland, California.
Or any reliable bank in the State.

M. L. Wright, Pres. J. A. Wright, Secy.

Home Office: Delta Building, Los Angeles, California
Branch Office: 307 Oakland Bank of Savings Building, Oakland, California. Telephone Oakland 3990.

U.S. CREAM SEPARATORS

Hold World's Record for clean skimming

503

CAVENDISH, VT., Sept. 8, 1908.
Since purchasing a U. S. separator one year ago, we have gained $11.37 per cow over the water separator, from our herd of seven cows, though three of these are heifers and one cow had been milked two years.
ALBERT S. EATON.

A saving of $11.37 per cow in one year amounts with 7 cows to $79.59 or within 41 cents of $80, the price of a No. 6 U. S. separator.

Stop and ask yourself, "How much am I losing?" Perhaps not as much as Mr. Eaton, yet you may be losing even more.

You perhaps will say, "The calves and pigs must have something to eat. To be sure they have, but it is not policy to feed them butter fat at 32 cents a lb. when substitutes at one and two cents a pound are just as good.

You can't afford such robbery in your dairy, therefore send for Cat. No. 20 at once.

ADDRESS ALL LETTERS TO
Vermont Farm Machine Co., Bellows Falls, Vt., U.S.A.
Prompt Deliveries from 16 Warehouses in U. S. and Canada

Prompt Delivery Assured
California Customers from San Francisco warehouse. No delays. Address all letters to Bellows Falls, Vt.

CUTTER'S
Anthrax and Blackleg VACCINES
Are given the preference by 80% of California stockmen because they give better results than others do.
Write for prices, testimonials and our NEW booklet on Anthrax and Blackleg
The Cutter Laboratory
Berkeley, California

SECOND HAND PIPE
Just bought cheap ten carloads of water pipe, sizes ½-in. to 6-in., which we offer cheap for cash: ½-in. 1½c. a ft., ¾-in. 2½c a ft., etc. Get the benefit of our close buying. All pipe guaranteed good as new and dipped in asphaltum. Write for complete price list.
WEISSBAUM PIPE WORKS
133 Eleventh St., San Francisco

PASPALUM DILATATUM
King of dairying and fattening grasses. The great Australian drouth resister. Primest heavy seed direct from the grower, 4 lbs. (ample for trial) post free, $2.00. Full information.
C. F. JULIUS
Central Bucca, Coffs Harbor, New South Wales

Live Oaks Farm
Frank A. Meacham, Proprietor.
Importer and breeder of RED POLLED CATTLE, SHROPSHIRE SHEEP, RAMBOUILLET SHEEP, HORNLESS AMERICAN MERINO SHEEP. Both sexes for sale. Take electric car at Petaluma or Santa Rosa for LIVE OAKS STATION. Address all mail to
Petaluma, Sonoma Co., Cal.

HOLSTEINS
We Have For Sale a Number of Registered Young Bulls and Heifers **$100**
All our stock comes from the celebrated herd formerly owned by the Pierce Land and Stock Co., the premium herd of Holstein Friesians in California. **Oakwoods Stock Farm Co., Lathrop, Cal**

VENADERA HERD OF REGISTERED JERSEYS
I have for sale a number of richly bred young bulls, some of them from cows that have high official yearly records.
GUY H. MILLER,
Route 3, Modesto, Cal.

Berkshires--Shorthorns
My Berkshires took 9 First, 6 Second and 4 Third Prizes and both Gold Medals. 50 Head For Sale.
G. A. MURPHY, PERKINS, CAL.

THIRTY THOROUGHBRED
Poland China Hogs and Pigs
FOR SALE
W. R. McCaslin, R.F.D. No. 1, Roosevelt Ave, Sacramento

John Lynch Breeder of Registered **Shorthorns**
MILK STRAIN
Box 321 Petaluma, Cal.

Large shipments of hops are being made these days from Santa Rosa.

THE ECONOMIC IMPORTANCE OF ANIMAL TUBERCULOSIS.

Dr. A. D. Melvin, Chief of the Bureau of Animal Industry of the United States Department of Agriculture, in an address before the International Congress on Tuberculosis at Washington, (Tuesday morning, September 29), pointed out the heavy economic loss sustained by the live-stock industry because of tuberculosis and discussed measures for the control and eradication of the disease. Dr. Melvin said, in part:

"While the saving of human life affords the highest motive for combating tuberculosis, the prevention of financial loss is alone a sufficient reason for undertaking the eradication of the disease from farm animals.

"Statistics of the United States Federal meat inspection for the fiscal year ending June 30, 1908, covering 53,973,337 animals, or more than one-half of all those slaughtered for food in the country, show the following percentage of tuberculosis: Adult cattle, 0.961; calves, 0.026; hogs, 2.049; sheep and goats, 0. The proportion of tuberculosis is probably higher in animals slaughtered without inspection.

"Reports of tuberculin tests made in the 15 years from 1893 to 1908 by Federal, State and other officers with tuberculin prepared by the Bureau of Animal Industry have been carefully analyzed and tabulated. Out of 400,000 cattle tested (mostly dairy cattle) there were 37,000 reactions, or 9.25 per cent.

Ten Per Cent.

"From these two classes of statistics it is concluded that on an average of about 10 per cent of the milch cows, one per cent of other cattle, and 2 per cent of the hogs in the United States are affected with tuberculosis, the average percentage for all the cattle being estimated at 3.5.

"The accuracy of the tuberculin tests has been confirmed in a remarkable way by post-mortem examinations. Out of 23,869 reacting cattle slaughtered, lesions of tuberculosis were found in 23,585, a percentage of 98.81. Properly prepared tuberculin applied by a competent person is therefore shown to be a wonderfully reliable agent for diagnosing tuberculosis. In cases where the test appears to give unsatisfactory results this is usually due to the use of a poor quality of tuberculin or to ignorance or carelessness in applying it.

Loss of Millions.

"The economic loss on account of tuberculosis in food-producing animals is heavy. The loss on animals in which tuberculosis is found in the Federal meat inspection is estimated at $2,382,433 annually, and if the same conditions were applied to animals slaughtered for food in the United States would be increased to $4,102,433. The stock of animals on hand is also depreciated in value because of tuberculosis. Assuming that living tuberculosis milch cows are annually depreciated to the extent of one-tenth of what the loss would be if they were slaughtered, other cattle one-third, and hogs one-half, the total annual depreciation amounts to $8,046,219. The annual loss from decrease in milk production is estimated at $1,150,000, and there also is some loss from impairment of breeding qualities, etc. Taking all these items into account, the aggregate annual loss because of tuberculosis among farm animals in the United States is estimated at not less than $14,000,000.

Eradication Necessary.

"Such heavy financial losses make the eradication of tuberculosis from farm animals very desirable purely as an economic matter. As the disease is found principally among cattle and hogs, and as the most of the infection in hogs is derived from cattle, the main effort should be directed against the disease in cattle. Among the measures proposed are the following: Live stock owners should be educated by means of official publications, the agricultural and general press, lectures at farmers' institutes, etc. Public authorities should make a systematic effort to determine to what extent and in what localities the disease exists, and should apply the tuberculin test generally and systematically to cattle in sections where this seems desirable. Reacting animals should be slaughtered under competent veterinary inspection, so that the loss may be minimized by passing carcasses for food where the infection is so slight that this can safely be done; dangerous carcasses, of course, to be condemned. In the case of valuable breeding animals where slaughter would involve great sacrifice, the Bang system of segregation may be used. A system of tagging all cows sent to market is advocated, so that when animals are found tuberculous in the meat inspection they may be traced back to the place of origin, centers of infection located, and steps taken for eradication. The Bureau of Animal Industry is already co-operating with the authorities of some states in reporting and tracing the origin of tuberculous animals. Each state should require that all cattle brought in for breeding or dairy purposes shall have passed the tuberculin test.

"As the eradication of tuberculosis is largely a public health measure it is only reasonable that the persons whose cattle are slaughtered should be paid indemnity, at least in part. This is not only just but is absolutely essential if the co-operation of cattle owners is to be secured. Several states already have provisions of this character.

Profitable.

"The benefits to follow from the eradication of tuberculosis from farm animals are so great and so obvious that the necessary expenditures, even though they must be heavy, may be regarded as a highly profitable investment."

There would be a great many more first-class dairy farmers in the world if they could get this thing of doing the right thing fixed in their minds, because it is right. In every relation of life, with our animals, the soil, our fellowmen and all, the honest policy is the only policy that we can safely trust with our eyes shut.—Hoard's Dairyman.

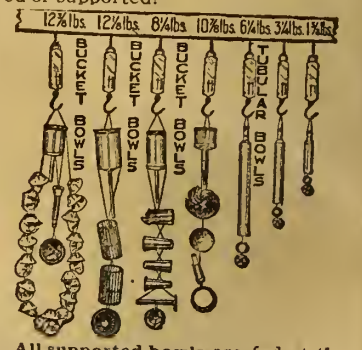
A pretty good wash for sore shoulders is to put one-half ounce of zinc sulphate into a quart of water and bathe the shoulder at night with it.

For wounds from barbed wire apply carbolic acid, one part, with lard, eight parts. Cleanse the wound first.

For Mehring Foot-Power Milking Machines see O. J. Weber Co., 555-557 S. Los Angeles St., Los Angeles, Cal.

Anthrax Cure, Milk Fever Outfits. See O. J. Weber Co., 555-557 S. Los Angeles street, Los Angeles.

Mistakes Cost Money
Hence the only way to avoid them is to be prepared.
For instance when buying a separator examine it closely, especially the bowl and see if it is simple or complicated; heavy or light; suspended or supported?



All supported bowls are fed at the top, requiring complicated interiors to assist separation. They are not only top heavy, but hard to clean and handle—due to their complicated mechanism.
The three simple bowls on the the right are
TUBULARS
Their simplicity and lightness are evident at a glance---they are easy to clean and handle. The Tubular bowl being suspended and bottom fed, necessitates but a simple smooth interior; because the milk passes but once through during the separation. To avoid separator mistakes, write for and read our catalog 260—free.
THE SHARPLES SEPARATOR CO.,
West Chester, Penna.
Toronto, Can. San Francisco, Calif. Chicago, Ill.

CEMENT PIPE
Irrigation lines installed anywhere Skilled mechanics, work guaranteed. Estimates furnished. Main lines for Irrigation Companies a specialty.
Information cheerfully furnished.
Ben. F. Thorpe
Covina, Cal.

Geo. C. Roeding, Fresno, Cal., breeder of
Thoroughbred Holstein Bulls and Heifers
Thoroughbred Berkshire Boars and Sows

Thoroughbred Poland China Swine
Black Minorca and Barred Rock Poultry
High Grade Stock of Best Strains.
Young Stock For Sale
W. Bassett Hanford, Cal

PURE BRED BERKSHIRES
Young Stock For Sale
Wm. H. Bird Box 6, Compton Cal.

The Whiting Jersey Stock Farm Company
is making the very best strains of blood from the island of Jersey a specialty.
Whiting Jersey Stock Farm Co. Heber, Imperial Co., Cal

Your Eastern Trip
SOUTHERN PACIFIC
May be arranged so that you may travel by way of
New Orleans and the Sunset Route
San Francisco and the Ogden Route
Portland and the Shasta Route
Enjoying the balmy air of the South or the cool and bracing air of the North.
Personally conducted excursions every day from Los Angeles via all routes without change to principal eastern points.
Southern Pacific

California State Grange met in Sacramento last week.

Creamery Supplies

Cream Separators — Milk Cans
Combined Churns — Milk Bottles
Babcock Testers — Brushes
Butter Moulds — Wrappers
Engines and Boilers — Milk Coolers
PASTEURIZERS
MILKING MACHINES
Creamery and Dairy Supplies and Machinery of all Styles and Sizes

Send List of Goods Wanted and we will Quote Prices

O. J. WEBER CO.
555-57 S. Los Angeles St.
LOS ANGELES, CALIFORNIA

NEED OF CAREFUL MILKING.

Every milker thinks he knows how to milk, but if the cows could speak, they would probably intimate that a few lessons in the gentle art would not be out of order. It is not fair treatment to sit down to a cow and tug and haul on her until she steps around in the stall and acts as if she were badly hurt. Sometimes a cow will stop eating and wait until the ordeal is over before she will resume her meal. The cow that does that is usually not comfortable, and an uncomfortable cow will not do her best. Some men have a way of milking that so pleases the cow that she clearly shows her satisfaction. These are the men whose methods should be studied. They never shout at, strike or otherwise illtreat their cows. They sit down quietly, take hold of the teats gently, no matter how much of a hurry they may be in, and begin to draw the milk without pressing too hard, for they know they are touching her at a tender point. Then they keep steadily at it until the last drop is out. There is no excuse for having a kicking cow in the herd. The kicking cow is almost always made so by her attendant. If a cow is handled before she comes in so as to become familiar with her attendant, and has been kindly treated, there will probably be no trouble. It is my opinion that in nine cases out of ten, where there is trouble of this kind, it serves the attendant right to get a good kicking. I think if all milkers would do a little thinking, a little sound reasoning, and investigate matters a little, they would probably find sore teats a common cause for a kicking cow. Instead of using the much-talked-of straps or ropes, I should advise them to use a good remedy. One which has proven effectual without a single exception is simply clean lard. About 15 or 20 minutes before the cow is milked the first time, the lard should be applied to the teats, and when through milking wipe the teats perfectly dry with a soft dry cloth and apply the lard again. This was usually found necessary for about five or six milkings. Many milkers have the bad habit of wetting their fingers when milking, and when the teats of young cows are left in this condition, they get sore. On the other hand, lard heals or takes away the soreness that is so natural, caused by the action of rough, hard hands upon the teats that are not accustomed to the milking process. I once visited a farm where they had a fine young Holstein cow which had just freshened for the first time. The milker and the poor animal had gone through almost everything during the first three milkings. The cow had no means of expressing her sufferings except with kicks, and the owner, although a kind, intelligent person, could not think of other methods to apply except what he had used so often with other cows—tying her with straps or ropes. He decided then to let her keep her calf, as it seemed an impossibility to milk her. It was then that I happened to have my attention called to it, so I told him of our method which at that time we had tried only with three or four young cows. He laughed at me when I suggested that I would apply the lard myself. But the poor cow's teats were now so sore she would not even let the calf touch her. With considerable patting and rubbing and kind words I had the satisfaction of getting the lard applied, and the still greater satisfaction of seeing the cow stand perfectly still a short time afterwards to the great astonishment of those present.

The cow is a creature of habits, and upon the attendant depends the formation of these habits. The more regular they are the better work she will do in the dairy. Teach the young boys to be kind to the cows, to feed them properly, and do everything in their power to make them contented and happy. The true dairy cow usually possesses a highly nervous temperament, that rebels against harsh treatment. In view of this fact, it is ill-advised economy for the dairyman to share with the farm dog the duty of caring for her, for if he does, she will in all probability even up with him by giving an ever-diminishing quantity of milk. Gentle treatment is about as important as good feeding, and must be the practice of dairymen if they expect to succeed.—A. F. S., in Kimball's Dairy Farmer.

ABOUT TUBERCULIN.

Certain veterinarians and doctors are writing against the use of tuberculin because they say it fails sometimes. It is a little strange that doctors should take this ground. It sounds foolish for any set of men to demand infallibility or anything like it in the diagnosis or treatment of disease. The question is, what is the most reliable means of detecting the presence of tuberculosis in the animal? Is there anything more reliable than tuberculin? If not, what is the use of all this gab about "failure," lack of reliability, etc.? Plenty of men have cleaned their herds of this disease by the use first of tuberculin to detect it, and then by exterminating the diseased animals as fast as they were detected, and proper disinfection. Is there any better way to get rid of the disease? —Hoard's.

DAIRYMEN

Your cows are either making money for you or eating their heads off.

Figure it out. Would it not pay to use less of high cost fodders and more sugar-beet-pulp at the low price of 50 cents per ton?

If it is milk you want you will get your money back with profit, besides you will improve the condition of the animals.

And don't wait too long before arranging to silo some of it for use after the factory closes down.

Write, Los Alamitos Sugar Company, Los Alamitos.

Considerable grain sowing has already been done in the Imperial Valley.

Wood Soled Boots and Shoes. Boots, $3.25; Shoes, $2.00. O. J. Weber Co., 555 South Los Angeles St., Los Angeles, Cal.

—Politics and— Cream Separators

The manufacturer of a much advertised cream separator, sold mainly by implement dealers, is out with an announcement to employes that if Bryan should be elected his factory will have to at once close down. Regardless of political preference everybody may judge for himself of the propriety of threatening employes in this manner.

But if this separator factory does close down it will not be because either Taft or Bryan is elected, but because of the sweeping success of the new 1908 line of Improved DE LAVAL machines, which has already "closed down" most attempted competition.

So far as DE LAVAL machines are concerned, there are going to be just as many cows and just as much milk to separate whether Taft or Bryan is chosen President, and the well informed buyers of separators are going to put their money into DE LAVAL machines in as large proportion one way or the other, and do so in constantly increasing proportion as comparative separator merit becomes more a matter of actual knowledge and less of mere catalogue and advertising claims.

We are not in politics and not trying to dictate to other people how to vote, but we are in the separator business and are trying by every justifiable means to bring about the universal use of DE LAVAL Cream Separators because of their overwhelming superiority in every feature of separator practicability.

DE LAVAL DAIRY SUPPLY CO.

108 So. Los Angeles St. LOS ANGELES
42 E. Madison Street CHICAGO
74 Cortlandt Street NEW YORK

General Offices: 101 Drumm Street, SAN FRANCISCO.

107 First Street PORTLAND, OREG.
1018 Western Ave. SEATTLE
Box 1052 VANCOUVER, B. C.

Save from $1 to $2 per horse

that you now pay for clipping by doing it with this splendid

Stewart No. 1 Horse Clipping Machine

New and improved *1908* Model Ball Bearing and all enclosed gears running in oil. The price at your dealers' all complete, is ONLY $8.50

Every Horse should be Clipped Clipped horses look better, feel better, work better, and are easily cuffed. No machine ever made runs so easily, clips so fast, and lasts so long as this *Stewart No. 1.* It is fully guaranteed and must please or the purchase price will be cheerfully refunded.

All leading dealers have it. Ask to see it!

It is the greatest clipping machine of all time. If your dealer hasn't it, write to us about it.

Chicago Flexible Shaft Co. Dept. H, Chicago

Stock Foods That Give Results!
FOR CATTLE, HOGS AND POULTRY

Linseed Oil Cake Meal, 24.4 Digestible Protein
Cocoa Cake or Meal, 16.4 Digestible Protein

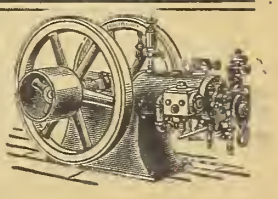
Best Results — Lowest Cost

Ask your jobber for prices, or write

Pacific Oil and Lead Works, San Francisco

A Gasoline Engine 35 H.P.

Used short time; in good condition.
For Sale at Half Price. A Bargain.



National Wood Pipe Co., 404 Equitable Bank Building Los Angeles, California

California Cultivator

ESTABLISHED 1889

Subscription Price One Dollar per year, payable in advance. Dates of expiration of subscription accounts appear each week on the address label. John Jones 7-08 means July 1, 1908. Notify us by mail if you desire to discontinue.

Thursday, October 22, 1908

Address All Communications to

CULTIVATOR PUBLISHING CO.
115½ No. Broadway, Los Angeles.
733 Merchants Ex. Bldg., San Francisco.

Copy for Change of advertisement must be in office on Saturday preceeding date of issue. New advertising copy should reach the office not later than Tuesday to insure insertion.

CULTIVATOR PUBLISHING COMPANY
H. A. PERKINS, EDITOR AND GEN. MGR.

C. B. MESSENGER - - - - Associate Editor
FRANK H. THOMAS - - Advertising Manager
H G. HUTCHINS - - Subscription Manager

EDITORIAL CONTRIBUTORS:

J. W. MILLS - - Deciduous and Citrus
JOHN ISAAC - - - - Horticulture
J. B. NEFF - Walnut Culture and Irrigation.
Mrs. M. E. SHERMAN - Live Stock and Dairy
Q. A. LOBINGIER - - Vegetable Garden
RALPH E. SMITH - - Plant Pathology
S. A. PEASE - Plant Diseases and Injurious Insects

Entered at the Post Office at Los Angeles, California, as Second-class matter.

Contents

CONTRASTING WINTER SCENES, Cover.
CELERY GROWING IN CALIFORNIA, 387.
CITRUS.—Lemon Importers; Mulch Deeply; Louisana Orange Crop; Value of Manure; Gypsum on Hardpan, 388.
DECIDUOUS.—Fruit Tree Troubles; 389.
VOTE FOR AMENDMENT NUMBER ONE, 390.
AGRICULTURAL EDUCATION IN CALIFORNIA, 391, 392.
LIVE STOCK AND DAIRY.—Type in Cows; The Economic Importance of Animal Tuberculosis; Need of Careful Milking; Tuberculin, 393, 394, 395.
EDITORIAL.—Prepare Your Ground; Reclamation; Two Miles Long; We Are Not Kickers; Patrons of Husbandry; Engage the Trees; Celery Culture; Panama Canal; Coming Institutes, 396.
AGRICULTURAL NOTES OF THE PACIFIC COAST.—Northern, Central, Southern, The Coast, 397.
POULTRY.—Fruit for Poultry; Killing Poultry; Eggs Is Eggs; Bowel Disease; Skim Milk for Hens; Dry Feeding; Condition Powders; Molasses for Fowls; Exterminating Mites; Poultry Scraps; Alameda Show, 398, 399, 400.
BEES AND THEIR CARE.—How the Bee Does It; Bees on Small Farms, 400.
QUERIES.—Orange Twig; Roselle Jelly; Black Walnut Root; Vetch; Stable Manure; Wickson Plums; Lippia; Packing Prunes; Chemical Contents of Vegetables, 402, 403.
HOUSEHOLD.—Rock Me to Sleep; The Sword Cane Duel; Personal Neatness Club; Health Notes; Similes in Rhyme, 404, 405.
GENERAL AGRICULTURE.—Stick to the Staples, 407. Orange County Carnival of Products, 403
PRODUCE MARKETS.—Los Angeles Market; San Francisco Market; Citrus Markets, 406, 407.

PREPARE YOUR GROUND.

Speaking of irrigation in the Irrigation Age, T. S. Van Dyke urges the thorough preparation and leveling of the land before irrigation. He prefers kid gloves to rubber boots. At first blush we would prefer the boots. However, he says:

"When properly done irrigation is kid glove farming with this important difference, that the nearer it comes to kid glove farming the better it pays. A writer sent out by an eastern magazine to write up the subject says you must learn to wear rubber boots. On the contrary, you must lay out the ground and manage the water so that you can irrigate in slippers. The same difference runs through the whole subject so that when it is well done, it is the easiest and most profitable work in the world of equal certainty in results. There is positively no chance in the game. That is why you never find the alleged funny man in the West cracking any jokes on the irrigating hayseed. He has too much respect for him, because he keeps a robust balance in bank and has plenty of time to play. That is probably why farming was respectable among the Romans and others of the olden days. And what can relieve the congestion of our cities, which is now our danger point, except something that will make farming respectable by making it profitable and easy? The cradle of civilization, of philosophy, art, music and literature was not rocked in the rainy lands, but beside the irrigating ditch. Irrigation has supported the world's largest and richest populations. Our ancestors came from the cold and murky woods of Europe and knew nothing but to hew down forests, dig out stumps and depend on the direct influence of the capricious clouds. Had they come from the sunlands and landed on the Pacific Coast and worked eastward the greater part of the population and wealth of our country today might be west of the Mississippi and the Indian question confined to the Atlantic Coast.

RECLAMATION.

A vast body of land lying between Feather and Sacramento rivers in Sutter county has always been covered with water during a portion of the year and of little value from an agricultural point of view. In fact it has sold at from $15 to $25 per acre, notwithstanding the fact that it is some of the richest land in the world. Engineers have figured out that to reclaim this land will require an expenditure of perhaps $15 to $20 per acre. Once this expenditure is made and the land made tillable it will immediately become some of the most valuable of the lands of the state. It is claimed that $200 will be a low estimate of its market value. That the reclamation scheme is practicable has been assured by the engineers and re-affirmed by the government engineers who have gone over the entire ground. Capitalists are now taking hold of the proposition and it appears that an expenditure of from one and a half to two million of dollars will be made and one of the richest garden sections of the state will be brought into being. This covers practically one half of the area of Sutter county and will afford homes for 10,000 people.

TWO MILES LONG.

One small fruit section of this state will this year send out enough fruit, that if placed in one train it would be over two miles long. This section is Newcastle, up in the Sierra foothills east of Sacramento and is only one of many sections that are attracting attention in this wonderful state. Notwithstanding the financial depression shipments this year are nearly twice those of last year, and the income brought to the state will be vastly greater notwithstanding there have been disappointments in net returns to the producers.

Watsonville is another section which is sending out a vast quantity of apples which will bring a competence to many of the growers of the Pajaro valley. The great citrus section of the state with its 30,000 cars of fruit which would run into miles and miles of trains is a still greater example of the growth of the fruit industry of California.

Let the discouraged fruit grower who has found his crop taken by insects or disease take heart and determine to add to the great output of this wealth producing commodity.

WE ARE NOT KICKERS.

Complaints are heard in all directions about the early rain. Hundreds of sacks of beans are out, walnuts are falling and will turn black because of the wet, sugar beets are suffering, planting of peas, beans, etc., is delayed. Then, too, none are prepared for winter yet, the wood or coal is not laid in, in many cases. In others, perhaps the chicken house is not built and the poultry is out in the rain; broken umbrellas are not repaired, rubbers are worn out or lost. In fact, the rain has taken us by surprise and we are not ready for it.

Just the same, we are all thankful. Oh, of course, who ever heard of a Californian who was not thankful for a rain?—Santa Ana Register.

PATRONS OF HUSBANDRY.

While there are not at present as many granges in this state as there were a few years ago there is yet a strong working force which is proving of great value to farmers in the sections where the grange is in existence. All told there are now in the state 35 granges. Five different counties have organized the Pomona Granges. The average membership of the 35 granges is about 80 members.

This organization is in no sense political other than questions which may affect the welfare of the farming community. For instance the Grange is now actively at work urging the adoption of Constitutional Amendment Number One which permits the revision of the State taxation scheme. The Grange is also working for the adoption of a law permitting a state association to organize a mutual co-operative fire insurance company, the same as mutual life insurance associations are now conducted. In questions such as these affecting the welfare of farmers the Grange is always active but partisan questions are absolutely forbidden discussion in Grange halls.

ENGAGE THE TREES.

Once before the Cultivator mentioned the wisdom of placing an early order for fruit trees required for next season's planting. It now appears that in many lines at least there will be extensive planting and the present, or for the next few weeks, will be the most opportune time for making choice of trees. At this time almost any variety in any desired quantity of all kinds of sorts can be secured from nurserymen. Later, when the rush is on and everybody pressing for their desired varieties, there will be less probability of satisfactory service by the nurserymen. Now, an order placed can be booked and early planting secured as soon as the proper time arrives for taking up the trees. Above all we believe that better service will be had by buying Coast grown trees. California has troubles enough without any other pests being introduced on "perfectly clean" imported stock.

The early buyer will get the best trees.

CELERY CULTURE.

One of California's most profitable industries is that of celery culture. Orange county is the greatest producer while other counties along lower Sacramento and San Joaquin rivers are developing much fine stock and will prove large producers.

We give this week an excellent paper on celery in different sections of the country in which the superior qualities of California celery are shown. Next week another on method of culture will be given.

THE PANAMA CANAL.

"Think what the proposition is—cutting a canal through fifty miles of hills and rocks, actually levelling mountains, to unite two great oceans; think of the almost incalculable amount of excavation, the figures to express which would well nigh stagger the arithmetician; think of the building of the Gatun Dam, the greatest dam the world will know; think of the immense locks, each 1,400 feet in length and you may possibly form an approximate idea of an enterprise which has aroused the nations of the world to wonder."—Claude N. Bennett.

COMING INSTITUTES.

J. B. Neff, who is director of Southern California Institute Work, reports the following coming institutes: Covina, October 23-24; Ontario, October 28-29; Arlington, Riverside county, October 30-31; Rosedale, Kern county, November 16-17; Farmers' Hall, 12 miles southwest of Bakersfield, November 18; Wasco, Kern county, November 19.

"The paramount need of the time is an adequate supply of thoroughly trained leaders in this cause. It is true we need well-equipped men all along the line. But in the higher realms of research, college and university education, and broad organization for the promotion of agriculture we need a large number of men with much more training than is ordinarily given in the agricultural college. Without these leaders the real advance of our agricultural interests will be slow and halting.—Dean True.

Shop Talk

SOMETHING FOR NOTHING.—On another page you will find an order blank for the use of new subscribers to the Cultivator. It provides that those using this blank who are not now getting the paper will receive it the balance of 1908 and all of 1909 for the regular yearly price of $1.00 It is an opportunity for your friends, relatives and neighbors and we will appreciate your suggesting it to them. Do it now. The sooner the order reaches us the sooner the paper starts.

Agricultural Notes of the Pacific Coast

Northern California

The levee along the river in front of Yuba City is being raised.

There will be considerable planting of alfalfa about Gridley, Butte county.

An Eastern corporation is planting a quite extensive tract to figs in Glenn county.

The Mendocino County Farm lost a barn filled with alfalfa hay by fire last week.

The Oroville Register maintains that the Feather River should be made navigable to Oroville.

The Healdsburg Grange recently discussed Constitutional Amendment Number One, favoring it.

Anderson, Shasta county, has shipped 66 cars of Bartlett pears this season, all to Eastern markets.

The loss occasioned by the recent Humboldt county fire runs up into the hundreds of thousands of dollars.

Second crop wine grapes in Woodland are all picked. Wine grapes of that section will amount to about 300 tons.

Apple orchards near Ferndale are bearing large crops this year, but the fruit is not up in quality to that of last year.

The Must Hatch Incubator man of Petaluma has made a shipment of 200 White Leghorn chicks to India. They will be two months on the way.

Yolo county farmers were given an excursion to the Hamilton Sugar Factory in an effort to encourage greater production of beets in Yolo county.

Quite extensive showers fell last week in Sacramento valley and were given a hearty welcome by nearly all producers. In Siskiyou county it amounted to 1.9 inches.

A shipment of four carloads of cattle from Biggs, Butte county, calls attention to the fact that the live stock industry of that section is assuming large proportions.

Reclamation District No. 7 in Sutter county has called for an installment of 10 per cent. of the assessment. This will bring in for reclamation work of that district about $20,000.

Sacramento Valley Sugar Company advertises that it is ready to make contracts for 1909 delivery of beets at 2½ cents for every tenth of saccharine contained in the beets.

Wine grape growers near Lodi met recently to discuss the slump in wine and it was stated that larger quantities of wine are now stored in California than for many years.

Special meeting of the California Live Stock Breeders' Association is called for Saturday of this week at Sacramento. S. B. Wright of Santa Rosa is president of this association.

Some grape growers who have signed the $6 per ton contract for wine grapes this season are disconcerted over the fact that some wineries in San Francisco paid as high as $18 and $20 per ton.

The Alameda Sugar Company announces that it will pay 50 cents per ton more for beets than last year. This will cause much greater planting than this season. This company suffered this year from lack of beets caused partly by short planting and partly by the dry season.

Central California

A Farmers' Institute will be held at Rosedale, Kern county, November 16-17.

Another fire occurred in an apple drying house at Watsonville but did slight damage.

Farmers at Panama, Kern county, will hold an institute at Farmers' Hall November 18.

Atwater, Merced county, has 3000 acres of peaches planted of which about 500 are in full bearing.

Visalia orange growers are fumigating for red and yellow scale, which have infested the trees there for some time.

Watsonville sent a supply of apples to be distributed to the American bankers gathered in convention at Denver.

Tulare county claims that she will begin shipping oranges by October 20. There are some splits showing in the orchards.

Papers in the central part of the state maintain that their county fairs made a much finer showing than the state fair did this year.

A corporation has been formed for the purpose of planting mesa land east of Kern City to oranges. There will be about 164 acres planted.

One train load of produce was shipped from Lodi recently in which were 19 cars of Tokays, 21 of wine grapes, 2 of watermelons, and 2 of barley.

The Commercial League of Santa Clara, discussing the good roads movement, has resolved that automobiles should be taxed to aid in the good road movement.

The almond crop near Lodi is proving much larger than usual, and cars are now going forward. Each car is valued at about $3500. That district will have upward of 375 tons.

It was reported that there have been formed in this state over twenty incorporated companies for the purpose of growing eucalyptus. Much of this will be planted in the San Joaquin Valley.

Kern County Fair at Bakersfield this year was a little shy on agricultural exhibits and decidedly long on freak side shows, but it is a step in the right direction and it is hoped it will lead to a good agricultural fair.

Raisin growers of San Joaquin valley are discussing the question as to who has the oldest raisin vineyard in the valley. The Hanford Sentinel maintains that a vineyard near that city planted thirty years ago has the honor.

An experiment at Lodi in putting a car of Tokay grapes in cold storage in a round house to test whether Eastern buyers were making honest reports in the matter of grape decay, showed that a large amount of mold attacked nearly every box. This will probably lead to pre-cooling experiments.

The long standing litigation between members of the California Raisin Growers' Association to secure the return of money overpaid to some members by others who were underpaid in the final windup of the affairs of the association has been decided. This will compel the return of the amount overpaid.

Southern California

Riverside has shipped this year 6140 cars of citrus fruit.

One land owner in Brawley will plant 160 acres to eucalyptus.

Orange growers at Highlands are finding considerable splitting of oranges.

Coachella valley cabbage growers are anticipating good prices for this fall crop.

Corona reports quite a showing of red spider with not much damage done as yet.

A Los Angeles company of capitalists will plant 100 acres to eucalyptus at Banning.

Cotton growers in Imperial valley estimate that at least 2000 acres will be planted next year.

Coachella valley, Imperial county, is planting extensively of crystal wax and Bermuda onions.

Tustin, Orange county, has developed a new bean which is running about 30 sacks production per acre.

Tustin orange growers are busy with fumigation tests, a thorough cleanup being given to all orchards.

It is claimed that brokers handling the Southern California walnut crop will receive a brokerage of over $120,000.

Coachella ranchers are talking of the advisability of growing camphor trees, claiming that $450 per acre can be made.

Eucalyptus experts are looking over the lands in Moreno and Winchester sections with expectation of large plantings there.

Imperial valley cantaloupe growers are hoping for the establishment of a pre-cooling plant before the next melon crop is shipped.

While the bean crop in many sections will be short of what it used to be the price is becoming more satisfactory and will even things up.

Orange county sugar beets are reported of exceptionally high sugar percentage this year. Some fields run as high as one-fourth sugar.

The August pool of lemons in the Santa Ana Lemon Association gave to the growers 3 cents per pound for fancy fruit and 2 cents for lower grade.

The marketing of the apple crop of Yucaipe valley develops the fact that this is a great apple section, some exceedingly fine apples being forwarded this year.

Imperial Valley cantaloupe growers are getting closer together in the effort to formulate a plan for the more successful marketing of their product another year.

Scipio Craig of Redlands reports that the Irrigation Congress at Albuquerque had lighter attendance than in former years but that there were representatives from more foreign countries than ever before.

The Mutual Orange Company of Redlands held a meeting recently and elected the following directors: A. Nichols, president; George R. Stone, vice-president; A. B. Cowgill, secretary and manager; Charles F. Woehr, Burgis W. Smith, R. B. Lane, A. K. Smiley, Dr. C. S. Lombard, directors; Howard Andrews, superintendent of the packing house.

The Coast

Walla Walla county, Washington, has formed a Farmers' Union.

Arizona is considering the advisability of cactus planting on desert stock ranges.

Utah Beekeepers' Association held its annual convention in Salt Lake City last week.

Much injury to fall crops has been caused by drouth in the section near Pullman, Washington.

Wenatchee, Washington, has shipped 36 carloads of fruit to Australian markets this season.

Tomatoes at Harrington, Washington, are now bringing to growers in that section nearly $1 per crate.

The Farmers' Union at Walla Walla, Washington, united in making a Union exhibit at the county fair.

Milton, Oregon, has a nut grower who is succeeding in raising almonds, getting a large crop this season.

Clarkston, Washington, is producing peanuts and has succeeded exceedingly well during the past season.

Thousands of heads of cattle have been purchased near Loomis, Washington, to be shipped on at some later date.

One apple orchard near Waitsburg, Washington, needed 12,000 feet of lumber as props for over-burdened trees.

Owing to bad roads in which dust is very deep at Harrington, Washington, farmers have been unable to deliver wheat.

Long strings of teams are daily hauling their loads of apples to the packing houses at Wenatchee, Washington. A good price is being received.

More apple trees are in full bearing near Pullman, Washington, than ever before and the output has brought exceptionally good returns this season.

Enterprise, Oregon, finds its land adapted for the raising of sugar beets and anticipates the early establishing of a sugar factory.

Washington State Berkshire Breeders' Association recently met at Spokane and elected E. A. Bryan, Pullman, president, and J. H. Smith, also of Pullman, secretary.

Farmers along Snake River, Washington, are having a bonanza this season between crops in catching salmon in the river and selling by the wagonload through the country.

North Yakima has sent 100 boxes of the best apples produced in that section to China, being its first shipment. It is hoped to develop in the Oriental market a demand for Washington apples.

Farmers of Utah have adopted the slogan "The state helps those who help themselves." Consequently are quite generally taking advantage of the Farmsrs' Institutes to secure best information along agricultural lines.

The State Penitentiary at Walla Walla, Washington, has been unable to sell a large portion of the grain sacks manufactured in that institution. This is said to be due to the fact that the Farmers' Union purchased largely through private parties who early in the season sold lower than the state authorities.

PER 2 BUSHEL SACK **$1.90** PER 2 BUSHEL SACK

Buy the World's Famous Egg Food No. 4

MIDLAND

IF YOU WANT EGGS
YOU WILL FEED NO OTHER.

Used by the largest and best breeders in the country. Thousands of poultrymen are using it, and it is the acknowledged standard of the world. Haphazard feeding is no longer profitable. Try Midland Food and be convinced.

Petaluma Incubators and Brooders

The acknowledged standards of perfection. All poultrymen who have used those machines have supreme confidence in their ability to hatch and breed. Hence their ever increasing popularity. Winners of the Gold Medal at the St. Louis World's Fair for the greatest hatch, with 40 different makes of incubators in competition. How's that?

St. Louis, Mo., Dec. 8th, 1904.—Petaluma Incubator Co., Petaluma, Cal.: My Dear Sir—The awards have been held up owing to a controversy between the Exposition officials and the national commission, but today I am able to state the award of a gold medal on your Petaluma Incubators has been confirmed. You are at liberty to make use of this in any way you see fit and in due time the diploma will be issued and the medal obtainable. Congratulating you upon this evidence of the merits of your incubators, in which there was very great competition, I beg to remain, yours very truly, J. A. Filcher, Commissioner.

And Now Comes New Reward for Merit

Read the following telegram received from the Lewis & Clark Exposition at Portland:
"Petaluma Incubators and Brooders just awarded Gold Medal at Lewis & Clark Exposition."

WRITE FOR CATALOGUE 47—A BEAUTY

Petaluma Incubator Co.

Main Office and factory, Petaluma, Cal., Box F.
Los Angeles, 636 South Main Street.
San Francisco Office and Salesroom, 83 Market St.

70c Eggs

Will they sell for that this season? Some say so. Will you get your share of this good money? More reason than ever with feeds so high that you should feed a scientifically balanced ration.

Egg-More

is not a strong tonic and stimulant, but a highly nitrogenous, concentrated Poultry Food, very rich in protein. A little fed daily with good grains will keep hens healthy, make them molt early, feather out quickly and lay lots of eggs. Have you tried it? Many have and are pleased. Here is just one:

F. W. Healy, the well-known banker and fancier of Pasadena, writes: "After hearing others praise Egg-More, I determined that if there was anything to keep hens laying through the fall and winter months, I wanted it. I bought a package of Egg-More and fed it and the improvement was very marked. Keeping on with it I soon proved the truth of your statement that 'you can't put all your eggs in one basket if you feed Egg-More.' I have raised poultry nearly all my life and for twenty years in California, but never did my hens lay so well as since I began to use Egg-More. I consider it the best egg producer on the market, and I do not intend to be without it."

You better try it. For sale by many dealers. If not by yours we will prepay freight on 12½ lbs., $1.00; 25 lbs., $1.90; 50 lbs., $3.60; 100 lbs. $7.00

Are you in the race for any of our

$50 Cash Prizes

$20 first, $10 second, $5 third, fifteen $1 each. Easily earned in an hour or more by any boy or girl, man or woman, but only one in each family, without any cost to you, and no peddling or canvassing. And to each one competing we will also give a useful article. Send postal for particulars, mentioning this paper.

West Coast Mill

707-709 So. Griffin Ave., Los Angeles, Cal.

Mammoth Bronze Turkeys

Unusual success with this years early hatched birds enables us to furnish the finest lot of breeding stock (both hens and toms) ever offered before. If you are a turkey raiser improve your flock with one of our large handsome toms raised on free range and hardened to all kinds of weather. If you are not a turkey raiser start now with one or more hens and a tom, as of all poultry, turkeys are the biggest PROFIT MAKERS. Order early as the first orders take the pick of several hundred birds. Prices on application.

After January 1st, we can furnish hatching eggs from our S. C. White Leghorns, the best laying strain in Southern California. Let us book your order now.

STUHR-WILLIAMSON POULTRY COMPANY

378 Bandini Ave. **Home Phone 1490** **Riverside, Cal.**

Profit in the Poultry Yard

We solicit short articles of a practical nature from the fancier and utility breeder, giving their experience with poultry. All inquiries pertaining to feed, management, disease and its prevention will be answered through these columns.

FRUIT FOR POULTRY.

A VERY great deal has been said about the effect of "garden sass" etc. upon laying hens. (A great deal has also been said about the effect of said hens' onslaughts upon the gardens of the temper of the owners thereof, but that is another story.)

It is asserted that the seeds of watermelons, especially, are very injurious to poultry, causing leg weakness, so I have been watching the effect of them upon my own flock with interest. My birds have been confined to a grain diet for some time before we moved, excepting a little processed oats and barley occasionally, and they had dropped off in egg production very materially.

Down here they were turned loose for a time, with unlimited range, where they could help themselves to cabbage, onions, melons, tomatoes and alfalfa galore and the wreck of a garden left testifies to their appreciation of their privilege. They ate the cabbage to the bare stalk. They ravaged the melon vines of all they could hold. They ate the tomatoes by the peck. They picked every leaf off the beets and then ate the beets themselves. They scratched every onion out of the ground, nabbed every peach that fell, and paid attention to the figs as soon as they began to ripen, even trying to get up into the trees after them. They had their grain twice a day, regularly, wheat, barley, and oats by turns, and when I finally got down here where I could see after them, I was surprised at their bright, happy appearance. And they were laying everywhere. Under the barn, out in the weeds, in the wood-pile, in old barrels and boxes, eggs galore.

They had not had an ounce of meat of any kind, a bit of charcoal, nor even the imperative shell, yet they were well, happy and productive. Now my twenty years experience with hens has taught me that they can safely be allowed any amount of green stuff, if their grain ration is supplied just as regularly as though they had nothing else. Too many people drop off the grain when fruit and green stuff are liberally supplied, believing that the birds are getting enough to eat without it.

This is a very serious mistake, as they need the grain to round out their ration, just the same, and where this practice is followed, no ill effects will be caused by any amount of "garden stuff" and fruit. In fact the real danger is in witholding these juicy morsels, which supply the bulky food the fowls must have. A hen will eat just so much, no more and can generally be trusted to balance her own ration, if given a choice of a variety to select from.

I recently saw a statement about bread being obtained at one cent per loaf. Wish I knew where I could get a regular supply. I would soak it in milk if I could possibly get it, then mix it stiff with wheat bran, and what a food it would be. Lacking the milk, I should use water and one-third corn to two-thirds bran with excellent results. The bread alone would be too starchy for perfect food, I should fear.

But I should feed whole grain of some kind for supper, just the same, and try to furnish something for them to pick at all day, if they felt so inclined, if only a raw potato.

KILLING POULTRY.

Now that fancy market poultry is sold with head and feet attached to the body, the old-fashioned way of cutting off the head with an axe is no longer up-to-date, says a writer in the Farmers' Tribune. A knife is now generally used. Poultry is also being sold undrawn and hence it is very desirable that the birds be made to fast from 20 to 24 hours before killing. That is, they should receive no solid food for 24 hours before killing, but they should have all the fresh water they wish. This prevents loss in weight and also helps clean the crop and the intestines. Any water that may be found in the crop may be squeezed out while the bird is bleeding.

The following method of killing a bird in preparation for market is given by the Connecticut (Storrs) Experiment Station in a recent bulletin:

The actual killing of the birds is a simple operation, but for it to be entirely successful two things must be secured—thorough bleeding and speedy unconsciousness, with attendant relaxation. Suspend the bird by the feet at a convenient height by means of a strong cord having an easy running slip noose. Take it firmly, head to the front, under the left arm. Held in this position its struggles will not interfere with subsequent operations. Take the head in the left hand, forcing the bill open with the first and second fingers. Insert the knife in the mouth, carrying the point well back and make a deep cut across the upper part of the neck at about the point of junction with the skull. This should sever the large blood vessels located at that point, and if blood immediately runs in a steady stream the cut has been properly made.

The bird should now be stunned in one of two ways, sticking the bird in the brain or striking with a club. The former is the best after once learned, but is more difficult for the novice, as it seems necessary to pierce a certain portion of the brain in order to secure the coveted result—a relaxation which releases the feathers and permits rapid picking without great danger of tearing the skin. When piercing the brain in this way do not withdraw the knife after cutting the blood vessels, but thrust it up through the roof of the mouth into the back part of the brain and give it a half turn. Then insert in the lower mandible one of the hooks attached to a small receptacle, and all of the blood will be caught. Should extra weight be needed to keep the bird's head still it may be secured by partially filling the pail with cornmeal. If the stunning is to be done with a club use the knife to start the blood, as directed above, and then hook the pail into place. Next grasp the bird by the wings or body and strike it a sharp blow upon the back of the head, thus immediately rendering it entirely insensible to pain. A sudden spasmodic stiffening of the muscles is the sign that the blow has

been effective. Strike squarely, as a glancing blow will often peel quite a piece of skin from the head, making it unsightly.

Although stunning the bird is not necessary when the feathers are to be removed by scalding, it certainly is more humane to do so.

EGGS IS EGGS.

Let us sing the praise of the Great American Hen, who, during the past year, may well have cackled with pride over the production of nearly one billion three hundred million dozen of eggs! Do you realize what that means? Well, listen:

If, instead of remaining quietly at home, she had chosen to demonstrate her powers to the universe at large, the Hen might have laid those eggs, each two inches long, end to end in a continuous chain reaching 238,818 miles up to the moon, back again, and then more than half way around the world for good measure—a total of 492,424 miles of eggs! Furthermore, if those eggs had been made into one omelet half an inch thick, that omelet would easily have covered Manhattan Island, an area of twenty-two square miles!

An old Mohammedan legend tells that King Soloman used to travel through the air with all his armies on a wonderful flying carpet, protected from the rays of the sun by the wings of a host of birds. Now, according to the poultry census, there are in the United States about two hundred and eighty millions of chickens, guinea fowls, turkeys, geese and ducks of the poultry voting age, which is three months or over. If required to furnish a moving canopy like that of King Solomon, the barnyard fowls of this country, allowing only a foot of spread to each, could easily shadow a space of ten square miles.—Arthur Guiterman in October Woman's Home Companion.

BOWEL DISEASE.

Bowel disease occurs in young chicks as often and, indeed, more frequently from chill than from improper feeding. Warmth to chicks under six weeks old is as important as food. Do not be tempted to let them run out on the grass in the early morning, nor do they need much exercise when young. Cut sods of clover and place them in the brooder yard. This gives them all the green food they need and also ample exercise. If given too much liberty while very young they come to the brooder at night with but little desire to eat their meals. The crops may appear full, but one is unable to judge of the contents, and in many instances the crop is all bulk and the food affords but little nourishment. It is well enough to let older stock roam, but push along the little birds for laying, and well matured birds before next winter's cold weather sets in. Feed as great a variety as possible.

SKIM MILK FOR LAYING HENS.

The Department of Agriculture has received a report from the West Virginia Experiment Station of a test made to determine the value of skim milk as against water for wetting a feed mash.

In the first test, which covered 122 days, 22 hens fed skim milk laid 1244 eggs, as compared with 996 eggs laid by the 22 hens fed mash wet with water.

In the first period of the second test 60 hens fed the skim milk ration laid 862 eggs in 37 days as compared with 632 eggs laid by a similar lot fed no skim milk. In the second period the rations were reversed. The chickens fed skim milk laid 1220 eggs in 56 days, as compared with 978 in the case of the lot fed no skim milk. In both experiments more eggs were produced when skim milk was substituted for water for moistening the mash. Under the conditions prevailing in these experiments and with eggs selling for 20 or 25 cents per dozen the skim milk used for moistening the mash had a feeding value of from one and one-half to two cents per quart. In these trials 802 quarts of skim milk were fed, resulting in an increase in the egg production of 702 eggs.

DRY FEEDING.

The system of dry feeding has been known to wide-awake poultrymen twelve or fifteen years. None who have been successful have ever used a slop or sloppy foods for their poultry. Successful poultrymen do not feed gallons of milk, sweet and sour, in open vessels to their poultry. All of this kind of material is made use of for mixed mash-foods, which are always mixed into a dry, crumbling consistency by those who understand their business. Poultry are not slop-eating animals; slop should go to hogs. Poultry in their natural state always subsist on seeds, grains, and the grass bugs and worms. The source of the greater portion of all diseases of poultry can be traced to the liver. The feeding of soft mash-foods for several generations to poultry brings about the diseased condition of the liver.

CONDITION POWDERS FOR POULTRY.

The use of pulverized cayenne pepper or capsicum, so often advised and resorted to, is discouraged by experienced poultry raisers, on account of its strong, penetrating and almost poisonous nature. While it may prove beneficial for the moment, after its influence has been dispelled it leaves the system more enfeebled than at the outset and in its stead the following compound is recommended: Carbonate of iron, 1 ounce; anise seed 2; powdered ginger, 6; mustard, 1; table salt, 2; sulphur, 2; licorice, 4; powdered charcoal, 14. These should be powdered and mixed thoroughly making two pounds of good condition powders, and if kept in a tight box will be good for a long time. A tablespoonful in ten quarts of soft food, or in that proportion, fed every other day in warm weather, or every day in stormy or cold weather, will prove of service. For growing chicks, one-half of the amount of powders in the same quantity of feed is sufficient. A tablespoonful of the tincture of iron to each gallon of drinking water should be provided in all bad seasons. —Epitomist.

MOLASSES FOR FOWLS.

Quite a number of people are feeding molasses to fowls. Some report success, some are undecided, others condemn its use. For growing or fattening fowls it has value, but must be more fully tested before it can be called of value for laying hens. No one has so far developed a perfect ration for its use. Many have used sugar and molasses for fattening fowls for years. Five per cent. sugar in mash is frequently used. —Country Gentleman.

EXTERMINATING MITES.

If lice mites remain in the coops after chicks have been taught to roost in the houses, burn them out with a torch as soon as the coops are deserted by the chicks. Dry "cat-tail" saturated with kerosene make the best torch, but if these cannot be obtained, a corncob fastened to the end of a stick and dipped in kerosene will answer.

In burning, the coops should be removed to an open space where there is no litter to become ignited. Hold the torch close to every spot on the inside for several seconds. This is a rather tedious process, but it exterminates these pests, as far as the coops are concerned.

Don't set a deep dish out for the chicks to drink water out of. You know why. Shallow ones, filled often, are far better. The fountains now on the market are fine things.

Excelsior Egg Food

Mr. W. W. Howard, the White Leghorn expert, is feeding Excelsior Egg Food exclusively. Mr. Howard's flock is noted as an egg producing strain. If you are not getting satisfactory results, try Excelsior Egg Food.

Excelsior Scratch Food

Is just what you have been looking for. Give it a trial and you will never be without it.

EXCELSIOR

None Others So Good

No others "just the same." Insist on **Excelsior** or write to us direct. Mention Cultivator.

Excelsior Cereal Milling Co.

242 Central Ave.
Los Angeles, Cal.

Coulson's
No. 3 Condition Powder

Is just the thing for molting hens. It acts as a tonic and digestive. Keeps the hens laying longer into the molt and quicker after it. Our FREE Booklet, "THE RIGHT WAY" gives full particulars and special offer. Manufactured only by

Coulson Poultry and Stock Food Company
Petaluma, California

Black Langshans Well, we won again at Los Angeles. Two firsts, one second, one third on five birds shown. Best stock ever in show room in California. Eggs, $2.00 to $5.00 per 13, $10.00 to $20.00 per 100.

White Rocks Large and vigorous. Improve your stock with a setting or get a fine flock with an incubator lot. Eggs, $1.50 to $2.50 per 13, $8.00 to $12.00 per 100.

S. C. White Leghorns Order eggs now, we have plenty of them. Have had all winter, great big white ones. Eggs, $1.00 to $2.00 per 13, $6.00 to $10.00 per 100.

Phone East 915 **Foster's Poultry Yards, 128 W. Avenue 41, Los Angeles**

Trap-Nested White Wyandottes

Eggs for hatching now ready from fall matings.

MISSION VIEW POULTRY RANCH, MRS. C. D. HUBBARD, SAN FERNANDO, CAL.

F. E. Baldwin's
WHITE LEGHORNS

THEY LAY
THEY PAY
At Every Pop
THEY SHOW
THEY GO
To the Very Top

First Prizes Everywhere Shown.
Bargains *now* to make room. Send for Prices and Free Booklet.

46 Washington Ave. - San Jose, Cal.

Buff Orpingtons

Sullivan's COMMONWEALTH STRAIN is bred for egg production, has won the cream of the prizes at leading shows, from Seattle to the World's Fair. We did not show at the State Fair this year but have better stock than ever, and want you to send for our Prize Record and watch the later shows that we win.

Mr. & Mrs. W. S. Sullivan,
AGNEW, SANTA CLARA CO., CAL.

GUTTING'S SUPERIOR WHITE ROCKS

Won 9 firsts out of a possible 10 and all specials and many other prizes at the great L. A. C. P. A. and Pomona Shows last winter. Place your order now for exhibition birds for the winter shows. Eggs now $3 per setting. Send for circular.

E. GUTTING 134 W. SLAUSON Los Angeles, Cal.

Now is the time to hatch **BANTAMS**
Golden Sebright, Buff Cochin, and Light Brahma Eggs, $2 per 15. Prize winners.
M. E. Dillingham Box 67, San Gabriel, Cal.

White Wyandottes Exclusively

Good, White, Typical Birds. Stock and Eggs For Sale.
W. A. SEYMOUR, R. F. D. No. 1, Anaheim, Cal.
Take Santa Ana Electric Line to Harper Station

White Wyandotte Cockerels For Sale

A few choice ones from best strains. Cheap—must be disposed of this month to make room in my yards.
Wm. C. Parker, 111 Pacific Ave., Santa Cruz, Cal.

High Priced EGGS

Are what all poultrymen like to get during the fall and winter; but without the very best of health in the flock and a good variety of sound, wholesome feed it is hard to get such eggs.

Nature requires that hens have a rest just prior to and during the molting period; the result is a scarcity of eggs, with higher prices, and a larger profit for those who can overcome the difficulty. The one that can get eggs during the fall will be just that much ahead of his neighbors and others who fail to do so, which in the end is the difference between success and failure.

COULSON'S EGG FOOD is the feed that will turn failure into success by enabling you to secure eggs in the fall and winter while prices rule high.

Improvements have been effected in the composition of the **EGG FOOD** during the past year, so that it is now richer in the various nutrients required by the laying hen, and is a better feed than ever before. Coulson's balanced ration poultry foods are guaranteed to contain nothing but wholesome ingredients.

"THE RIGHT WAY," our booklet fully describes **COULSON'S IMPROVED MASH EGG FOOD** and other balanced rations for poultry and gives full particulars of guarantee and directions for feeding and care of poultry from the time they are hatched. If you have no copy of it, you should drop us a line today; a postal card will bring it to you.

We have agents selling our poultry foods in nearly every town in California. If you cannot obtain what you want from your dealer, write to us and we will tell you where to get it.

Coulson Poultry & Stock Food Co.
Petaluma, Cal.

Germain Seed Co., Los Angeles
Distributing Agents for So. Cal.

POULTRY SCRAPS.

Get rid of the culls as early this fall as possible.

Keep turkeys, ducks, geese and hens in separate quarters.

Feast one day and famine the next is a money losing policy.

Lots of cold storage eggs on the market, but fresh eggs are always in demand at better prices.

Keep the pullets intended for winter layers in separate pens this fall. Food for them should be varied. Give them some green food daily. Keep grit in pens at all times.

The new plan is to sell eggs by weight and is done in some parts of the East. We know of a farmer friend of ours whose wife picks out all the large eggs for home use and sells the others. There's economy for you.—Successful Farming.

ALAMEDA COUNTY SHOW.

E. K. Healy, Superintendent of the coming Alameda County Poultry Show, which will be held in Idora Park, Oakland, December 7-12, writes that there is already promise of a fine show this year. He says: "We expect to have at least a 1200 bird show with a dressed poultry and egg department beside. Our hall is 100 by 200 with perfect light and ventilation which, with our up-to-date coops, make it the prettiest show room in the state. We hope to see a large entry from all parts of the state. Judge Gardner of New York will place the awards. To have this well known judge of national reputation pass on birds will be well worth shipping a long distance. We will offer about fifty cups, besides cash and special ribbons."

Clean out the nest boxes often. Hens like a neat place to drop their eggs in. If you do not believe it, just watch and listen to a hen when she finds a neat box to get into. Her talk about it is wonderfully interesting and instructive, as well.

Don't force the chicks too hard at first. Like everything else, it may be overdone. A chick that has been fed too high is pretty sure to turn up its toes.

The best friend of the poultryman in fighting mites is kerosene oil. Apply it freely in all the cracks and crevices, and they will soon vanish.

To keep mites out of the henhouse, use whitewash and sprinkle ashes all around under the roosts. The ashes will do the business.

If you like white hens, get them around. Pick out a hen as you did your wife—because you love her.

Scaly leg is caused by a parasite that lives under the scale on the leg. Rub with an ointment made of ½ pint of lard, 2 teaspoonfuls of kerosene and 1 teaspoonful of powdered sulphur. Use this once every four or five days, and the trouble will disappear.

One farmer of Moscow, Idaho, recently made a display of forty different agricultural and horticultural products from his 160 acre farm at the state fair.

The egg market at Seattle, Washington, is good and stiff with quotations running from 46 to 47 cents.

Petaluma poultry men are struggling with great numbers of rats which destroy young chicks.

Buy Chicks Now! Don't Wait

We can sell you baby chicks right now as low in price as when eggs are much cheaper. We can ship safely anywhere within 48 hours. **WE HATCH** 19 varieties of poultry. Send today for price list; it gives full details how we sell and ship chicks, etc. We have satisfied customers everywhere. We guarantee you a square deal. We originated this baby chick business several years ago. Our sales, in 1908, exceeded 230,000 chicks, ducks, turkeys, geese, etc. We hatch all of them in season. Write us today. Call and see us—visitors always welcome.

Pioneer Hatchery Co.
108-110-112 E. 8th St., Los Angeles, Cal.

Bees and Their Care

HOW THE BEE DOES IT.

Bees gather honey from the nectar vessels of flowers and plants. The sugar, starch, albumen, etc., are carried up by the sap to the seed-bearing pods. To a marked extent nature is assisted by the natural law of heat and cold to produce a sweating or condensation of moisture, which we call dew. This takes place in the corolla of the flower, making it more easy for the plant to deposit its overflow of sugar, starch, albumen, etc., in the dew already in the flower. This sweet nectar is carried up by the sap and discharged in the dew through the pores of the plant. When the sun rises evaporation takes place and the result is a tiny drop of nectar in the cup of the flower. The bee goes to the flower and with its long, silken tongue sips up this drop of nectar and deposits it into its honey sack back of the throat. The bee is provided with a stomach for its physical well being back of this storage stomach and all the honey that goes to this stomach is used for the life or physical demands of the bee. When the bee has its storage tank full of nectar it straightway flies to the hive and exudes it into the cell. The bee is endowed with the power of exuding as naturally as in-taking, so there is nothing wonderful about it except the natural curiousness of the matter.—Denver Field and Farm.

BEES ON SMALL FARMS.

Friends of the busy bee sometimes urge the keeping of bees because they can be made to yield a profit without the owner forfeiting or giving up any other occupation to which he may have been devoting his attention. There are a number of branches of farming with which beekeeping fits well, such as fruit raising, dairying, poultry growing, etc. A correspondent of one of the leading bee journals recently discussed the possibility of so conducting an apiary that it alone might be depended upon as a business. It was admitted that in certain sections of the country it may pay to make a specialty of the business, but it was also declared that a major proportion of the apiaries, especially in the East, are so situated that, for one reason or another, they will not, if managed alone, afford an income sufficient to provide comfortably for a family; while if the apiary is conducted in connection with other lucrative employments, it adds a substantial item to sales, especially on small farms.

In most of the Eastern states the honey flow is very spasmodic, the pasturage in many sections supporting only about 80 colonies to the apiary; and the income varying from $100 to $500. As such a limited number of colonies requires only an occasional day's work in the yard, there is considerable time left for fruit growing, poultry raising and other like pursuits.

Again, if beekeeping goes hand in hand with other branches of husbandry, the general business of the farm will be sufficiently arduous to justify employing an assistant to bear the brunt of the hard work in the apairy also. This will enable a person who is not robust to run a small place comfortably and profitably, when otherwise life would be a painful struggle.

A little farm of several acres will accommodate a good beehouse and yard for 100 colonies, buildings, yards, etc., for 2000 ducklings, as many chickens, 100 turkeys and 1000 or more pigeons; also a good vegetable garden, about 30 fine apple trees, 1000 choice currant bushes, grapes, raspberries and plums, and there will be considerable room for expansion.

The owner of such a little farm, with one helper the year round, and another during the busiest summer months, can keep every part of it in good, healthy, running order, and if the honey season is poor there are the other resources to fall back upon; if poultry fails the honey crop will probably be good.—Coleman's Rural World.

When a man or association of men contemplate locating a wagon factory, flour or cotton mill, in fact, any kind of factory except a farm, the first things considered are material from which to make the goods, and a market in which to sell after they are made, at a price that will pay cost of producing and marketing, and enough more to yield a dividend on the amount of money invested. When the farmer understands both the science of producing and marketing he will take place among other business men instead of being the one producing those things most needed and receiving the least profit for his skill and labor.

The greatest precaution should be taken by all beekeepers to prevent foul brood. If any foul brood cells are touched wash the hands in a solution consisting of corrosive sublimate one ounce with a gallon of water, to kill all germs. These germs are known to live for a number of years and although we have no way of determining definitely just how long they will exist we believe they will remain for a period of ten years.

Poorly attached combs in sections seem to be more the result of weak colonies and a poor honey flow than of the kind of starter used, although large starters and strips of foundation in the bottom of the sections help to strengthen the union of comb to the section. Separators between the sections are essential to the best results in producing comb honey.

AGRICULTURAL EDUCATION IN CALIFORNIA.

Continued from Page 392

of agriculture and of education are working together to provido courses and equipment specially designed to meet this great demand and notable service to those desiring special qualification is anticipated.

The University rests, in fact, under an obligation to do this, for it has fostered and promoted this demand for industrial subjects in the schools and has taught the advantage of their introduction by its own example. In a recent public address Dean Davenport of the College of Agriculture of the University of Illinois, alludes to "the powerful influences of universities in shaping educational sentiment and ideals not only for themselves but for the secondary schools as well. * * * Agriculture led in the original movement for industrial education, as it is now leading in a revival of sentiment which some of us believe will bring to the surface the real purpose of education and put it in a new light before the people, viz.: Education for Efficiency."

Dean Davenport has used a term which is grand in breadth and at the same time as narrow as an individual need, and he shows how universities have become strong "by teaching the branches of knowledge especially related to the industries of life and their success has shown not only that learning may be useful without losing its educative value, but that all branches of learning are both useful and educative and thereby worthy of being taught to somebody."

As the agricultural colleges of our state universities have thus demonstrated a popular need, ministered to its adequate supply and thereby suggested a new and true educational ideal and purpose, it is clear that agriculture in the universities should be maintained and provided for liberally and not allowed to struggle under the handicap of inadequate buildings and meager equipment. The University of Southern California has the distinction of having a poorer agricultural building than any other university in the United States. It is forced to require thirty teachers and assistants to handle classes with an aggregate enrollment of 715 in a main building which cost $10,000 ten years ago, supplemented by a collection of sheds which have been enlarged and patched up until it is hard to tell what were their original forms and colors. And yet both teachers and scholars are struggling on, full of interest and enthusiasm, because they have faith in the worthiness of their work. They should not be longer subjected to limitations and deficiencies which no other State will tolerate. Millions are expended each year by other States to house and equip agriculture in their universities as well or better than other applied sciences. California through the last two legislatures has dealt liberally with the extension of university agriculture both in research and instructional lines, but the proper provision for the source of such efforts in the central life and activity of the university itself has not yet been secured. There will be another chance during the legislative session of 1909, and we of the staff who are trying to do the work well, earnestly ask your help to the end that a structure worthy of the leading industry of California shall rise among the great permanent buildings of the University.

FLAX IN CALIFORNIA.

Interest in flax culture in California is growing and many inquiries have come to the Cultivator as to the possibilities of profit from the sale of the product and from the benefit to the soil by the use of flax as a change crop.

We are informed by J. C. Everding, who is contracting for flax seed, that at the present time there are about 30,000 acres planted to flax in this state. Of these, 8000 are in the Sacramento valley, about 10,000 in the San Joaquin, 4000 in Southern California, and 7000 in the Santa Maria Coast country. Eighty per cent of this is under contract, and the men who manufacture linseed oil, oil cake or meal, are ready to contract for more.

An important argument for raising flax in California is that with a larger production of flaxseed there would be an increased manufacture of oil in the state, ensuring a large supply of linseed cake and meal for stock feeding. Stockmen must have these feeds because of their large content of protein. Hence those who want to assist in upbuilding the live stock industry of California will welcome the increased use of flax as a change crop.

It has been proved that flax is no greater drain on the soil than wheat and that it is a valuable crop to use alternately with whatever cereal is grown in the various localities. Rotations successfully practiced in North Dakota, as given by J. H. Shepperd, are: wheat, flax, oats, barley and fallow in Benson county; two crops of flax and then two of small grain in Ramsey county; corn, flax wheat and oats in Cass county; two years of wheat, flax, wheat again, and then oats, in Grand Forks county. Tried rotations both here and abroad prove that flax is a valuable change crop with any of the cereals or grains. In fact the crop coming after the flax is usually of improved quality, possibly because the finer root system of the flax leaves the soil in an improved condition.

Another advantage in the use of flax in the rotation of crops is that it can be put in with practically the same labor supply and teams, and harvested with practically the same outfit of cutting and threshing machinery as is now used for wheat, barley, or oats.

The day of intensive farming, of the small acreage exhaustively tilled by the owner who does not count his own labor, has not yet come to California except in certain limited areas. The large grain fields cannot lie fallow. They must have crop rotation. The change crop, to win adoption, must be equally profitable and must grow naturally under the same general conditions. Flax, which will grow in a wide range of soils, in either a hot or cold climate, which makes a winter growth as the grains do, and which, moreover, seems to have a ready home market, would seem to solve the problem for a great part of California.

BOOST IT.

Forestry and Irrigation, a magazine and official organ of the American Forestry Association, realizing the opportunity to greater usefulness, is making special effort to enlarge its field by making a special offer on subscription. Any one interested in irrigation or in forestry should write for a sample copy to the American Forestry Association, 1311 G. St., N. W., Washington, D. C.

Every farmer should take an interest in the forestry question. It vitally concerns the farmer as well as others.

Fall Assortment of

Bulbs

Send for our new 1908 Bulb Catalogue. It tells how, when and where to plant them.

GERMAIN SEED AND PLANT CO.

326-330 S. Main St.
Los Angeles, Cal.

SEEDS

Plants **Trees**

BULBS

We are headquarters for

GARDEN AND FIELD SEEDS

Those who are not yet in receipt of our Fall Catalogue, send for it at once.

Prospective planters of ALFALFA, CLOVER and GRASSES are requested to write us before planting.

Remember, our handsome new 1909 General Catalogue, ready for mailing in December, will also be sent to those who write us now.

C. C. Morse & Co. 41 Jackson St., also Market St. San Francisco

West Coast Seed Co.

has moved around the corner from the old stand to

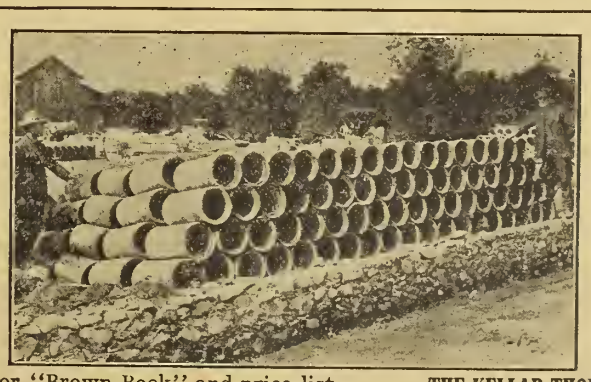
115 W. 7th St.

The best place to get the best values in

SEEDS THAT GROW JUST SOW

and Poultry Supplies

Just try us. Send for free catalogue and price list.
We make "Pacific" and "Business"
Incubators and Brooders



From photograph showing amount of

Ten-Inch Pipe

made by four men from 10 bbls. of cement in 9 hours — 280 two-foot joints, or 560 feet. This pipe was made with the

"K T" Moulds

An equal amount can not be made with any other tools in the same period of time. Write for "Brown Book" and price list.

THE KELLAR-THOMASON MFG. CO., Covina, Cal.

When writing advertisers, mention Cultivator.

Six of the Most Valuable New Fruits

Ever Introduced in California

"Improved French" Prune
Originated by Luther Burbank

"Concord" Walnut French Variety
Grafted trees only. Better than Franquette or Mayette

"Paul" Cherry Finest Black Cherry

"Philippi" Grape Handsomer than Tokay; a month earlier. Disinfected cuttings only, to comply with quarantine laws.

All these, like Muir, Lovell, and Phillips Cling Peach, are of California origin.

"Comet" Red Currant Much larger, earlier and sweeter than any other.

"May Duke" Gooseberry
Earliest of all; large; smooth skin.

Write for Further Particulars.

EUCALYPTUS TREES by the 1000 or 100,000. No stronger stock; grown in the open, without lath shade or screen, therefore hardened to all weather.

GENERAL NURSERY STOCK

Leonard Coates Nursery Co., Inc.
EST. 1878. INC. 1905.
Morganhill, Santa Clara County, Cal.

PLUMBING

Plumbing Materials

WATER SEWER PIPE

ALL PLUMBING REPAIRS

We contract to furnish all the materials and do the work or furnish the materials only.

GET OUR PRICES

JAMES W. HELLMAN
Hardware, Stoves, Etc.
157-161 NORTH SPRING STREET
LOS ANGELES, CAL.

When writing advertisers, mention Cultivator.

300,000 Feet Water Pipe Cheap

ALL SIZES

150,000 feet of this shipment is second-hand pipe, practically as good as new, and is now on sale at a big discount by the Adams Pipe Works, 2025 Bay street. Sizes and prices: ¼-inch 2 cents per foot; ⅜-inch, 2 cents per foot; ½-inch, 2¼ cents per foot; ¾-inch, 3 cents per foot; 1-inch, 4¾ cents per foot; 1¼-inch, 6 cents per foot; 1½-inch, 7 cents per foot; 2-inch, 9¾ cents per foot; 2½-inch, 15 cents per foot; 3-inch, 19 cents per foot; 3½-inch, 24½ cents per foot; 4-inch, 30 cents per foot.

Oil well casing prices and sizes: 2-inch, O. D. 7 cents per foot; 2-inch, I. D. 9 cents per foot; 3-inch, 13½ cents per foot; 3¼-inch, 16 cents per foot; 3½-inch, 17 cents per foot; 4-inch, 20 cents per foot. All pipe is carefully inspected, new couplings and new thread are put on every piece, every joint is guaranteed to be first class, serviceable pipe. Mail orders promptly filled. To reach the Adams Pipe Works in Los Angeles, take car marked Pacific Boulevard, starting east on Seventh street from Broadway. Ask conductor to let you off at Bay street and go east half block. Phones, F1917, Broadway 1264.

LAND PLASTER

Gypsum will make available the plant food in your soil and bring good returns through small investment.

Wonderful Moisture Retainer

Write for prices in car lots.

Acme Cement Plaster Co.
750 S. ALAMEDA ST. LOS ANGELES, CAL.

When writing advertisers, mention Cultivator.

Queries and Replies

Questions to be answered in this department should be received at this office one week before reply is expected. Write plainly on one side of the paper and sign full name and address. Unsigned communications receive no attention.—Ed.

Orange Twig.

A subscriber at Pomona recently sent a small twig of orange tree which indicated diseased condition. It was referred to Prof. Smith of the Pathological Laboratory, who writes: "Your correspondent's letter is too indefinite and his specimen too imperfect for me to attempt a diagnosis. From the wording of the letter one might surmise Exanthema, but the enclosed twig does not show the characteristics of this malady. If W. D. will write a more explicit letter or send an unmistakably characteristic specimen from one of his diseased trees, the Laboratory would be in a better position to come to his aid."

The name signed to the letter, as we made it out, was W. David, Pomona. A letter to that address was returned, however, and we suggest that the writer do as Prof. Smith recommends and give more particulars, so that he may be able to give more explicit information.

Roselle Jelly.

Please give receipe for making jelly from Roselle or jelly plant.—I. M. T. Cammanche.

Gather the calyces by breaking off the entire blossom stem. Do not allow to get too ripe or there is danger of stringy jelly. Place in the porcelain, graniteware or aluminum cooker and add water, perhaps to two-thirds the height of the blossom "pods" in the vessel. Some cut the pods so as to secure quicker cooking, but most people think it superfluous. Boil a few minutes until the mass is thoroughly cooked through. Strain the juice, after which boil ten minutes and add an equal amount of sugar. Boil ten minutes again and test by dropping in water or by putting a few drops on a cold plate or saucer. If done when dropped in water it will cohere, while if not yet done it will dissolve in the water.

Black Walnut Root.

Will you recommend planting black walnut and grafting to English or is the ordinary soft shell root better? Land is a canyon 15 miles from the ocean, soil very rich, chalky formation, quite mellow. Has raised good beans. Holds moisture well. Cannot be irrigated. Is the black root graft an experiment or an established fact? Does blight affect walnuts as much in the mountains as in the valley? Does extreme heat have any effect on this variety? Is there risk in planting under such conditions? What is cost?—A. P., Oxnard.

These questions were referred to Mr. J. B. Neff, who writes:

Native black walnut trees have better root systems than the seedling softshell, and will do better than the softshell where the land is poor or moisture deficient, but there should be a rainfall of 25 inches on very retentive soil, if the best results are to be obtained without irrigation. Grafting on native black walnut roots is not an experiment, as it has been practiced in the central part of the State since 1891, and there are some grafted trees with a spread of 60 feet across the branches.

Altitude does not have any influence on the walnut blight, but there is always less blight in a dry climate than in the moist coast regions.

Extreme dry heat is very likely to burn the nuts on one side and particularly so when moisture is deficient.

The risk consists principally in a series of dry years and in order to minimize the risk the trees should be planted not closer than 60 feet.

The item of cost will vary according to whether you plant seedling black walnut trees and do your own grafting, or buy grafted trees to plant. The first will cost but a few dollars per acre, while the second will cost about $15.00 per acre. In any event you should plant only resistant trees or use grafts from resistant walnut trees.

Vetch for Green Manuring.

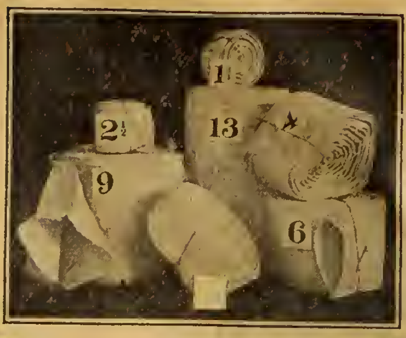
What is best vetch for growing to plow under for green manuring for Santa Clara county? Will Canadian field peas make a good winter growth and will mixed sowing of peas and vetch be desirable?—Prune Grower, Santa Clara.

The vetch most generally planted and considered the best is Vicia sativa. It is possible it would do well planted with Canadian field peas, which alone are used probably as extensively as the vetch. The vetch, however, makes a better winter growth, that is, in cool weather succeeds better than do the peas. The seed of either may be had of the seed houses advertising in the Cultivator. Burr clover is also an excellent plant for the purpose, and we believe would do fully as well planted with Canadian peas as the vetch. However, we do not know that anything would be gained by mixing the seed.

Stable Manure.

Which is best, horse or cow manure, providing they are well cultivated or plowed deeply into the ground? How much wood ashes can I put upon a place planted to 20-year-old orange and lemon trees?—H. J. L., Pomona.

The best manure depends more upon feed than upon the animal from which it comes. The manure from a cow fed on alfalfa hay and messed heavily with bran would be worth far more than that from horses fed on a straw stack. If used in large quantities, cow manure is much less liable to burn small roots if plowed in deeply. If the horses are heavily grained and bedding carefully arranged so as to preserve liquid manure, it will also prove an excellent land dressing. From experiments made at Cornell University the following general averages are obtained. The manure from cows contained .50 per cent nitrogen, .29 per cent potash, .45 per cent phosphoric acid, with a value at that time of $2.37 per ton. Manure from horses contained .47 per cent nitrogen, .94 per cent potash, .39 per cent phosphoric acid, with a value of $2.79. Analysis at the same time of manures showed the value of that from sheep to be $4.19, swine $3.18, hens $4.22. Of course, bear in mind that the value of any manure depends upon how much it has been leached out, the



IRRIGATING HOSE

12 oz. canvas, coated or plain; good for several seasons. 1¾ inches, 2½ inches, 4 inches, 6 inches, 9 inches, 13 inches. Galvanized or brass couplings.

Tents, Tarpaulins Picking Sheets. Picking Bags, Stack Covers

Our Tent Catalogue, mailed free, gives full information.

The Wm. H. Hoegee Co. INC.
138-140-142 So. Main St., Los Angeles

Auction

60 COWS AND HEIFERS

On the old Gimmel ranch one-fourth mile north of Electric Railway at

CLEARWATER

Take Santa Ana Electric cars to Clearwater

TUESDAY, OCT. 27
AT 10 O'CLOCK A. M.

Consisting of 41 Dairy Cows and Heifers, mostly Jerseys, a few Holsteins and Durhams, nearly all milking, balance coming in soon, young and in good condition, 18 head of the above are heifers with first calf, in fact all good dairy and family stock.

14 Six months old heifer Calves, 1 2-year-old Jersey Bull, Implements, Plows, Harrow, milk wagon, road wagon, 2 buggies Etc., Etc.

Household goods for 7 rooms

6 months time will be given on Cows with note and approved security. 3 per cent discount for Cash. On account of leaving for the east I am closing out my entire outfit. Everything goes to the highest bidder. Nothing reserved. Free Lunch at Noon.

G. E. Nutcher, Owner
Rhoades & Rhoades, Aucrs
Office 830-832 South Main St., Los Angeles Cal., Phones: F1259 Main 1259.

Auction

47 HOLSTEIN COWS

On the Robert Scherer Ranch one-fourth mile west of electric line at

COMPTON

Take Long Beach Electric Cars to Main St., Compton. Ranch one-fourth mile west

THURSDAY, OCT. 29
AT 10 O'CLOCK A. M.

40 HIGH GRADE HOLSTEIN COWS, all large, fine cattle, young and in good condition, fresh and coming fresh, large milkers, in fact a fine herd of family and dairy cows.

7 HEAD FINE JERSEYS AND DURHAMS. Purchasers looking for first class dairy stock should not miss this sale. Every animal will positively go to the highest bidders. No limit or reserve.

6 months time will be given with note and approved security at 8 per cent. interest. 3 per cent. discount for cash.

Free Lunch at Noon.

WEHRMAN & CRIPE, OWNERS.
RHOADES & RHOADES, AUCRS
Office 830-832 South Main St., Los Angeles, Cal., Phones: F1259 Main 1259.

Dairy Ranch

100 acres splendid alfalfa, 20 acres vineyard, 20 fruit, good house, abundance cheap water, barns, corrals, 35 cows, 8 horses, farm tools, etc.; everything goes; this is a beautiful home place, 3 miles from Tulare city, 1½ from good school. This is a good buy for cash, but will take property in Southern California for first payment and mortgage back for balance. Income $8000.

See W. W. Coke
100 Chamber of Commerce Bldg.
Phone A1498.
Los Angeles, Calif.

AGENTS WANTED

GOPHER DOPE to exterminate gophers, ground squirrels, rats, mice.

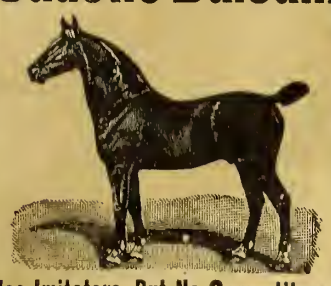
KILLS A BUG Moths, Mosquitoes, Bed Bugs, Ants, Roaches, Fleas, Lice and Mites on Fowls. Disinfectant and Germicide.

PUROLINE A Powerful Antiseptic and Deodorizer. Odorless, non-poisonous. For use in hospitals, homes, public institutions, boards of health and ranches. ***B. & G. Disinfecting Co.,*** 417 Laughlin Building, Los Angeles, Calif.

Farmers in Yolo county are making a strong appeal for better roads.

Warranted to Give Satisfaction.

Gombault's Caustic Balsam



Has Imitators But No Competitors.

A Safe, Speedy and Positive Cure for Curb, Splint, Sweeny, Capped Hock, Strained Tendons, Founder, Wind Puffs, and all lameness from Spavin, Ringbone and other bony tumors. Cures all skin diseases or Parasites, Thrush, Diphtheria. Removes all Bunches from Horses or Cattle.

As a Human Remedy for Rheumatism, Sprains, Sore Throat, etc., it is invaluable. Every bottle of Caustic Balsam sold is Warranted to give satisfaction. Price $1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars, testimonials, etc. Address

The Lawrence-Williams Co., Cleveland, O.

Aermotor Gasoline Engine

Complete with Gearing ready to Attach to Your Pump

$45.00

Will pump all the time, wind or no wind, and deliver as much water as an 8 ft. Aermotor in a good wind.

From 225 to 1600 gallons per hour, depending on height water is to be raised.

Air cooled, uses Gasoline or Distillate.

A reliable, durable engine at a very low price. Can You Afford to be without one.

Send for Special Circular.

Tanks Towers Pumps Distillate Engines

Smith-Booth-Usher Co

Machinery and Supplies

Successors to
S. J. Smith Machinery Co. and L. Booth & Sons
212-214 S. Los Angeles St., Los Angeles
Home, Ex. 1090—Sunset, Main 1090

Peckham Says:

How to Make $2000 a Year

Don't sell your life away by the week or month. Get busy and do something for yourself and your future You can do it by taking hold with me and building for yourself a self-supporting home on my land at Corcoran.

Where you can raise two crops every year—where you can make $2000 a year or better.

Is this what you are looking for? If so take the few minutes' time necessary and come in and see me, or if you cannot call send your name and address on a postal for my magazine, "Profitable Realty," which tells the whole story. Send for it today.

George C. Peckham & Company

Phones: Main 3221, F5392.
203-4-5 Union Trust Bldg., Corner Fourth and Spring Sts., Los Angeles Cal.

EDISON PHONOGRAPHS, VICTORS, ZONOPHONES

Records and Supplies, delivered at your nearest railroad station upon receipt of full retail price. Write for particulars and ask for catalogue. Peter Bacigalupi & Sons, 1113-15 Fillmore St. San Francisco

feed of the animal, the caro with which it was gathered, etc. As to the quantity of wood ashes to apply per acre, we cannot give definite information, but with limited quantities possible to obtain in this country at this time, we do not think there is danger of an over application.

Wickson Plums.

I send samples of plums of very desirable variety growing on a tree on my place. Tree is a slow grower, pendulous branches, fruit ripens September 10 to 30, quality exceptionally fine, fruit very large, heart shaped, flesh greenish yellow, pit small.—G. O. Lanpher, Gardena.

This fruit was shown to Prof. Clarke, State University, and he thinks it is an exceptionally fine strain of the Wickson.

Lippia.

I read an article in a recent Cultivator regarding Lippia repens, a creeping lawn plant. Where can I obtain a start of it, and will it spread and become a pest? Is it a forage plant for stock?—W. E. A., Watsonville.

We should think you could secure this plant from your local nurseryman, but if not, the Southern California Acclimatizing Association, Santa Barbara, who originally introduced it, or probably any nurseryman advertising in the Cultivator can supply you. It will not become a pest, and is easily eradicated when desired. While it has been claimed to be a strong enough grower to eradicate morning glory, we do not know whether it would do that or not. It would surely need encouragement by keeping down weeds until it is thoroughly rooted. In the yard of the writer it has proven very attractive to poultry, who run to it immediately on being let out of their corral; but as to whether stock would find it agreeable, or whether it would live under grazing we are not prepared to say.

Packing Prunes.

How are prunes, after they are dried, prepared and packed in boxes? Namely, what kind of dipping solution is used? Also can you tell me what prices prunes command, four standard sizes, packed in 25-pound boxes?—L. F. J., Wrights.

The process of packing consists of first sizing the prunes, 40-50s, 50-60s, etc., after which they are run through a bath of hot water, or sometimes hot water to which glycerine has been added in the proportion of one pound glycerine to 20 gallons of water; or more commonly the bath consists of a syrupy solution made from cooking cull prunes until syrup is extracted. After the dip in this boiling solution the prunes are drained and immediately, while hot, placed in the boxes. The price of the boxed goods is usually half a cent to five-eighths of a cent in advance of the regular sack basis quotations.

Chemical Content of Vegetables.

Please state different chemical elements and their percentage in Hubbard squash, tomatoes, onions, and blood beets. I wish to know their value as diet for diabetes.—Subscriber, Hemet.

We have not the information at hand, but would refer our subscriber to a bulletin published by the Office of Experiment Stations, Department of Agriculture, Washington, D. C., entitled "Composition of American Food Stuffs." In a general way, diet for that particular trouble should be food without sugar. Squash and beets would probably be objectionable, and tomatoes and onions desirable.

FRUIT TREE TROUBLES.

Continued from Page 389.

He recommends as a spray material for pruno rust, a carbonate of copper solution made by dissolving an ounce of carbonate of copper in a quart of strong ammonia. Add seven or eight times its volume of water and add the powder gradually till all of it is dissolved, when add enough water to make nine gallons. Spray the first time just after the trees are out of bloom and again when a fair amount of wood and foliage has formed. The disease so weakens a tree that it will not bear good fruit, if any, the year following the destruction of the leaves.

Gum Disease.

The gum disease of the apricots is easily controlled if taken in time and need cause but little loss; splitting the bark a few inches apart and from the ground to the large branches will allow the gum to escape, while if the gum has no outlet it will be forced from place to place under the bark and often girdles the tree. Splitting the bark is often beneficial in the absence of gum, as when a tree has a bark bound appearance. When trees of any kind have bark that is darker than usual and of a shiny appearance, splitting the bark is very beneficial.

There are seasons when the small branches become affected, gum clear and firm, forcing beads at points of exit. These branches sometimes die when new shoots will start from below the point of gumming.

The deadliest and most hopeless disease of the apricot is sour-sap. Trees will show a slight lack of vigor and in a day or two will die so suddenly that the leaves will dry up green. Occasional trees or a group of trees in one orchard will suddenly die. There is no known remedy for this for the mischief is done almost before it is evident. —J. W. Mills, Marysville.

ORANGE COUNTY CARNIVAL OF PRODUCTS

The products of Orange county were placed on exhibition in the city of Santa Ana last week and attracted thousands of people to see what could be grown on Orange county soil. Pumpkins by the thousand and of a size that was astounding were used in all kinds of decoration. A trolley car constructed of peanuts was a factor, a mission constructed of corn another, and many such features added to the interest. The sugar beet exhibit was quite extensive and a "sugar factory" constructed entirely of cube sugar attracted attention to the fact that Santa Ana hopes to have within the next few months a "for sure" sugar factory in full operation. One sugar beet weighing eighty-five pounds was exhibited, the product of Orange county soil from seed sown last spring. No claim was made that this beet contained any great percentage of sugar but it surely was an example of wonderful growth. Walnuts were of course a great factor as they are one of the strongest features of Orange county's productions.

The parades with costumed people and a duly crowned queen leading the procession of the products arranged on floats was of course a factor each day. It was a most creditable exhibit and should attract much attention to that rich county.

Petaluma is elated over the fact that she has secured the meeting of the State Grange for 1909.

Classified Liners

Rates 1½ cents per word per issue. No ad accepted for less than 25 cents. Our classified columns are the clearing house for the readers of the Cultivator. Here you can insert an ad for the small sum of 1½ cents per word per issue, and be sure that it will be read by thousands.

MACHINERY.

WE CARRY A GENERAL LINE OF MACHINERY, gas engines, air compressors, boilers, engines and pumps. 40 car loads of screw pipe and casing can be cut to lengths, also all kinds and sizes of fittings. Several hundred iron fence posts. R. KELLY MACHINERY CO., corner of Mission road and Macy street, Los Angeles. Cal.

FOR SALE—MEHRING MILKING MACHINE with extra parts and covered pail, all in good order. WM. H. BIRD, Box 6, Compton, Cal.

FOR SALE—RENT OR EXCHANGE, BOILERS and engines, gas engines, pipe and oil well casing, pumps, all sizes and makes; get our prices before you buy. A. CANNADY & CO., 691 N. Main st., Los Angeles, Cal.

FOR SALE—ALL KINDS OF MACHINERY bought, sold and exchanged; new and second-hand gasoline, electric and steam. Fully guaranteed the same as new. See us before buying as we can save you money. Agents for Union Gas Engines. BAILIE & BRANDT CO., 943 N. Main St., and 210 N. Los Angeles St., Los Angeles.

FOR SALE—NEW ILLINOIS TURBINE DISC Cream hand separator at a bargain. Capable of running 500 pounds of milk per hour. Write for particulars to H. F. BLACKMAN, Santa Anita, Cal.

FOR SALE—CHEAP FOR CASH 5 H.P. distillate engine in good running order. N. W. Cor. Main and Bruno Sts., Los Angeles.

FOR SALE—WINDMILLS, TANKS, PIPES and engines. Bore wells for 85c per foot and up. JOHN Q. MASTIN, San Gabriel, Cal.

FOR SALE—DEEP WELL POWER PUMP never been used; at a snap. MACHINERY EXCHANGE 117 Bruno St., Los Angeles.

FARM LANDS FOR SALE.

FOR SALE—165 ACRES IN VENTURA CO., 4 miles from Moorpark; 90 acres under cultivation, suitable for beans, corn or hay; balance pasture land, all fenced; ½ mile from school; 10 acres in fruit, full-bearing peaches, apricots, pears, apples, prunes, grapes; price $3000. Inquire or write to owner, W. C. MAYHEW, Moorpark, Cal.

FOR SALE—1 TO 10-ACRE TRACTS ON CAR line, between Riverside and new cement works; good for chicken ranches, alfalfa or gardening; will sell on easy terms; plenty of water on each tract. C. C. POND & N. R. BELL, Riverside, Cal.

POULTRY

SPECIAL SALE—TO MAKE ROOM FOR my young growing pullets I offer at common stock price all my this year's breeding pens, including many prize winners. This is a rare opportunity to get first class breeders cheap. At the last L.A.C.P.A. show my birds won all specials, all first prizes, and all seconds but one, that were offered on Barred Rocks. CHAS. E. SMITH, Gardena, Cal. San Pedro car via Gardena to Smith's Crossing.

MAMMOTH BRONZE TURKEYS—NONE in State larger or finer marked. A few young toms and hens for sale Nov. 1st. Price on application. Eggs in season. Mrs. LAURA E. HARDING, Brawley, Cal.

PIT GAMES—THE LEADING AMERICAN strains and grade Japs. Young trios, breeding stock and walked cocks for sale; also breed pure Cornish Indians. O. L. CRANE, Rural No. 3, Santa Rosa, Cal.

HELP WANTED.

WANTED—BOYS AND GIRLS TO LEARN telegraphy at home; The National Automatic Transmitter will teach you for small cost; operators in demand; good wages; write at once for full information. COLUMBIA COMMERCIAL CO., 314 E. Second St., Los Angeles.

BEES.

FOR SALE—OR TRADE, ON THE BASIS OF $3200; 330 stands of bees in Imperial Valley, fully equipped and shaded power extractor; 3-roomed house, farm implements and 10 acres of land. A bargain. I have a fine location but poor health. Address H. PERKINS, Calexico, Cal.

DOGS.

SABLE AND WHITE COLLIE PUPPIES—Sires, Brandane Wishaw Squire and Glen Fana Bounder, litter brother to Aufield Model Dams, Ormskirk Gloriana and Presidio Nellie. $10 to $25; 2 to 8 months, GLENALPINE KENNELS, Grandville, Cal.

TREES.

WALNUT TREES—500 LARGE, STOCKY seedlings. Seed from grafted trees of Placentia Perfection variety. Will sell very cheap if taken before Dec. 1st. as land must be cleared. G. W. SHERWOOD, Fullerton, Cal.

FOR SALE—1500 EUREKA LEMON TREES and 1000 Washington navel orange trees, true to name. Also street and ornamental trees. Clean, healthy stock only offered. GEO. B. WARNER, Santa Ana, Cal.

SHOPPING BY MAIL.

SAVE MONEY AND GET A BETTER choice by shopping in a large city. We will do your shopping for you. Send for our free book. It tells you how. LOS ANGELES PURCHASING CO., 506 Bradbury Bldg., Los Angeles, Cal.

HOGS.

REGISERED BERKSHIRE AND POLAND China hogs, both sexes. C. A. STOWE, Stockton, Calif.

The sheep dipping campaign of Lake county has been quite successful, the scab being quite largely subdued through it.

What MORE Could You Desire In A Savings Bank?

20,000 Depositors
Strong Directorate
Capital and Surplus Over
$900,000
Resources
$10,000,000

GERMAN AMERICAN SAVINGS BANK

Tallest Building in Los Angeles

SPRING & FOURTH STS.

Heart of the Business Center

Model Banking Facilities

6% INTEREST PAID
STATE MUTUAL
BUILDING & LOAN ASSN.
223 S. SPRING ST., LOS ANGELES, CAL.

ESTABLISHED 1889
Largest Association in California
Assets [Jan 1, 1908] $2,002,111
No Admission or Withdrawal Fee
Only 30 Days' Withdrawal Notice
Money to Loan for Building

OFFICERS AND DIRECTORS

DR. W. G. COCHRAN, President
A. E. POMEROY, Vice President
J. M. ELLIOTT, Vice President
W. D. WOOLWINE, Vice President
C. J. WADE, Secretary

D. M. CUTHBERT, Loan Inspector.
Send for Booklet and Statement
Mention This Paper

Oldest and Largest in the Southwest

SECURITY SAVINGS BANK

Los Angeles, California

CAPITAL AND RESERVE $1,200,000.00
TOTAL RESOURCES OVER $20,000,000.00

We Pay Interest

4% on Term Savings and on Six Months Certificates of Deposit

3% on Ordinary Deposits

By special arrangement 'Ordinary' accounts may be checked against without presentation of a pass book, and 3 per cent. interest will be paid on the minimum monthly balances.

PIANOS Slightly used Steinways; 1909 Model Lyon & Healys, and other remarkable Bargains. Lyon & Healy, 80 Adams St., Chicago. World's Largest Music House

Our Great Re-Building Sale is Now in Progress!

Household Department

ROCK ME TO SLEEP.

Backward, turn backward, oh time, in your flight!
Make me a child again just for to-night!
Mother, come back from the echoless shore,
Take me again to your heart as of yore.
Kiss from my forehead the furrows of care,
Smooth the few silver threads out of my hair;
Over my slumbers your loving watch keep—
Rock me to sleep, mother, rock me to sleep!

Backward, flow backward, oh tide of the years!
I am so weary of toil and of tears—
Toil without recompense, tears all in vain,
Take them and give me my childhood again!
I have grown weary of dust and decay,
Weary of flinging my soul wealth away:
Weary of sowing for others to reap—
Rock me to sleep, mother, rock me to sleep!

Tired of the hollow, the base, the untrue,
Mother, oh, mother, my heart calls for you!
Many a summer the grass has grown green,
Blossomed and faded, our faces between,
Yet, with strong yearning and passionate pain,
Long I tonight for your presence again.
Come from the silence so long and so deep—
Rock me to sleep, mother, rock me to sleep!

Over my heart, in the days that are flown,
No love like mother love ever has shone;
No other worship abides and endures—
Faithful, unselfish and patient, like yours.
None like a mother can charm away pain
From the sick soul and the world weary brain;
Slumber's soft calms o'er my heavy lids creep—
Rock me to sleep, mother, rock me to sleep!

Come, let your brown hair, just lighted with gold,
Fall on your shoulders again as of old;
Let it droop over my forehead tonight
Shading my faint eyes away from the light,
For, with its sunny edged shadows, once more
Haply will throng the sweet visions of yore.
Lovingly, softly, its bright billows sweep,
Rock me to sleep, mother, rock me to sleep!

Mother, dear mother, the years have been long
Since I last listened your lullaby song;
Sing, then, and unto my soul it shall seem
Womanhood's years have been only a dream.
Clasped to your heart in a loving embrace,
With your light lashes just sweeping my face,
Never hereafter to awake or to weep—
Rock me to sleep, mother, rock me to sleep!

—Elizabeth Akers Allen (Florence Percy)

SATAN IS ACCOMMODATING.

"When you feel any temptations comin' along," said the friend and adviser, "you mus' say, 'Get thee behin' me, Satan."

"Da's what I done said," answered Mr. Erastus Pinkley, "an' den I 'magines I hyuhs Satan answer me back, 'Da's all right. We's both gwine de same way, an' it don' make no dif'unce to me nohow which leads de puhcession.' "—Washington Star.

THE SWORD CANE DUEL.

"ONE of the most singular features of human nature," remarked the anatomist, "is the breaking up of love between two persons when one dies."

"Love does not necessarily break up in such an event," replied the psychologist.

"I don't agree with you. Love after the death of the being loved is simply memory."

"Cases of actual love between the sexes are very rare—one in a thousand. They are not mere memory after death; they are immortal."

"Can you give me such a case?"

"Yes, one. It is the only one that has ever come to my knowledge. Listen and I will relate it.

"Douglas Bissel knew the moment he set eyes on Caroline La Cour that she and he had been appointed by Providence to be lovers. Miss La Cour recognized the fact at the same instant. Bissel was a young Northerner who, after being graduated at college, went to New Orleans as a teacher. Miss La Cour was a creole. Their love came as a child is born—that is, a perfect thing, though it grew as the child grows. It cannot be said that it was a case of that turbulent evanescent love which comes with extreme youth, for Bissel was thirty years old when they met, and Miss La Cour was twenty-five. It was unalterable from its inception.

"It was the woman who was taken away. She died during one of the epidemics of yellow fever that occurred about the middle of the last century and but a few weeks before they were to have been married. Such partings—partings between beings in whom there is real immortal love—are terrible. Miss La Cour in all the physical agony of death resulting from that awful disease did not suffer bodily as the lover suffered in soul, and when all was over he fell into a stupor from which his friends despaired of ever awakening him. He never was again the same man.

Bissel never married. He lived alone. If he had a companion it was his wife. He told others that there was such a companionship, though when he attempted to explain it he failed signally. He could say rather what it was not than what it was. For instance, she did not visit him. It was not one of those cases where one broods over a grave. The mortal part of his love was placed in a tomb provided for it, and Bissel went there but seldom. He did not consider what was there as being any more a part of his love than one of her gowns. She was elsewhere.

But one day when he made one of his periodical visits to the tomb to see that the premises were in condition he met with a surprise. He found a man weeping before it.

"'Pardon me,' said Bissel, 'we have a common sorrow. You must be the brother. I often heard my love speak of him—he who was living in South America.'

"'I was not her brother. I am her lover.'

"For a few moments there was silence, during which the two men regarded each other with a strange expression on the face of each. Then Bissel spoke:

"'You say you are her lover. That is my position.'

"'Pardon me, it is mine.'

"'Do you mean to assert that she ever loved you?'

"'She did. We met in Paris. She was eighteen. I offered her my love, and it was accepted. Circumstances which I do not care to reveal parted us.'

"'Strange,' replied Bissel, half to himself, 'that she never told me of this—affair.'

"'There was no affair. It was an undying love.'

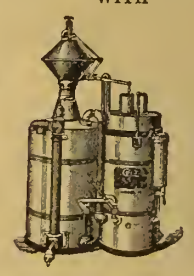
"'On your part, not on hers.'

"'I believe she loved me always. I believe she loves me now.'

"Bissell carried a cane. It was one of those sword canes very much in use at that period. Taking it in both hands, he partly drew the blade, then thrust it back.

"'Pardon me; I forgot that you are unarmed.'

Light and Cook WITH COLT TRADE MARK Acetylene



Favor us with an inquiry concerning Colt Acetylene. We shall take pleasure in sending you free of charge our excellently compiled 44-Page Catalogue containing complete and instructive matter regarding piping, fixtures, stoves and burner pertaining to this wonderful and inexpensive lighting system.

Fowler Shankland, Pacific Coast Distributor
204 Severance Building
Cor. 6th and Main, Los Angeles
Phones: F7514; Main 4830

$1.00 ONE DOLLAR'S WORTH OF MUSIC FREE FREE

Send 6c in Stamps for Our New Catalogue of 10c Music Many new additions, also Catalogue of popular hits. We will send you four pieces of regular sheet music with same. State if songs or instrumental music is wanted.

BRUDERSEN & BARBER
113 So. Spring St. - Los Angeles, Cal.

FARMERS' BOOKS

Order Through the Cultivator

FEEDS AND FEEDING.—By Prof. W. A. Henry. Is a thorough, accurate and reliable handbook for students and stockman, giving most practical and useful knowledge on plant growth and animal nutrition, feeding stuffs, feeding animals and every detail pertaining to this important subject, indispensable to every owner of live stock. 658 pages. 6x9 inches.
Cloth $2.00

AMERICAN GRAPE GROWING AND WINE MAKING.—By George Hussmann of California. With contributions from well known grape growers, giving wide range of experience. The author of this book is a recognized authority on the subject. Illustrated. 269 pages. 5x7 inches.
Cloth $1.50

STANDARD OF PERFECTION.—By the American Poultry Association and used as the standard for judging all shows. The thing for dealers in fancy stock.
Cloth $1.50

PERFECTED POULTRY OF AMERICA.—This is the most recent publication, and is one of the finest poultry books ever issued. It contains full page illustrations of all breeds and varieties of poultry, turkeys and water-fowl. On many of its pages are represented the feathers from each section of the fowl. Gives the information necessary for the selecting of the best specimen in your flock.
Cloth $2.50

A. B. C. AND X. Y. Z. OF BEE CULTURE.—By A. J. and E. R. Root, the leading authority on Bee Culture Its reputation is known to all Beekeepers. 536 pages.
Cloth $1.50

CAMPBELL'S SOIL CULTURE MANUAL.—By H. W. Campbell. The originator of the "Campbell System of Dry Farming." A complete guide to scientific agriculture as adapted to the semi-arid regions. Of great value to all Western ranches. 320 pages.
..... $2.50

THE NEW AGRICULTURE.—By F. Byard Collins. A new and authoritative work dealing with the changing agricultural conditions. Why "Back to the Soil" is calling millions from the cities to the farm. The debt which agriculture owes to science. Irrigation, fertilization, machinery, etc.
Illustrated, 374 pages, cloth.....$2.00

Cultivator Publishing Company

"'You mistake; I am armed.' And the stranger drew from his own walking stick a similar blade.

"'Fortunate,' said Bissell, drawing his steel. 'She whose mortal part lies there is mine. You dispute her possession with me. We cannot both have her. One must give place to the other. But, mind you, if I fall she is still mine.'

"There was a fervor in the last four words that could scarcely have been equaled had the object been a living being.

"'It seems to me,' said the stranger reflectively, 'that we are about to fight for that which has no real existence.'

"'Your words show that this love you speak of in your case is not real love. And she—she never considered it worth while to speak of it to me, though perhaps she may have considered your preference for her as sacred.'

"The words angered the stranger. His eyes flashed ominously, and he placed himself on guard.

"One of the workmen in the cemetery, hearing the clash of steel, rushed to the La Cour tomb, but only in time to see Bissell fall pierced through the heart. His antagonist was unhurt."

The speaker paused. He seemed to consider that he had established his point.

"What place," asked the anatomist, "do you give the stranger in this trio of love?"

"None at all. In a year he was married."—Sacramento Union.

The Personal Neatness Club

IT is not so much "what" as "how" one wears their clothes. Likewise "when" enters into the problem. The knack of these points is seldom acquired. The girl with plenty of money has no advantage in this respect. A little careful observation and training is valuable for any girl.

Don't Overdress:

Many a beautiful costume is spoiled because it is worn at the wrong time; nothing is so vulgar as being overdressed.

It takes some little while to know just what to take away in the summer, for one is apt to arrive at the seashore with the most perishable clothes, that would only stand the dry atmosphere of the mountains.

* * *

HABITS OF PERSONAL CLEANLINESS.

When one has formed good habits of personal cleanliness they have taken a long step toward good health as as well as to good looks and one of the best things a mother can do for her children is to furnish them with the articles necessary to a refined toilet and start them in right habits. Nothing should interfere with the morning grooming of the mouth and teeth and the thorough brushing just before going to bed. Neglect will not only cause the teeth to decay, but will make the gums weak and unhealthy, and every woman who has any respect for her looks should devote at least a few minutes every day to the improvement of her appearance.

If the skin is not bathed often it fails to act, then the liver becomes sluggish also, and numerous ills follow in its train. Black heads are nothing more nor less than an accumulation of dirt in the tiny pores of the skin, and the best way to keep them off is to wash your face and hands night and morning, using plenty of pure soap and hot water into which has been thrown a small lump of borax to soften the water and keep the skin firm.

The hands are washed clean of disease germs that might infect the body, and the face and eyes are cleaned of floating dust, and a noted beauty specialist says that he has become firmly convinced that lack of common, ordinary cleanliness was the root of nearly all skin blemishes.

To make a mouth wash that will keep the gums and mouth in a healthy condition add one ounce of borax and one half teaspoonful of spirits of camphor to one pint of water that has been boiled. The borax purifies the mouth and disinfects decayed teeth which are a menace to health, and the best way to use this solution is to add a little to warm water and brush the teeth and wash the mouth out with the solution.

We know that to have a sound mind we must have a sound body and three things are necessary to good health; cleanliness, pure air and a proper diet.—M. A. T.

* * *

HEALTH NOTES.

Cold applications strengthen the heart.

The best cure for biliousness is fasting.

The baby is not hungry every time it cries.

Gouty persons should eat freely of carrots and apples.

Lemon juice will more thoroughly cleanse the skin than soap.

Injudicious eating and drinking will make the pores of the skin large.

Table salt rubbed into the scalp will stop the hair from coming out.

Every one should drink at least two quarts of water during the day.

All starchy food should be thoroughly cooked, and slowly masticated, as an aid to digestion.

A beginning cold can be checked by anything that will set the blood into active motion.

SIMILES IN RHYME.

As plump as a partridge—as poor as a rat.
As strong as a horse—as weak as a cat.
As wet as a fish—as dry as a bone.
As live as a bird—as dead as a stone.
As hard as a flint—as soft as a mole.
As white as a lily—as black as coal.
As plain as a pikestaff—as rough as a bear.
As tight as a drum—as free as the air.
As heavy as lead—as light as a feather.
As steady as time—uncertain as weather.

To remove old tea and coffee stains wet the spots with cold water and cover with glycerine, let stand two or three hours, then wash with cold water and hard soap; if all stains have not disappeared, repeat the operation.

To keep butter hard in hot weather without ice, invert a large crock of earthenware, not glazed (size according to the dish containing the butter) over the dish on which the butter is. The porousness of this earthenware will keep the butter cool and hard, and all the more so if the pot be wrapped in a wet cloth with a little water in the dish with the butter.

HOMELY HINTS.

To get good light from lamps, change wicks often. Never keep them until they are nearly used up or get very dirty; keep the bottom of the bowls clean. Boil burners in a strong solution of sal soda. Then polish with whiting or wood ashes. To clean lamp globes easily, wipe off with piece of paper—this saves the wipers from getting so badly soiled; then pour cold water through the globe, polish with a clean, dry rag. The globes always look very clear when treated in this way.

Starch made with soapy water gives collars a beautiful gloss. The soap also prevents the iron from sticking.

Save the raveled threads from old linen to mend your tablecloths and napkins. They match so much better than new thread.

To remove the strong odor from the pans in which fish, onions, and other strongly scented food have been cooked, put the pan over the fire after washing, add hot water and a teaspoonful of soda and boil a little while.

Sift flour lightly over the cake tins after they are buttered. Then shake out all flour except that which adheres to the butter. The flour and butter form a thin crust between the cake and the tin and does not stick to the pan.

To Economize Space in Clothes Presses.

"We have equipped each of the clothes presses in our house with long, nine-inch screw hooks, such as are used to suspend bird cages from," says a writer in Woman's Home Companion for September. "One hook easily holds six skirt or waist hangers. Not only is the available space greatly increased, but 'finding things' is much easier than in a press where small hooks are used and things hang one over another."

To Sharpen Scissors.

Cut them rapidly on the neck of a small glass bottle, or better still, on a ground-glass stopper. It trues the edges and makes them cut like new.

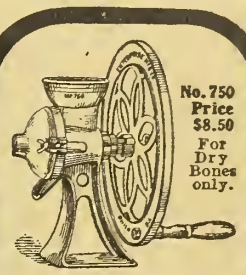
"You should love your neighbor as yourself." "Of course, but there are times when a fellow is considerably disgusted with himself."

Large Family Size. No. 10—Price $2.50.

It is really better to own an "Enterprise" Meat Chopper and cut your sausage meat easily, quickly and well, than to trust to a borrowed machine to "grind" it. The

No. 25. 4 Quart Japanned. Price $5.50. 4 sizes. Tinned and Japanned.

Half the work at butchering time is spent in lard and sausage making. You can increase your products and lessen the time and labor of Sausage Stuffing and Lard Pressing if you use an



No. 750 Price $8.50 For Dry Bones only.

Cracked corn, ground bone, oyster and other shells, etc., are important items of egg-making material and *must* be furnished in winter to secure an abundance of high-priced eggs. They *can* be furnished at lowest cost by the use of an

ENTERPRISE

Meat and Food Chopper

is made in standard family sizes, and not only saves half the work at butchering time, but is useful in the kitchen every day in the year. "Enterprise" Meat Choppers *cut* the meat with a revolving steel knife against a perforated steel cutting plate without crushing, and make tough meat tender. Easily cleaned, practically unbreakable, and will last for years.

Made in 45 sizes and styles; for Hand, Steam and Electric power. No. 5, Small Family size, $1.75; No. 10, Large Family Size, $2.50. Sold direct if not to be had from your dealer.

Sausage Stuffer and Lard Press

Stuffs sausage quickly and uniformly. Patented Corrugated Spout prevents air entering the casing, thus assuring the preservation of the sausage. Cylinder is bored absolutely true. Meat cannot rise above the plate.

Can be changed into a Lard Press in a jiffy. Machine is strongly made and will last for years.

Other famous "Enterprise" household specialties are Coffee Mills; Raisin Seeders; Fruit, Wine and Jelly Presses; Cherry Stoners; Cold Handle Sad Irons, etc., etc.

Look for the name "Enterprise" on the machine you buy.

Bone, Shell and Corn Mill

Order one early in the season, and the hens will surely pay for it. The mill shown in cut costs only $8.50. Will grind corn, *dry* bones, oyster and other shells, etc., making valuable poultry food. May be used for making boue meal fertilizer.

A good all-round mill for farmers and poultrymen, and for strength and durability is unexcelled. Weight, 60 lbs. Capacity, 1¼ bushels of corn per hour. Look for the name *"Enterprise"* on the machine you buy. Sold by Hardware and General Stores, etc.

FREE—The "Enterprising Housekeeper"—a book containing over 200 choice recipes and kitchen helps. Sent on request.

THE ENTERPRISE MFG. CO. OF PA., 229 Dauphin Street, Philadelphia, Pa.

Angle Lamp

The Light That Never Fails

Thousands in use all over the country. A good light is the greatest pleasure and the first necessity of every home.

The only lamp on the market that is sold under an absolute guarantee.

Remember, the light from Kerosene is the light science has agreed upon as being the purest and best, because it is soft and mellow and restful to the eyes.

Here are a few of The Angle Lamp Merits:

NO UNDER SHADOW. NO SMOKE, NO ODOR, LITTLE HEAT.

GREAT ECONOMY—COST LESS TO BURN than an ordinary lamp. As easy to operate as gas or electricity, and better than either. ABSOLUTELY SAFE under all conditions. Lighted and extinguished like gas. Burned HIGH or LOW like GAS without a trace of odor. And a BRILLIANT, soft, steady, shadowless light—but this you will have to see to appreciate.

The lamp as shown in cut burns 22 hours on 3 quarts of oil.

Send for Illustrated Catalogue with Prices

Boesch Lamp Co., (Est. 1869) 1135 Mission St., San Francisco

The Produce Markets

Los Angeles Markets

LOS ANGELES, Oct. 21, 1908.

Butter.

Butter is still stationary at 67½ for extras. The market is featureless and no promise of immediate change.

Creamery ex per roll.... ....67½
Firsts.............. 60
Dairy........ 25
Eastern Extra.... 30
Ladles........ 24
Cooking.... 24
"Butterine"........ .... 16@20

Cheese.

Southern California Anchor......17@18
Northern fresh ....14½@15
Longhorn........ 18
Eastern singles.... 18
Cheddars........ 17
Swiss 18
Imported Swiss...... 28
Daisy... ....17½
Oregon.......... 16
Limburger...... 17

Eggs and Poultry.

Eggs are still higher and very firm in tone. No promise of immediate further rise is made but it is probable that a rise will occur before a decline.

Eggs local candled.... ....42@45
Eggs case count buying price......39
Firsts fresh 37
Storage selected...... ....26@27
Storage short time...... ....33@36
Eastern fresh...... ....33@36

Wholesale prices:

Hens per pound...... ....13½@14
Young roosters per pound..........16
Fryers.......... 18
Broilers per lb...... 20
Old rooster.......... 8
Turkeys...... ....16@18
Geese...... 12
Ducks...... ....11½
Squabs........ ....1.25@1.75

Live Stock.

The following quotations are f. o. b., Los Angeles, on all stock.

Hogs from 175 to 200 pounds........6¼
Prime steers..... ....4¼
Heifers... ....3½@3¾
Calves per lb........... ....4½@5
Sheep ewes per head..........3.25@3.75
Lambs per head...... ....2.50@3.00
Wethers.. .... .4.00@4.50

Potatoes.

Wholesale prices are:

Sweets per ctl 1.25
Sweets red........ ....1.00
Burbanks choice.... ....1.00
Northern Burbanks fy.... ....1.50
Local Burbanks.... ....1.15
Highland fancy ....1.00@1.25
Coast...... ....1.00
Salinas........ ....1.75@1.90

Onions.

Wholesale quotations are:

Silverskin new...... ....1.25
Australian Browns...... ....80@90
Danvers ....90@1.00
Garlic...... ....9@10

Vegetables.

Asparagus per doz.... 75
Artichokes per doz Northern........70
Artichokes local per box...........40
Beets per doz........ ....30@40
Bell peppers per lb large..........3@4
Bell peppers box.......... ....25@30
Beans string..... 5
Beans limas per lb...... 4
Brussels sprouts per lb................9
Cabbage sack.... ....1.25
Cabbage red per lb....................2
Celery per crate.... ....1.50
Celery fy.. ....2.00
Chili per lb...... ....20@30
Corn per lug box........................40
Chicory per bunch.......... 10
Cucumbers per box...... 35
Cauliflower per doz.... ....40@70
Carrots per doz..... 30
Egg plant per lb........ 2
Green onions doz bunches...........20
Lettuce per crate ....1.00@1.25
Okra 4
Peas sugar per lb.......... ....6@7
Parsley ....25@30
Parsnips...... ....35@40
Rhubarb per box.... ....1.00
Rutabaga per doz...... 30
Radishes per doz.......... ......15@20
Salsify 40
Summer squash per box.............40
Spinach per doz...... 20
Turnips doz bunches...... 30
Tomatoes lug box...... ....25@35
Tomatoes yellow...... 60

Citrus Fruits.

Valencias...... .... 2.30@2.50
Grapefruit seedless....... ....3.00
Grapefruit seedlings...... .. 1.75@2.00
Lemons fy.......... ....2.50
Lemons choice...... ....1.50

Fresh Fruits.

Wholesale prices on the market are:

Astrachans 1.00
Astrachans packed box........1.35@1.50
Bellfleurs ....75@85
Newton Pippins...... 80
Alexandria 4-tier...... ...... 1.00@1.10
Gravenstein 4-tier.... .. ....1.15@1.25
Skinners 4-tier.... ....1.15@1.25
California Jonathans.... ....2.00
Red Pearmains.... ....1.00
Crab apples........ ....1.50
Apricots cold storage........ 50
Cantaloupe locals large crate..1.50@1.75
Casaba doz...... ....1.25
Figs per fig box.... ....75@85
Christmas melons per crate........1.75
Figs black per fig box..............75
Guavas per lb...... 4
Muscats per lug box.... ....40@55
Grapes Malaga...... ....50@75
Grapes Concord per lug box......1.00
Grapes Tokay.. ....60@65
Grapes Red Emperors.... ......60@65
Cornichons...... ....1.00
Rose of Peru ....50@75
Grapes Black Hamburgs 50
Isabellas per crate........ 75
Nectarines..... ....1.25
Pears per box........ ....1.60
Pears lug box...... ....1.10
Pears Winter Nellis per box........60
Plums Kelsey.... 60
Peaches per box...... ....35@75
Peaches clings.... 50
Pineapples per lb 7
Persimmons per lb...... 8
Pomegranates per box.... ....1.50
Quinces...... 75
Raspberries per box...... 11
Strawberries per box...... ....5@6
Extra fancy........ 10
Blackberries per box...... 7
Huckleberries per crate.... ....1.20
Watermelons per crate...... ......1.25

Dried Fruits.

Wholesale prices are:

Apricots...... ....8@9
Evap. apples fy per lb..........7½@8
Figs loose white...... 6
Figs blk........ 4
Peaches ....7½@8
Pears.......... ....9@10
Nectarines........ ... .9@10
Prunes... ....4@4½

Beans Dried.

Wholesale prices:

Limas per ctl...... ....5.00@5.25
Lima, new crop.......... ....4.50@5.00
Pink No 1........ ....3.25
Lady Washington.... ....3.75@4.00
Small white...... ....4.10@4.25
Black eyes...... ....4.50
Garvanzas... ....4.80@5.00
Lentils 10½
Bayou.... ....3.75@4.00

Nuts.

Almonds IXL per lb.................14
Almonds choice...... .. ..10@12½
Pecans polished.... 16
Peanuts Virginia...... 8
Peanuts California.... 8
Walnuts No 1 SS...................12½
Walnuts No 1 HS.....................12
Walnuts No 2 both hard and SS..8½
Walnuts all less1½ per cent to trade

Honey.

Wholesale quotations:

Extracted Water White..... ..7½@8½
Extracted Amber... ....6@6½
Comb W W...... 16
Comb white...... 15
Beeswax...... 30

Hay.

Prices paid to producers f. o. b. Los Angeles are as follows:

Barley No 1........ ....13.00@15.00
Barley No 2......... ....10.00@13.00
Alfalfa northern per ton....11.00@12.50
Alfalfa local...... ....12.50@14.00
Plain oat No 1..............15.00@17.00
Wheat No 1............ ......13.00@16.00
Wheat No 2........... ......12.00@14.50

Grains.

Wholesale selling price f. o. b., Los Angeles.

Wheat new per ctl...... ....2.10
Wheat in 100-lb sacks...... ......1.90
Kaffir corn...... ....1.95
Corn Eastern sacked...... ....2.00
White oats.. .. ..1.90
Seed Rye...... ....1.75

Feed Stuff.

Wholesale selling price F. O. B. Los Angeles as follows:

Cracked corn........ ....2.05
Shorts........ ....1.80
Bran...... ....1.60
Oil cake meal.... ....2.75
Feed meal...... ....2.10
Rolled barley...... ....1.60

Growers of casabas at Riverside who wish to preserve pure seed from their melons are complaining that the honey bee does more damage by his cross pollination than he does good on that one particular crop.

San Francisco Markets

SAN FRANCISCO, Oct. 20, 1908.

Butter.

Butter advanced another half cent last week and now stands at 30½ for extras with a 2 cent advance for firsts. The tone of the market is good.

California extras per lb...... 31
California firsts 28
California seconds...... 23
California thirds...... 20
Eastern extras.... 27
Storage Cal ex........ ....26½

Cheese.

California young American fy.....14½
Firsts........ 13
California flats fy...... 13
Firsts.... 12
Young America fy 14½
Eastern fy...... ....16½
Oregon fy...... 13

Eggs and Poultry.

Eggs have advanced almost daily and are now at 51 for extras. Firsts have advanced 4 cents also and now stand at 45.

Official quotations of the S. F. Wholesale Dairy & Produce Ex. are:

Fresh ranch extras 51
Eggs firsts per doz...... 45
Eggs second 27
Eastern selected 26
Eastern firsts 25
Cal Storage.... 31
Firsts.... 28
Eastern Storage ex.... 26
Eastern seconds 24

Hens per doz.......... ....4.00@5.50
Hens extra ....7.00@9.00
Young roosters...... ....5.00@6.00
Old roosters...... ....3.50@4.50
Fryers per doz ....4.00@5.00
Broilers per doz.... ....3.50@4.00
Geese per pair ....2.00@2.50
Goslings per pair...... ......1.75@@2.00
Ducks young...... ....6.00@7.00
Hen turkeys per lb........ ....22@26
Gobblers live...... ....22@26
Pigeons young...... ....2.00@2.50

Live Stock.

San Francisco prices gross weight:

Steers No 1...... ....3¾@4
Do second quality...... ......3¼@3½
No 1 cows and heifers................3
Second quality...... ....2¾
Hogs 100 to 150..........................6
Hogs 150 to 250......................6¼
Rough heavy......... ....4¾@5¼
Calves per lb...... ....3½@4¾
Lambs spring 4
Wethers No 1 ....3¾
Ewes No 1.......... ....3¼

Potatoes.

Potatoes are lower than a week ago but a firmer condition prevails at this writing.

Wholesale market quotations:

River whites fy...... ....60@80
River whites poor ....50@60
do per box........... ....1.00@1.15
Early Rose new........ ....75@85
Salinas Burbanks ....1.25@1.55
Sweets crates...... ....1.50
Sweets sks 1.35
Oregon Burbank 1.20

Vegetables.

Wholesale quotations:

Asparagus per lb....... ....7@8
Asparagus No 2..... ....4@5
Bell peppers per box............75@1.00
Celery per doz...... ....35@50
Cucumbers per box.... ....75@1.00
Cucumbers pickle.. ....1.00@1.25
Cucumbers pickle No 2..............75
Chili peppers per box............60@75
Corn per sack.... ....1.50@1.75
Egg plant per box ....60@75
Green peas per lb...... ....2@5
Lima beans.... ....2@3
Squash per box.... ....75@1.00
Onions green per box...........70@75
Okra per box........ ....30@60
Rhubarb per box....... ....50@65
Tomato River large box ....15@35
String beans ....3@4
Wax beans ....3@4
Garlic new...... ....6@7½

Onions.

Onions yellow per sack..........65@70

Citrus Fruits.

Valencias fy........ ....2.00@3.50
Grapefruit seedless........ ..2.00@3.50
Lemons ch ....1.75@2.25
Lemons fy ....3.00@3.50
Limes...... ....4.00@5.00

Fresh Fruits.

Apples per 4 tier box............90@1.10
Apples per 4½ tier box..........50@85
Apples unwrapped.... ....60@75
Crabapples........ ....50@60
Blackberries per chest...... ....3.00
Figs per crate one layer........40@75
Grapes seedless...... ....75@85
Grapes Muscats ....40@60
Grapes Rose of Peru............50@60
Grapes Tokays ....40@60
Grapes Isabellas crate ....65@85
Grapes Cornichon ....50@60
Huckleberries per lb 15
Loganberries........ ... .4.00@6.00
Cantaloupes River nutmegs ....30@60
Muskmelons.. ....75@1.00
Nectarines red..... ... .75@1.00
Nectarines white... ....50@60
Pears Bartlett per box fy....1.00@1.25
Peaches mountain ....30@60
Persimmons.. ....75@1.00
Pomegranates per box ....1.50@2.25
Aligator pears per doz.......7.00@9.00
Quinces per box...... ....50@75
Raspberries per chest ....5.00@7.00
Strawberries per chest...... ..4.00@6.00
Longworths per chest.........6.00@8.00
Watermelons per doz...... ..1.25@2.00

Dried Fruits.

Prunes 4-size basis.. ....3½@3¾
Santa Clara...... ....3½@4
1908s contracted for.... ....4@4½

New crop contracts, 25-lb. lots—Apricots per lb.: Choice, 7@8½; fancy 10@10½.

PEACHES—Choice 7@7¼; fancy 8¼ @9.

Apples evaporated.... ....4@6½
Pears...... ....5@7½

RAISINS—1907 crop f. o. b.; Clusters and layers. 30-lb bxs—Imperial Clusters, 6-crown, $2; Dehesa Clusters, 5-crown, $1.75; Fancy Clusters, 4-crown, $1.40; London Layers, 3-crown, $1.10; do, 2-crown, $1.05. Seeded, 25-lb bxs—Fancy bulk per lb, 6½@7c; Choice bulk, 6½@7c. Loose Muscatels, 50-lb bxs— Standard, 4-crown, 5½c; do, 3-crown. 4¾c; do, 2-crown, 3¾c; Seedless, 4¾c. Seedless Sultanas— Unbleached, 4¾@5c. Thompson Seedless—Unbleached, 5½@6¼c. Dried Grapes, 4c.

New Crop Raisins—Preliminary prices are named as follows: Cluster—Imperial 6-crown, $2@3; Dehesa, 5-crown $2.50; London Layers, 2-crown, $1.25; 3-crown, $1.35; 4-crown, $2. Thompson's Seedless, 5¾c. Loose Muscatels, 5¾c. for 4-crown, 5c for 3-crown, 4½c for 2-crown and 4¾c for seedless.

Nuts.

Walnuts S S No 1 new crop...12½@13
Walnuts No 2......... ....10@10½
Almonds nonp.... ....11@12
Almonds IXL.... ....10@10½
Ne Plus Ultra........ 10

Beans Dried.

Limas ....4.30@4.35
Pink ....2.25@2.50
Small white ....1.15@4.25
Large white.... ....3.50
Lady Washington...... ......3.45@3.50
Black eyes ....3.00@3.25
Red kidneys 3.50
Garvanzas ....1.75@2.25
Bayo ....2.40@2.50
Horse beans ....1.75@2.25

Hops.

Hops new crop......... ....9@13
Hops old stock.... ....3@6

Honey.

Clear white comb.. ....15½@16
Amber.... ....12@14
Extracted W W...... ....6@7
Extract light amber...... ......6½@7
Beeswax No 1 per lb...........25@27
Beeswax No 2 per lb...........24@25

Hay.

Somers & Co. say:

There has been some little increase in hay shipments during the past week, the total showing 2780 tons as compared with 2370 for the week preceding. The car scarcity is in no way relieved and shippers are still clamoring at all points for accommodations in this connection. The local demand is fairly active and the possibilities for interior shipments are particularly promising at the moment but owing to lack of transporation facilities but little is being done. The choicer grades of hay are in very active demand here and prices seem to be steadily advancing. The medium qualities as usual are neglected and continuing without any material advance over the prices given several weeks ago.

The Government has made no award as yet in connection with the recent tenders for hay for Manila shipment. If the entire contract is let in this city it will surely have a material effect on prices.

Choice wheat hay.. ....18.00@20.00
Good wheat hay...... ......15.50@17.50
Other grades same...... ....12.00@15.00
Wheat and oat...... ....12.00@17.00
Tame oat...... ....11.50@17.00
Wild oat...... ....11.00@16.00
Stock hay...... ....9.50@10.50
Alfalfa........ ....9.50@13.50
Straw, per bale........ ....45@70

Grains.

Wheat No 1........... ....1.67½@1.70
Barley new........ ....1.30@1.35
Corn large yellow.............1.80@1.85
Oats white...... ....1.55@167½
Oats gray.... ....1.65@1.70
Rye new crop...... ....1.45@1.50

Feed Stuff.

Bran per ton...... ....30.00@31.50
Feed cornmeal per ton.......37.00@38.00
Cracked corn per ton........38.00@39.00
Rolled barley per ton........29.00@30.00
Oil cake meal per ton......37.50@39.00
Cocoanut cake per ton......25.00@26.00
Middlings........ .. ..33.50@35.50

Citrus Market

Shipments.

Total shipments since Nov. 1, 1907, 29280 cars of which 4799 were lemons. To same date last year 27,415 of which 3438 were lemons.

NEW YORK, Oct. 16.—Two cars Valencias and one mixed car sold. Market very strong. Prices higher. Weather clear and favorable.

VALENCIAS—	Avge.
Orchard or run National O Co	$5.25
Standard std National O Co	4.25
Old Mission fy C C Chapman	6.40
Old Mission ch C C Chapman	5.70
Golden Eagle std C C Chapman	4.70
Blue Globe Riv Ft Ex	4.35
Red Globe Riv Ft Ex	3.35
California Orange Riv Ft Ex	2.45
GRAPEFRUIT (Half Boxes)—	
Blue Globe Riv Ft Ex	.70
Blue Globe seedless	.90

PHILADELPHIA, Oct. 16.—One car Valencias sold. Weather is favorable. Market very strong. No cars on track.

VALENCIAS—	
Quail OK Ft Ex	4.52
Coyote OK Ft Ex	3.21
Blue Jay OK Ft Ex	2.32

BOSTON, Oct. 16.—One car sold. Weather favorable. The market is very strong. Three cars on track.

VALENCIAS—	
Bear OK Ft Ex	4.45
Quail OK Ft Ex	4.10

NEW YORK, Oct. 19.—Five cars Valencias and two cars lemons sold. The market is very strong, and prices are higher. Weather cloudy, warm.

Note—Owing to snow in Arizona and wire trouble, New York details are lacking. The California Fruit Exchange reports the following cars sold.

VALENCIAS—	
Red C Covina Ft Ex Covina	4.45
LEMONS—	
Pet SA Ft Ex San Dimas	4.15
Greyhound SA Ft Ex San Dimas	3.55

ST LOUIS, Oct. 19.—Weather warm. Market is strong on Valencias. Steady on lemons. Two cars sold, three on track.

VALENCIAS—	
Big R SB Ft Ex Rialto	4.10
LEMONS—	
Whittier ST Ft Ex Whittier	3.35
Pico ST Ft Ex Whittier	3.20
Big R SB Ft Ex Rialto	3.40
Yacht SB Ft Ex Rialto	2.95

PHILADELPHIA, Oct. 19.—Two cars Valencias and one mixed car citrus fruit sold. Market is favorable, strong on large sizes. Four cars on track.

VALENCIAS—	
Puritan SB Ft Ex Rialto	5.01
Tallyho SB Ft Ex Rialto	4.87
LEMONS—	
Orchid Altland Ft Co	5.17
Buscada	4.43

PITTSBURG, Oct. 19.—One car sold, three cars on track. Market is firm on good fruit. Weather cool.

LEMONS—	
Coyote OK Ft Ex	3.20
Blue Jay OK Ft Ex	2.40

CLEVELAND, Oct. 19.—Weather cool. Market is declining. One car sold, nothing on track.

LEMONS—	
Squirrel AH Ft Ex Prenda	4.10
Palm Tree AH Ft Ex Prenda	3.85
Commercial AH Ft Ex Prenda	2.85

CELERY GROWING IN CALIFORNIA.

Continued from page 387.

will be impossible for that section to furnish any great supply for shipment during the latter part of December, January, and the early part of February. The celery grown is considered of good quality and gives entire satisfaction in the eastern market. About 1000 acres are being grown in Northern California this season.

Advises Reduced Acreage.

This covers the celery growing districts of the United States, giving you an idea of the magnitude of the industry as a whole, and of the quality of the product in each state as well. After summing up the situation carefully, we find that Orange county has no real competitor during the mid-winter months, and with the call on the market at the time the Florida comes in you can readily see she must sacrifice much of her crop in order to get in, so to speak. It would be very unwise to plant as large an acreage as heretofore for many reasons.

First, because other sections have shortened our shipping season. As stated above, our early crop comes in competition with Northern California, Colorado, New York, Michigan and other middle western states, while our late crops come in competition with Northern California and Florida.

Second, the trade is demanding a higher standard as to quality and sizes, and with a large acreage, much of which would be on poor land, the crop would necessarily be neglected, resulting in a low grade and inferior article, which not only meahs great waste in grading and unsatisfactory returns, but dissatisfied customers whom we are trying to build up a reputation with.

Third, with a large acreage it would be impossible to give it proper protection from blight during rainy weather when it is necessary to spray often and thoroughly.

By growing a moderate crop of celery, say 2000 cars, and having it ready for market during December, January and February, with quality equal to the standard, we have no hesitancy in saying that the growers will not only receive high prices for their celery, but move their crop without loss, thereby insuring them a good net profit for their investment.

A FINE SPREADER.

From an Eastern Exchange in which an extended description of a manure spreader is written we note the following good points:

This new improved machine is a decided novelty in that the material is pulverized and delivered at the forward and back axle instead of at the rear of the machine. The advantages in favor of the front delivery are lightness of draft, simplicity, low down construction, cut under truck, and for reason of having a covered beater the use of the machine in windy weather or as a lime distributor is practicable.

In this new machine the top of the box will be less than 40 inches from the grond compared with 54 inches in others. This is a decided advantage over other machines on the market.

Although a model of strength and simplicity the machine has valuable features not found in others, having more weight and double the number of parts. Perhaps the very best feature is the complete control of the apron which can be run forward or back, either empty or loaded. This permits of stopping the apron while the beater remains in full operation, or if desired the operator can run the load back from the beater and then start the machine in operation, thereby avoiding partial unloading of the machine by hand and throwing out the material in large chunks when first starting up, which is a great drawback in other spreaders. The apron is thrown out of gear automatically after the load is distributed and also when it is returned for filling the box. The ratchet drive is superior in its operation and simplicity.

This spreader is made under patent No. 818098, dated April 17, 1906, and issued to Joseph S. Kemp of Newark Valley, N. Y., who is recognized everywhere as the "Father of all manure spreaders."

The rights of the J. S. Kemp Co., have been acquired by the Coscaden Manufacturing Co., of Waterloo Ia.

General Agriculture

STICK TO THE STAPLES.

The Hawaiian Forester and Agriculturist has the following on freak farming, which at times appeals to all as a possible chance of greater profit.

Although tropical agriculture offers splendid opportunities for those who engage in it under proper conditions, there are many enterprises which from the nature of things are not likely ever to repay the expense of endeavoring to start them and which careful foresight would have chronicled beforehand among the list of failures.

Among the most profitable agricultural industries are to be included most of those which look to the satisfying of an established food demand, for the market for such commodities increases arithmetically with that of the world's population. It is also found that as education and the general standards of living advance, the per capita consumption of most food stuffs which are not essentially necessary, increases in geometrical proportion. When such articles of diet require special conditions of climate which confine their production to a small proportion of the world's area compared with the diffused market they have to supply, the potential expansion of such industries as the production of tropical fruits, the preparation of vanilla extract, the cultivation of cocoa, of coffee and of tea, when engaged in under suitable labor conditions, are well nigh illimitable.

Another class of flourishing agricultural enterprises, whose future is equally as promising as of the food stuffs alluded to, is represented by such industries as the production of tobacco, rubber and camphor, the prosperity of which industries is, as in the case of former class of food stuffs, dependent upon a rapidly increasing per capita consumption, favorable labor facilities and a restricted area of cultivation.

Generally speaking, when these three elements are present an agricultural industry has every likelihood of succeeding; when one of the elements is uncertain it will be precarious, but when more than one element is not assured the enterprise will be impossible as a financial enterprise. The rapidly increasing per capita consumption of sugar, combined with a relatively restricted area of cultivation, would be unavailing to make this industry a success, were it not for favorable labor conditions, and in proportion as these are unsettled, the industry itself suffers.

Another illustration of the misfortune which is apt to overtake the grower of medicinal plants is furnished by the experience of the attempt to produce quinine in California. The extensive use of this drug and its advancing market value induced many agricultural enthusiasts to advocate its cultivation in apparently favorable parts of California. In consequence of this, extensive planting of the Cinchona plant was carried out in that State about twenty years ago. The industry seemed to promise well, until an unusual fall in temperature stamped out the young plantations. Meantime the price of quinine had declined rapidly until it is now less than a tenth of its former value. Even had the Cinchona plant flourished in California, the present price of quinine, taken in conjunction with the labor cost of stripping the bark, renders it certain that not one pound of the drug would have been profitably produced in the United States.

With regard to the attempted cultivation of Ginseng, of the three requisite elements to success, apart from suitable cultural methods, each is either wanting or at least uncertain. The consumption of the drug is chiefly confined to one country and is, so far as known, not increasing; the labor facilities of the attempted new country of cultivation are certainly inferior to those of China; and the area of possible cultivation is well nigh universal. These three conditions in conjunction prevent the growing of Ginseng from being profitable anywhere but in the country of its consumption.

In the case of the attempt to grow Cinchona in California, besides the fact that the climatic conditions alone proved sufficient to stamp out the industry, one of the elements requisite to the success of tropical agriculture was altogether absent and another was uncertain. On the one hand the per capita consumption of the drug is probably not increasing, and on the other the labor conditions of California cannot in any way enter into competition with such countries as Java, which at present easily supply the world's demand.

Another class of industries which of late years has become precarious on account of the increasing diminution of per capita consumption, is the cultivation of perfumery plants. In this case the synthetic process of the manufacture of chemical perfumes has so improved that in perhaps the majority of cases the artificial perfume is not only equal to the natural, but far less expensive and more stable. The result is that whereas in perfumery growing industries all other elements of success may be present, the decreasing use of the natural perfume has often rendered its production unprofitable. In consequence of this many growers of perfumery flowers in France and other European countries are gradually relinquishing the industry and establishing chemical laboratories for the manufacture of synthetic perfumes.

I am for the harmless snake. I don't believe in beating the life out of every little wriggler that we see just because it is a snake. Why? Because snakes are always helping the farmer in his fight with bugs and other small things that destroy his crops. There are about seventy-five varieties of snakes in the country, but the only deadly ones are the rattlesnake, the copperhead, the coral and the water moccasin. The rest are not only harmless, but consume myriads of enemies of plants. To most people a snake is a snake, and the first impulse on seeing one is to smash him. But the harmless should be let alone.

The Produce Exchange of Imperial valley has been formed to handle the coming cantaloupe output. The following gentlemen were elected as incorporators: Fred Stahl, Peter Hovley, S. M. Bixby, W. E. Wilsie, H. M. McKinney, Will Fawcett, Frank Thing and B. E. Wilhite. It will be a purely co-operative marketing organization.

A land company has established a large nursery at Hunters, Washington.

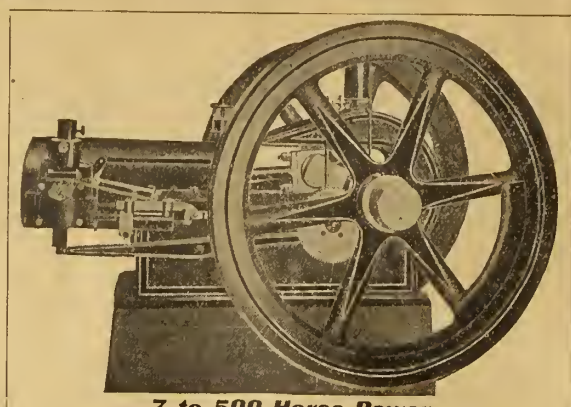
The Popular

Western

Built In the West **Best** For the West

FACTORY AT YOUR DOOR

LONGEST LIFE LEAST FUEL FEWEST PARTS ALWAYS GOES



7 to 500 Horse Power

Irrigation Plants Designed Constructed Installed

U. S. GOVERNMENT TEST

35 H. P. Western Engine Been Run 2 Years

RAN 87 DAYS DAY AND NIGHT

With One 20-Minute Stop to Lace a Belt

Send for the Copy of Test

Western Gas Engine Co.

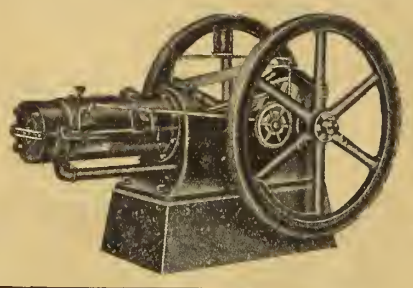
Works and Office:

908 to 932 No. Main St. Los Angeles, Cal.

Send for Catalogue.

Commercial Gas Engines

are Better Engines than you have been using.

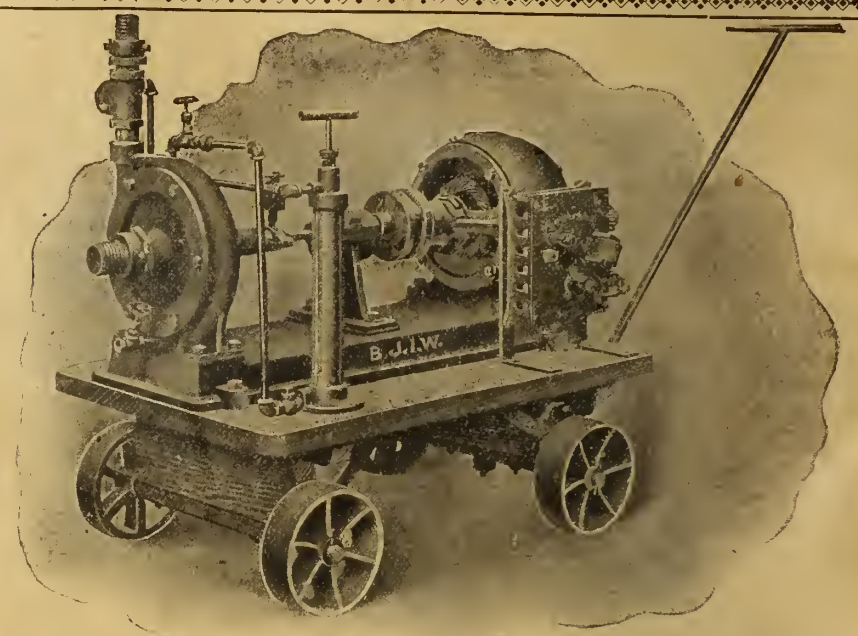


See One Buy One

So will your neighbors.
Send for Bulletin No. 12

Commercial Engine Company

953-955 No. Main St., Los Angeles, Cal.



Jackson Wine Pump

Direct Coupled to Motor and Mounted on Truck. Write for Bulletin 25.

Works: Carlton Station West Berkeley

Byron Jackson Iron Works

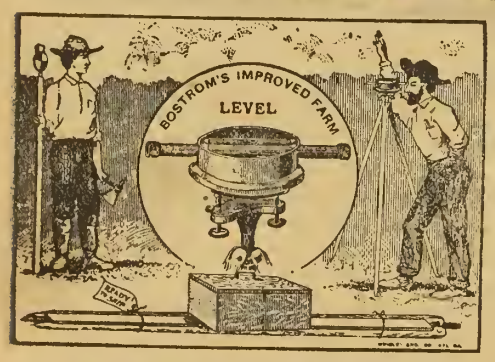
Branches: San Francisco Los Angeles Portland

Pioneer Rubber Sanded Roofing

What Rubber Sanded Roofing will do is told of in our Booklet, "Roof Talk," which will be sent free upon request, together with samples of the Roofing itself.

PIONEER ROLL PAPER CO.

Department 11 Los Angeles, Cal.



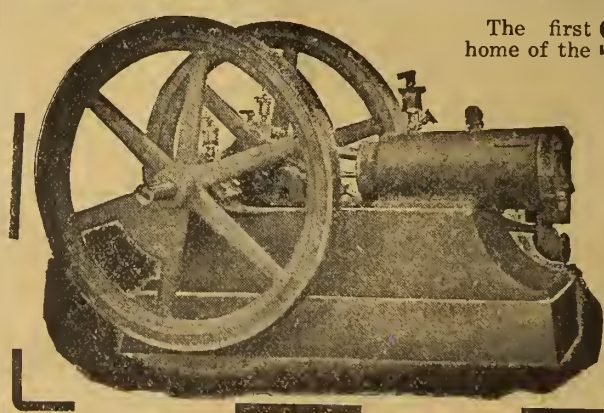
BOSTROM'S IMPROVED FARM LEVEL

Used for irrigation and drainage work. Cheapest and best level yet invented for farm use. Has the latest patented improvements in simplicity and usefulness. Can be operated by any one. Price including telescope tripod and target rod $15.00.

PALACE HARDWARE COMPANY
581 Market Street, San Francisco.

Coast Agents. Send for Circular.

Samson Gasoline and Distillate Engines



The first home of the **SAMSON** engine is a large one. Its second home, which is everlasting, is a happy one.

They may be compared with the sea—always ready to roll.

Samson Iron Works

Office and Factory: 1100 to 1198 Aurora St. Stockton, Cal.

BRANCHES:
San Francisco, Cor. Market and First Sts.
Fresno, 920 J St.
Los Angeles, 204 N. Los Angeles St.
W. L. Cleveland Co., Agents

KEROSENE ENGINES

No Batteries or Spark Plugs Used

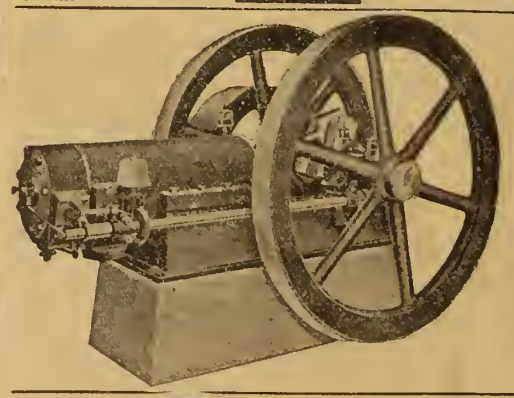
Simplest, Most Reliable and Cheapest Power on the Market

4, 8 and 16 Horse Power

Marshall Brothers

Point Richmond, Cal.

Catalog Free on Application



HERCULES DISTILLATE ENGINE

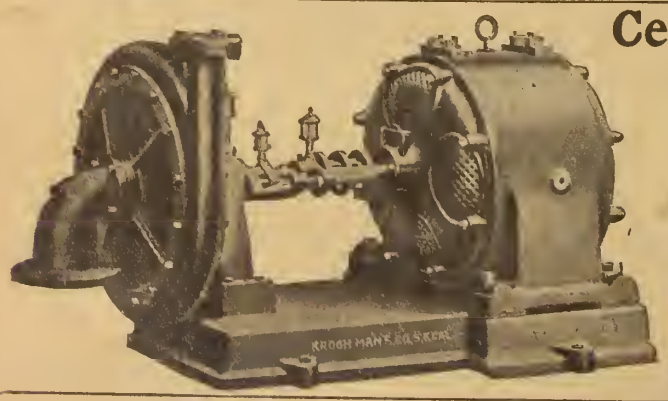
Heavy, Strong and Simple in Construction

The Right Engine at the Right Price

Horizontal and Vertical; All Sizes. Buy direct from the manufacturer and save agent's commission. Send for our new Catalogue C.

The Hercules Gas Engine Works

351 Market St., San Francisco
Telephone Douglas 3630



Centrifugal Pumps

For high or low heads

Direct Connected or Belt Driven

Highest obtainable efficiency

Krogh Man'f'g. Co.

127 to 123 Beal Street
SAN FRANCISCO, CAL.

Send for New Catalogue No. 50 just issued.

A Handy Little Engine

Just the thing to run the feed cutter, the pump, the churn, the grinder, or anything on the ranch. It's well named

The Little Wonder

Write or call on

Wm. Gregory

602 No. Main St. Los Angeles, Cal.

When writing advertisers, mention Cultivator.

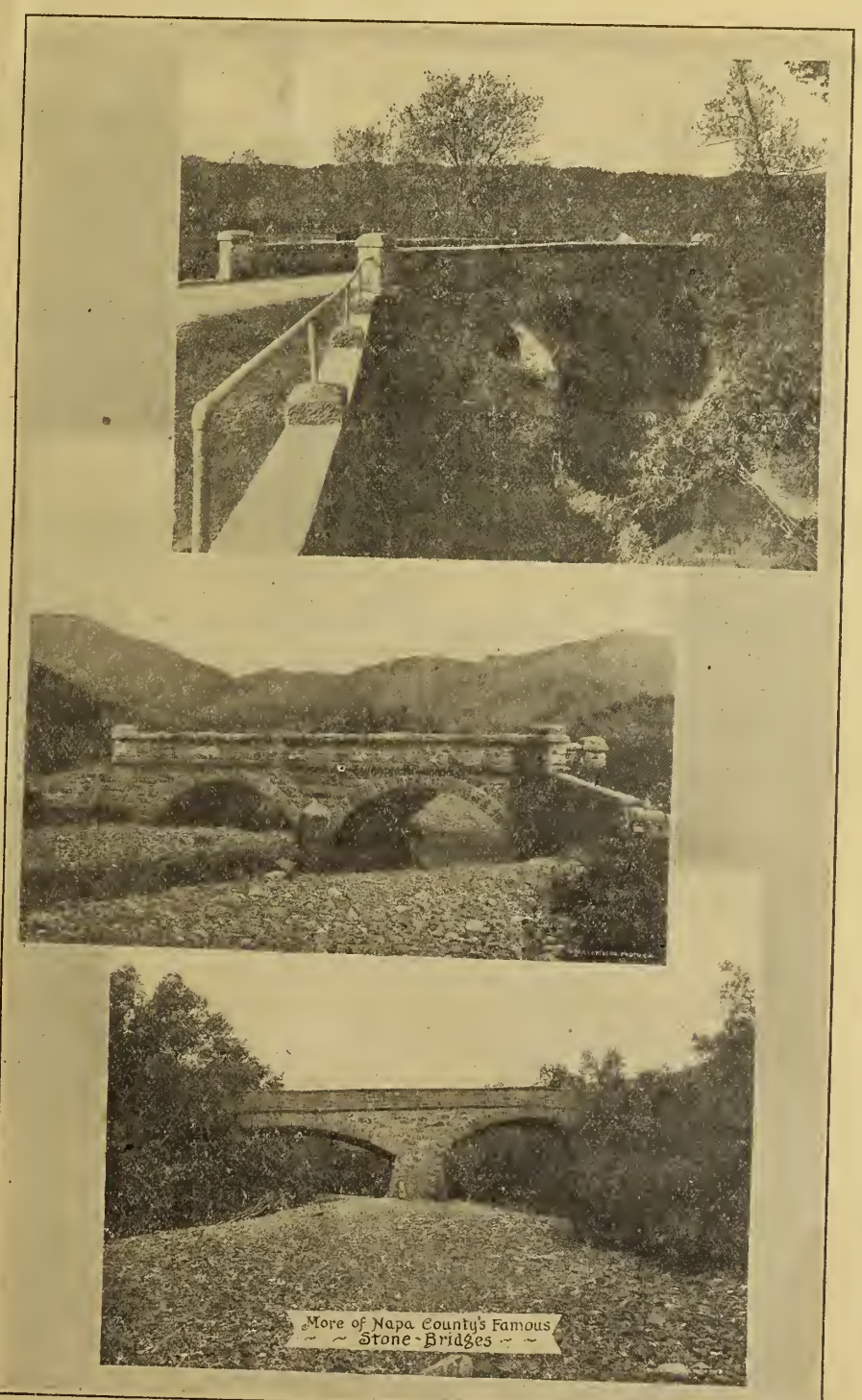
CA

California Cultivator

Published Weekly — One Dollar a Year

Los Angeles — October 29, 1908 — San Francisco

Good Roads in Napa County



More of Napa County's Famous Stone-Bridges

Stone Bridges in Napa County

See Article on Page 415

The Oldest Savings Bank in California

FOUNDED IN 1857

The Savings and Loan Society

101 Montgomery St., Cor. Sutter St., San Francisco

CAPITAL FULLY PAID $1,000,000.00

Exclusively a Savings Bank whose policy is for ***Conservatism*** and ***Safety,*** the result of ***50 years experience.***

Deposits may be made and withdrawn by mail.

San Francisco Savings Union

Founded June 18, 1862 **Northwest Cor. California and Montgomery Sts., San Francisco**

Conducts a Savings Bank Business Exclusively

Capital Paid Up, $1,000,000.00 Surplus, $1,183,632.00

Total Assets, $27,508,850.00

E. B. POND, President.

W. C. B. de FREMERY AND C. O. G. MILLER, ... Vice-Presidents
LOVELL WHITE, Cashier. . . . . R. M. WELCH, Asst. Cashier.

Directors: John F. Merrill, Wm. A. Magee, W. C. B. de Fremery, H. C. Breeden, Jacob Barth, Fred H. Beaver, Wakefield Baker, C. O. G. Miller, E. B. Pond.

Every facility afforded for opening accounts and making deposits and withdrawals by mail. Correspondence invited.

All Soils Alike to Wood Pipe

The heaviest adobe, the most corrosive alkali, the lightest sand; all alike where Wood Pipe is used.

It Resists Them All

Wood Saturated. Air Excluded—Can't Rot. Metal in Bulk, Galvanized, Asphalted—Can't Rust. High factor of Safety in Binding—Can't Leak.

Prices, specifications, hydraulic data and general information gladly furnished upon request.

Continuous Stave Pipe. Machine Banded Stave Pipe

NATIONAL WOOD PIPE COMPANY 404 Equitable Savings Bank Building LOS ANGELES, CAL.

318 Market Street, SAN FRANCISCO — Northern Office, OLYMPIA, WASH. — Dooly Block, SALT LAKE

When writing advertisers, mention Cultivator.

WILLIAMS' GOOSE-NECK CULTIVATOR

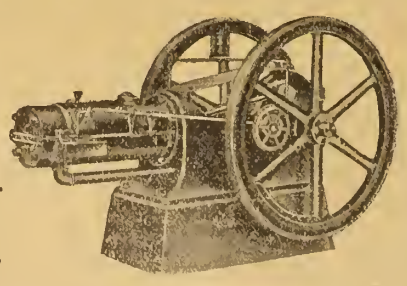
Especially adapted for citrus orchards. Sizes 8 to 14 feet. Lightest draft. Free trial to responsible parties. No agents. You pay only one profit. Write [illegible]

WILLIAMS & SON, Manufacturers

Orange, California

Commercial Gas Engines

Are what all engines should be:
Simply Perfect and Perfectly Simple



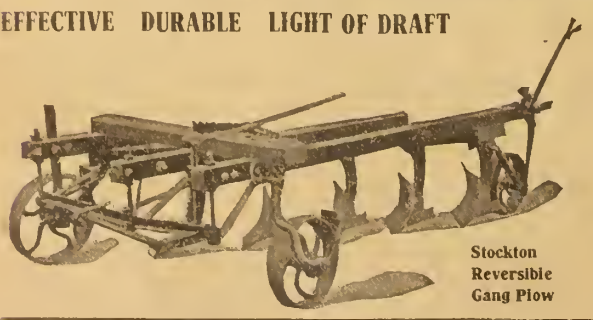
Modern in every detail. An inspection will convince you.
Write for Bulletin No. 12

Commercial Engine Co.

953-955 N. Main St. Los Angeles, Cal.

The Cheapest Way

EFFECTIVE DURABLE LIGHT OF DRAFT



Stockton Reversible Gang Plow

This is our regular Plow with Land Shifter and Rear Lever. Land Shifter simple and durable. It is in easy reach of operator and there is no danger of wheel running over foot.

Houser & Haines Mfg. Co
Stockton, Cal.

When writing advertisers, mention Cultivator.

Garden Tools

Lightest
Strongest
Neatest and
Best

The Most Accurate Seeders and the Simplest and Most Easily Adjusted Seeders are possessed by

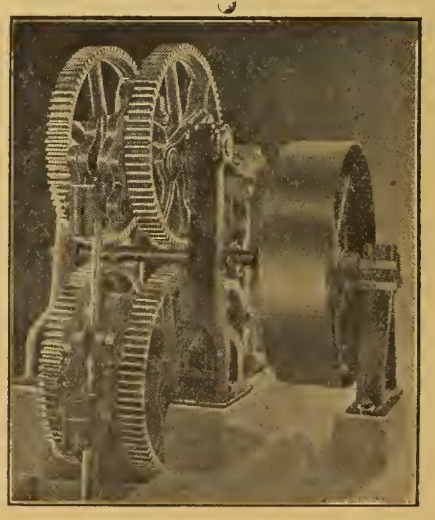
Iron Age Garden Tools

Send for Profusely Illustrated Booklet

Newell Mathews Co.

200 North Los Angeles Street
Los Angeles, California

New Pomona Double Plunger Deep Well Pump Head



Most Efficient Deep Well Pump in the State

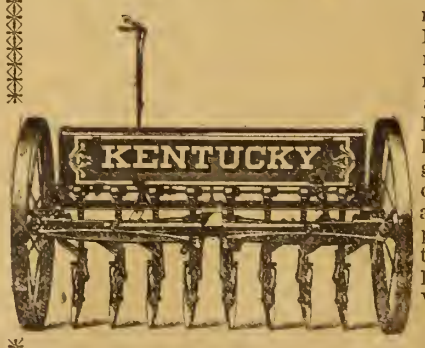
It Is Made in California

Built in Three Sizes—from Ten to Forty Horse Power

It is the smoothest running deep well pump because there are no dead centers, no jerk or jar, and no danger of breaking the pump rods. Be sure and write for our big catalogue. Watch this space for further information.

Pomona Manufacturing Co.
Pomona, Cal.

Kentucky Disc Drills



meet every requirement of particular Farmers. Constructed on correct mechanical principles, of the best material obtainable, they are strong and lasting. KENTUCKY Conical Disc Bearings are unique. Of fairly large diameter, they are narrow, giving greatest clearance between discs. Dust proof, oil retaining and adjustable. Over 250,000 in use, giving perfect service, have demonstrated the superiority of the Kentucky Disc Bearing.

Write us for Catalogue of the complete

KENTUCKY LINE

Pacific Implement Co. **135 Kansas St. San Francisco**

California Cultivator

Vol. XXXI.—No. 18 Los Angeles, California, Thursday, October 29, 1908 Subscription $1 a Year

The French Method of Gardening

Written by Henry Hooper, a Cultivator Subscriber, of Battle Fruit Farms, England, for the Purpose of Correcting Erroneous Ideas of French Gardening Possibilities

The Cultivator recently contained a short article on "French Gardening," which is intensive farming "intensified" and it called forth a query from a subscriber in a later issue. This query was observed by a subscriber and good friend of the Cultivator, Mr. Henry Hooper, F. R. H. S. Fruit Farm, at Battle, England who writes as follows:

I noticed in the Cultivator inquiries on the subject of "French Gardening," for which there is at present a dangerous craze over here. I am sending you under separate cover a copy of the "Estate Magazine;" on page 403 thereof you will find an article on the subject which I penned with the object the article itself discloses. Perhaps what I say may be of service to some of your folks. If so, so much the better.

I am in close touch with matters horticultural—practical and theoretical—in this country, and if you are in want of a contributor on matters of mutual horticultural interest I would try to find time out of a busy life to meet your want.

With best wishes to you and the "growers" of California, I am, dear sir, faithfully yours,

HENRY HOOPER, F. R. H. S.

The Cultivator and its readers will greatly appreciate an occasional letter from Mr. Hooper.—Editor.

OPTIMISM—well founded optimism, that is—in relation to rural industries is no bad thing; in fact, the improvement in our general attitude towards matters rural, which now replaces the pessimism so long weighing upon British agronomy, is very welcome and makes for the national welfare. There is solid foundation for thinking and preaching that, with advancing knowledge and its consequent improvement in methods, a brighter era has dawned for those who toil upon the land; but there is scant foundation for the optimism which preaches that by the imitation of certain cultural processes long in use with a section of foreign gardeners—nor so new to British horticulture in theory and practice as is generally supposed—we may, almost indiscriminately, convert our British soils into gold-producing media of fabulous value.

Let everything legitimate and honest be done to encourage land settlement; but extravagant, ill-considered advocacy of the "back-to-the-land" principle in any of its forms is, like all extremes, pernicious, and can only spread disappointment and disgust when the inevitable disillusionment comes, reawaken that pessimism of which we have already known too much, and defeat genuine and well-conceived effort to promote rural interests.

Into the ears of the really experienced the siren-voiced advocates of this "new" departure warble their dangerous enticements in vain; but the uninitiated, or they of the limited experience, and the dissatisfied lend ears too willing to such bewitching phrases as "gold-producing soil" and "£700 per acre." To these a word of caution is but a duty.

Under correct conditions and circumstances there is money in "French gardening" without doubt—there is money in all skillful culture of the soil; but that money is not to be extracted by the simple process of merely embarking in that, or any other, form of rural enterprise. Far from it; yet, according to the scribes who are responsible for what is little short of a craze for this "new" method of getting rich quickly, there seems little else to be done than to start into it.

To buy a small handbook which will "enable the reader to start the system on a small or large scale," and to follow month by month the cultural practices therein described, seems all-sufficient to transform the casual aspirant into the successful French-gardener. Incidentally the writers mention capital, expenses of labor, manure, and maintenance, but the exact "how much" of these necessities is never clearly defined, possibly because exactness in these matters is very difficult to arrive at by any who have not for a lengthened period been engaged in this form of market-gardening. Doubtless the writers of these guides to wealth honestly believe in what they say; French gardening has, however, been practiced in the environs of Paris for many generations, yet we do not hear that the palaces on the boulevards of that salad-loving city are peopled with retired maraichers.

Let us briefly review this "new" thing from a practical standpoint and discover what further there is to know about it than the handbooks describe and infer, preliminarily to any possibility of successfully practicing it.

"French gardening" is the name we give to the intensive culture of vegetables and such fruits as lend themselves to its processes, as practiced by the maraichers around French cities, notably Paris. The modus operandi is by the use of frames and cloches (bell-glasses) on couches (hotbeds) and highly enriched soils, with rye-straw mats for protection against variations of temperature. The objective is the raising of crops out of season or very early (primeurs.) Horse manure and glass afford the motive power of this culture, and very considerable indeed is the experience and skill requisite to the successful manipulation of these agents.

The making of hotbeds and the maintenance of correct temperatures therein is not within the province of the tyro armed with the best of handbooks, any more than the cultural knowledge essential to the profitable raising of plants under this (or any other) form of gardening is to be acquired without pains and practice. To raise crops of lettuce, carrot, radish, cauliflower, broccoli, beans, celery, tomatoes, artichokes, melons, cucumbers, strawberries, etc., in quick succession (many of them in conjunction), some with full protection throughout their growth, others in part protected and finished in the open, is both costly and calling for cultural ability of a very high order. Only the capable gardener, then, need contemplate the prospect of engaging in "French gardening" with any hope of success, and even he will be well advised to first carefully investigate the methods to be practiced by visiting—working in, if possible—a French garden, and then commencing his own operations on a very limited scale.

The working of a garden on the principles of the maraicher entails over and above very considerable and somewhat special experience as a cultivator, unceasing watchfulness, unlimited industry, high organizing capacity, and a Spartan disregard for the limits of a working day. Nothing can be left to chance, no procrastination is admissible; delays of days or even hours in the performance of any given operation may easily mean the failure of a crop; overheating or a temperature below the requisite may work fatal results in a very brief period; too much moisture (or too little) in forcing culture is quickly vital in its effect. The working of a French garden may be well compared to the running of a collection of incubators unprovided with automatic regulators, and the strain of the task as well as the result of operations will be in direct ratio to the experience and skill of the operator. Of course the multiplication of assistants alleviates the burden on the principal, but it also, and in proportion, increases the cost of production, while unless the assistant be skilled in the same degree as the principal the entire system, or at any rate the relegated portion of it, must break down. So we have as an essential skilled management and skilled help. Will the craze itself create these, or must they be trained as their foreign prototypes have been? And when trained, will the assistants "know no leisure, have no time to live the life of a human being," etc., for the simple wage allowed for in the statistics of the scribes? Probably not; yet even the handbooks hint at this.

Then there is the matter of capital. Let us note what a real "French gardener" engaged in the industry in this country says upon this important point. Though not very exhaustive, this authority is instructive so far as he goes. He says: "The necessary capital for starting a French garden of two acres with a stock of 600 lights and 2500 cloches is £2000, exclusive of the value of the land." Further he tells us that an irrigation system adequate to such a garden must cost £400 for its installation, and adds sententiously that "saving on this item will mean failure in the crops or [? and] giving up this culture." In this connection it is well to remember that while water is essential the indiscriminate use of it may work destruction. On the cost of manure and labor this authority, too, is vague, as also on the point of the needed quantities of both these essentials; but we gather that manure at a given price will cost £240 in the first year.

There is, however, no fixed price for manure—it must vary with locality—but all indications suggest that it will never be cheaper than it is at present, and probably, as the demand increases and supply diminishes, very much dearer.

While any sort of soil may be converted to use for French gardening, the better it is—a nice, light loam, for instance—the better the results will be and the less costly the conversion.

Enough, perhaps, has been said to prove that French gardening is a business not lightly to be undertaken even by such as are already experienced in other horticultural lines; how much less, then, should the inexperienced be tempted to embark in it?

The danger of the over-production of primeurs in England is still remote; too much is required of the successful French gardener to make his name suddenly legion in this country; but there is very grave danger of the over-production of unsuccessful French gardeners as the outcome of the thoughtless vociferousness of the advocates of this "new" departure in horticulture—a danger sad to contemplate and most desirable to avert.

Let us by all means emulate anything and everything of proved worth in foreign methods—we have much to learn in many lines of rural enterprise from our over-sea competitors—but let careful experiment by competent bodies (or individuals who can afford to experiment) ascertain to what extent conditions obtaining with us are suited to the possibly successful imitation of foreign methods before our own people are allowed to be enticed into enterprises calling for personal and material equipment of a kind that few can afford to squander and which may easily be turned to profitable account in more fitting ways.

It is quite desirable that the methods of the maraicher should be put to full and fair test in this country, but it is not well that those to whom failure to imitate the maraicher successfully would mean ruin should in any way be encouraged to do the testing.

"Back to the land" certainly; but for pursuits which will ensure ".staying" upon the land. Dreams of fabulous wealth easily acquired are not sufficient equipment with which to tackle successfully any rural industry, though high hopes of competence and comfort founded upon conscientious effort to accumulate experience are legitimate, and possible as well as deserving of realization.—Henry Hooper.

EVERYTHING FOR THE FARMER

ARNOTT ORCHARD CULTIVATOR

Acknowledged the BEST

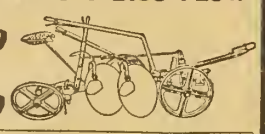
Five feet wide. Spring teeth if wanted. Horizontal lift. No neck weight.

Steel and Malleable Iron. Dust proof wheels..... **$45.00**

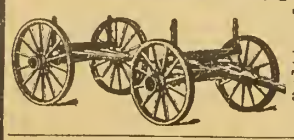
SANDERS-ARNOTT DISC PLOW

SINGLE **$60.00**

DOUBLE **$80.00**

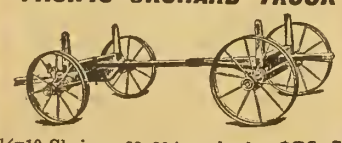


COLUMBUS WAGONS



Three inch Skein. Four inch Tire. Brake and Pole. **$80.00**

PACIFIC ORCHARD TRUCK



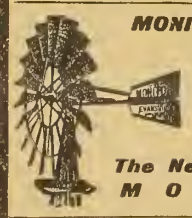
3¼x10 Skeins. 28x30 in. wheels..**$32.50**

LEATHER TRIMMED

Guaranteed Twelve Months

$65.00

MONITOR WINDMILL



8 ft.....$30.00

10 ft..... $45.00

The New 8 and 10 Foot MONITOR

MONITOR ENGINE

Simple Economical

2 H. P....$130

4 H. P. $250

6 H. P. $350

Catalogue No. 9 Sent Free on Application Address Department G.

ARNOTT & COMPANY Inc.

112-118 South Los Angeles Street

QUALITY ARNOTT GUARANTEED

Los Angeles California.

When writing advertisers, mention Cultivator.

Notice to Orchardists

Now is the time to plant your cover crops. Plant Vetch, Blue peas and White peas in sandy soils or where there is slight alkali. Plant Burr Clover or Foenugreek on heavy soil. Write us for prices and for any particular information you may wish.

Johnson & Musser Seed Co.

113 N. Main St., Los Angeles, Cal.

Absolutely Safe 6% Bonds

We sell strictly safe Oklahoma school, county Municipal and Street Improvement Bonds. We pay 4% on deposits. Guaranteed by State Laws of Oklahoma. Capital $200,000.

Write for Bond Circular A 49

OKLAHOMA TBUST CO., Muskogee, Okla.

When writing advertisers, mention Cultivator.

The Olive

FROM the Cultivation of the Olive by Hillman, published by Wm. S. Meyers, New York, we quote:

"The olive tree responds well and continuously to good cultivation, to irrigation in conditions which call for it, and to application of suitable fertilizers in adequate quantity and in proper season; but if it be cultivated negligently or not at all, it must not be expected to bear remunerative crops.

"It is true that the olive, in a state of nature, is not exacting in respect of soil; it establishes itself on the sides of mountains, among the clefts of the rocks, and amid loose stones, scarcely less well than in the richest and best watered of garden soils. But when it comes to the cultivation of the olive for profit, considerations of climate, soil, irrigation, tillage, and —by no means last or least—of fertilizing, have to be carefully studied.

"The inclination which has shown itself in many quarters to act as if the olive tree might be left to take care of itself, and be expected to thrive and to yield abundantly in circumstances in which no other fruit tree would live, has not improbably arisen from a following of the traditions of olive growing in the Old World, where the majority of cultivators appear to think, either that the soil is a storehouse of plant food so inexhaustible that olive trees of a hundred years' growth will have been unable to deplete it, or that the olive is a tree which consumes nothing, and that it is therefore needless to restore anything to the soil on which it grows.

"The inequalities and intermittency of yield to which the olive is subject when rational fertilizing is neglected, indicate to those acquainted with the subject the default of available plant food in the soil.

Climatic Conditions.

"It is dangerous to plant olive trees in any region where the temperature often falls below 20 deg. F. The olive tree has survived a temperature of 14 deg. F. in California, but the fruit is injured by a slight fall below the freezing point. This tends to render unprofitable the cultivation of late varieties which carry their ripening season into the winter months.

"At 10 deg. F. the whole tree is destroyed. In spring, after new growth has started, a very moderate degree of cold is harmful.

"The tree thrives best in a uniform and moderately high temperature. It will not withstand extremes of heat or cold. As we have seen, 18 deg. of frost is fatal to the tree, while 6 deg. is fatal to the fruit. On the other hand, intense heat, especially in the blooming season may ruin the prospects of a crop. In the matter of climate, the larger part of California is well adapted to olive culture. In the Sierra Nevada range, in 37 deg. North, it is said to do well at an altitude of 3000 feet.

"Its success is assured where the mean temperature of the coldest month does not fall below 43 deg. F.

Soils.

"The olive will thrive in a light, friable soil, moderately warm and moist, rich in lime and potash contents. It will yield scanty crops of fruit of poor quality on heavy, clayey, or ill drained soils. It is a mistake to suppose that the olive will give profitable crops on poor soils without adequate aid by the judicious application of fertilizers.

"The olive requires less water than many other trees on account of its sparse foliage and its strong root system, which penetrates to a great depth even in rocky sub-soils, if they be well drained. It will not, however, produce heavy yields in a soil lacking in moisture. Where the rainfall is deficient, it must be supplemented by irrigation. This must not, however, be excessive, and the water level must be kept low, otherwise the quality of the crop will be inferior and the tree subject to disease."

ABSORBING POWER OF THE SOIL.

We have all seen how rapidly the soil absorbs moisture. After heavy rains we see large quantities of water disappear in the earth, and yet I doubt whether most people realize how much water a certain quantity of earth will absorb and retain. I have two hanging baskets suspended from a wire on the porch of my house. These baskets are made of wire and are first lined with moss. Then potted plants with earth about the roots are placed in the baskets, then the whole is filled with fertile earth. I water these plants every other day. Some people water such baskets every day. I fill a large tobacco pail nearly full with water, estimating that I place in the pail ten quarts of water. In this large pail I deposit one of these hanging baskets which just fits so that the water submerges the basket. After it has remained in the pail until thoroughly moistened, I lift out the basket and place in the pail another basket. After these two baskets have absorbed all of the water possible I remove them and find that they have taken up nearly all of the ten quarts of water. As an experiment in soil absorption this result is astonishing, showing that a given body of nearly dry earth will absorb nearly its bulk in water. This is one of the great provisions of nature without which we could not live on the earth. The soil is full of air spaces, which air spaces take in water when it is applied, but the particles of earth themselves absorb water freely, thus holding it a long time in readiness for the plants growing in this soil. Some soils hold water more persistently than other soils. In light sandy soil the water passes through it and disappears in the drainage, but in soils composed of part sand and part clay, water is absorbed and retained much longer. If the soil contains humus as a fertile soil does the humus adds to the retaining of the moisture.

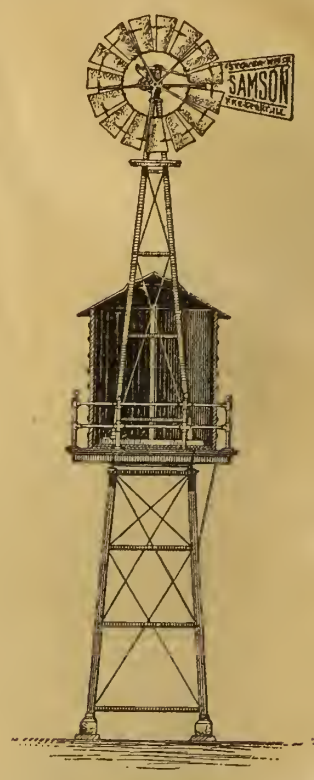
The plants in the hanging baskets drink up water fast. How much they will absorb depends on how long the basket is left in the pail of water.—Green's Fruit Grower.

SOIL AND PLANT.

Above ground the necessities for plant life are sunlight, air, warmth With these the farmer has but little to do. It is his chief concern to see that conditions are favorable below the ground. Here are required air, warmth, moisture and food The air and warmth are admitted into the soil principally by constant and thorough stirring and cultivation, which allows the air to penetrate below the surface.—DR. R. H. LAUGHRIDGE.

SAMSON WIND MILLS

Have double gears, removable bearings and center lift, which double the life of the mill. They will last longer, pump more water and give better satisfaction than any other WIND MILL.



This is an up-to-date Sub-structure, Tank and Wind Mill outfit complete; substantial, economical and attractive. We build all kinds. Write us or our general agents for full information and prices, description &c., before purchasing.

The STOVER MFG. CO.

FREEPORT - ILLINOIS

30 California Avenue

CRANE CO., LOS ANGELES and SAN FRANCISCO

General Agents for California

Citrus Trees

TRUE TO NAME

And embracing all the standard sorts, are to be had of our establishment. Bear in mind that we are the largest growers of Citrus Trees in the world, and that our stock has been awarded the gold medal at every world's fair in the world where we have shown. Our fine booklet, containing 50,000 words and over 100 illustrations, gives you all the points on Citrus Culture. Price 25 cents. Can we send you a copy?

San Dimas Citrus Nurseries

San Dimas Cal

R. M. Teague, Prop.

Covina Orange Groves

Buy an orange grove at Covina and live where you can have all the advantages of the city right at your door. This is the greatest orange section in California and is especially adapted to growing the Valencia Orange. These always net the grower from $2.25 to $4.00 per box. A small grove of Navel and Valencia Oranges will make you independent for life. I have some special bargains near the electric line that you will be interested in. Write me for particulars.

Jerome Reynolds - Covina, Cal.

When It Rains

you need something to pass the time in the most enjoyable way. Nothing equals my Portable Billiard and Pool Tables for that. Excellent for all ages and both sexes. No special room, nor much money required. Why don't you send for catalog?

C. Ridderhof, Laughlin Bldg., Los Angeles

California Horticulturally

By John Isaac

TACKLING THE ANT PROBLEM.

A RECENT visit to the ant laboratory of the University of California, located at Fruitvale and in charge of Prof. C. W. Woodworth, was a revelation in regard to the newly discovered pest—the Argentine ant. Prof. Woodworth has located his laboratory in the midst of one of the worst infected sections in the State, and certainly he has abundant material to work on. This pest is a very minute member of the ant family but it increases in such enormous quantities that nothing can stand before it. It is exceedingly pugnacious and kills out all other species which it attacks. This might be beneficial, were it not that it is so much worse than any of our native species that these seem almost like beneficial insects compared with it. Other ants live in detached colonies and will not tolerate strangers in their midst, whereas with these there is no line of demarcation between one colony and another and all intermingle freely together, forming a practically continuous colony over the whole area where they are found. It is a most serious household pest, and none of the precautions which will check our common species has any effect on them. Furniture legs set in water will stop other species from reaching the tops, but these either cross on a slight dusty film or soon make a bridge of their bodies, across which others can pass. Coal oil will not check them, and so far nothing has been found which will effectively check their spread. It is a threatening danger to the horticulturist and floriculturist, from the fact that it attacks and destroys the vital parts of the bloom, very much as do the thrips. At New Orleans, where this pest has existed for several years, it has killed out the cut flower business, while in many places it has greatly reduced or destroyed the orange crop through its destructive work on the blossoms. Prof. Woodworth drew the writer's attention to an acacia tree badly infested with Cottony cushion scale upon which no sign of Vedalia cardinalis could be seen, a most unusual thing now that this lady-bird is so widely established, but which was accounted for by Prof. Woodworth's statement that the ant attacks the young lady-bird larvae, but spreads the scale for the sake of its sweet exudation. If this is the case, there may be danger ahead from the increase of this old-time pest of our orange groves. In any event, the ant is already a most serious pest where it has obtained a foothold, and it has been reported from a number of widely separated points in the State. Prof. Woodworth is doing excellent work on this pest and should be enthusiastically seconded in his work by all who are in the line of danger from this new pest.

A GROWL FROM THE METROPOLIS.

In San Francisco both dealers and consumers are complaining of the inferior quality of fruit offered in the markets and it is asserted, with some show of truthfulness, that this city is made the dumping ground for the refuse fruit of the State. What the eastern market refuses, is packed and shipped to San Francisco, and the commission men are roundly scored if they do not obtain first class prices for it. Wormy apples are the rule, while California lemons covered with purple scale are common. Lemons that any county, having a board of Horticultural Commissioners, would consign to the flames are here offered for sale in the open market and are allowed to spread the pest into other sections of the state where it does not at present exist. Strangers seeing the fruit offered for sale in the markets of our metropolis would form a very poor idea of our horticultural possibilities, and certainly in the interest of the whole state there should be some means of preventing such stuff being openly hawked about.

THE BANNER FRUIT SEASON

The shipments of fresh fruits during this season have largely exceeded the expectations of even those who were most sanguine. Hon. Alden Anderson, Manager for the Fruit Distributors, through whom the greater part of the shipments of fresh fruit are made, early in the season thought that the season's shipments might reach 10,000 car loads, which would have been very largely in excess of the shipments for any former year, but this mark has already been very nearly reached, and there are yet large quantities of grapes, and the bulk of the apple crop to go forward. It is more than probable now that the shipments for the present season will total, if indeed, they do not exceed 12,000 car loads. This will be 5000 car loads more than ever before shipped in any one season. There is no reason, however, why this should not increase with the coming years. California excels in all fruits and has a practical monopoly in the production of many. Table grapes, apricots and many others are not produced outside of our state, while peaches, plums, cherries, pears and others do here as nowhere else. With a steadily increasing population in the East and a consequent increasing demand for our fruits, with the area of first class fruit land in the Union limited, and the bulk of the best of it within our valleys, there is no danger that fruit growing in California will ever be overdone, or that too much fruit can be planted. Grow good fruit, and the market is open to all we can produce.

ANOTHER UNUSUAL SEASON.

It is not often that Southern California exceeds the northern portion of the state in the volume of its rainfall, but this sometimes happens and there have been instances where the south has been well supplied while the North has suffered from drouth. A phenomenon along these lines has been afforded by the late September rains which were copious in the South but decreased as the North was reached until from Stockton up not more than a trace of rainfall has been noted so far this season. Of course, there is ample time yet for early rains, but it is getting along toward the season when we begin to look solicitously at the rising clouds.

WALNUT GROWERS.

If you want a secure place for your crop money, deposit it in the German American Savings Bank, Spring and Fourth Sts., Los Angeles. It will be safe—and earn you interest. This Bank offers special facilities to out-of-town depositors. Call or write.

Third Annual

Tulare County Citrus Fair

TO BE HELD AT **Exeter, California**

December 1st to 5th, 1908

Don't fail to attend this great exhibition of Citrus and Deciduous Fruits—one of the grandest displays of orchard products ever collected under one roof.

Baseball, Football, Basketball, Dancing and many other games of sport. Five days and nights of unalloyed pleasure with music all the time.

For further particulars address

W. R. WOOD, President. **C. F. BALAAM,** Secretary.

Exeter, Tulare County, Cal.

TREE TANGLEFOOT

A Sticky Preparation Applied Directly to the Bark of the Trees

Will not injure trees. A band 5 inches wide and 1-16-inch thick cannot be crossed by any climbing insect pest. Remains sticky five to ten times as long as any other known substance. You can test it at slight expense, as no apparatus is required. Used by the carload in New England against the Gypsy and Brown-Tail Moths. In California it preserves prune orchards from the Canker Worm. Wherever the Gypsy or Brown-tail Moths, Tussock Moths, Fall or Spring Canker Worm or Web Worm appear TREE TANGLEFOOT is of great value, and should be used when the caterpillars begin to crawl while they are very young.

Price 25c per lb. Liberal discount on quantities. The only safe and effective banding preparation. Send for testimonials.

THE O. & W. THUM COMPANY

Manufacturers of Tanglefoot Fly Paper — Grand Rapids, Michigan

George B. Warner's Orange County Nurseries

Established 1889

Grower and Dealer in Citrus and Deciduous Trees of all Standard Varieties

Soft Shell Walnut Trees, 1, 2, and 3 years old. Grafted Placentia on Native Black Walnut Root and Soft Shell Root. Street and Ornamental Trees, Palms, Dracænas, Blue, Red and Sugar Gums (large stock.) Write for prices.

Sales Yard—Corner Sixth and Main
Residence—Tenth and Bush Sts

Santa Ana, California Phone—S.S. Red 92

Crimson Winter Rhubarb

$1.50 a Dozen $6.00 per 100 $40.00 per 1000

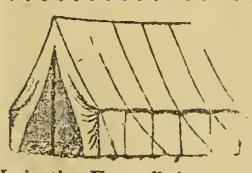
Now is a good time to plant. Pedigreed Stock.

Fruit Trees and Berry Plants of All Kind

J. B. Wagner, Pasadena, Cal.

The Rhubarb and Berry Specialist

Dept. F



TENTS

Fumigating and Lemon Curing Tents our Specialties

Irrigating Hose, all sizes. Prices and Samples quoted upon application. Write your wants Wagon Covers, Hay Covers, and Canvas Covers of Every Description.

Mellus Bros. & Co

Phones—Home, F 4871; S. S., Main 3500
250 East Fifth St., Los Angeles, Cal.

Insured roofing is the only kind worth while.

Genasco
Ready Roofing

is insured with Trinidad Lake Asphalt—Nature's absolute waterproofer. It gives lasting protection—sun-proof, rain-proof, spark-proof, lightning-proof—and costs about the same as ordinary roofing.

Be on the safe side. Ask your dealer for Genasco. Look for the trade-mark, and insist on the "real thing." Mineral or smooth surface. Write for Book 35 and samples.

THE BARBER ASPHALT PAVING COMPANY

Largest producers of asphalt, and largest manufacturers of ready roofing in the world.

PHILADELPHIA

New York San Francisco Chicago

Placer Nurseries

We have now growing for next season's delivery a large stock of all leading varieties of trees and vines. We propagate only the best commercial sorts. Our trees and vines are the best that good care can produce and in their selection, propagation and growing we spare no labor or expense; and they are true to name. That is what you want.

Contract now the trees and vines you will want for next season's planting.

Write us.

Silva & Bergtholdt Company
Newcastle, California

SEEDS
TREES PLANTS BULBS

If you are interested in the Best Seeds, Etc., write for our 1909 Seed and Plant Annual, which we will mail to you free. Please mention this paper.

Trumbull Seed Company
Successors to Trumbull & Beebe
61 California St., San Francisco

ARNOTT HARNESS $10.00 to $80.00
Everything guaranteed. Money back if not satisfactory. Factory in Los Angeles. California leather for all uses. Send for No. 10, eighty page FREE Catalogue.
ARNOTT & COMPANY 112–118 So. Los Angeles St. Los Angeles, Calif.

When writing advertisers, mention Cultivator.

Deciduous Fruit Culture

By J. W. Mills

GRAPE GROWING DIFFICULTIES IN IMPERIAL VALLEY.

The conditions which confront the grape growers in the Imperial valley are so different from other grape growing districts that one who is successful in other places is liable to meet with partial or possibly total failure in this section. The climate, the soil, the manner of irrigation, are each a study and absolutely different than most grape growers have ever experienced. The newcomer who attempts to start his vineyard from cuttings does well if he gets a half stand to live through the first year.

My experience tells me that the best way for one who is new to this section is to plant his cuttings in nursery row for the first year. In this way he will learn how much water and care it takes to get grape cuttings to grow in Imperial soil during an Imperial summer. He will, by good care, get about one-half of these cuttings to make thrifty plants for next year's vineyard planting. Meantime he can be watering the ground for vineyard which should be planted in January or February. They are then on the ranch and there is no loss or cost in transplanting.

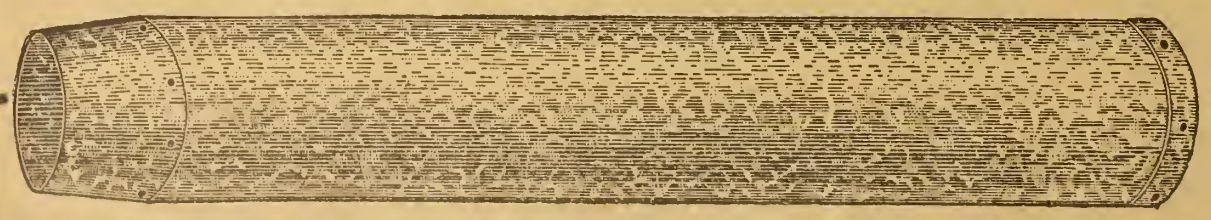
No cuttings should be longer than 12 inches. I like the three-bud cuttings, not over 8 to 10 inches long, for nursery planting. Do not leave any of cutting above ground.

There have been several kinds of grapes grown with varying success. The dark grape does not ripen up with a good "black." In other words it has too many light or purplish grapes in the bunch to be a successful market grape. The white grapes do not sunburn as badly and ripen more evenly than the dark kinds. The Malaga is and will continue to be the most productive shipper for the valley, though some think the Muscat will be a close second with Thompson Seedless a rival. We must be careful to plant varieties which will make desirable raisins in case table grapes do not make satisfactory returns. Muscats make good sized bunches either for grapes or raisins. To secure good results, however, it is necessary to sulphur the vines to prevent mildew, and the work of a small insect that gets on the vines and grows over the bunches of young fruit, making a web over the entire bunch.—Arthur S. Fell, El Centro.

A NEW PEACH.

Many peaches have been introduced in California and many are still cultivated, each having its individual advantage. These have been gradually weeded out, however, until the more desirable tested varieties are not so numerous. However, the effort is to secure an earlier or later peach than we now have and yet with all the qualities of the best. Mr. H. E. Ward of San Dimas has shown us a seedling produced on his place which fruited for the first time this year. There are two trees which show the same characteristics in the fruit and both bore heavily this season. These are of strong growing and vigorous variety, and notwithstanding they were on light gravelly soil and received only moderate attention, it not being known they were of special value until the fruit ripened, this year's crop amounted to about 200 fine specimens. They average 9½ inches in circumference, many reaching 11½ inches. The color is a rich yellow with a deep red mantle, abundant down and pleasing fragrance. Flesh is yellow, though not so marked as the orange cling. When cooked its color is faultless, and it requires less sugar to properly sweeten for canning than other peaches. The pit is small and while the flesh clings firmly to it, it is easily twisted off. This season there has been no splitting of pit but the great factor connected with this fruit is its own season for ripening. It extended from September 25 to October 15. This would extend the canning season and make it a valuable peach for cold storage. We give above an engraving made from specimens of this desirable fruit.

A FINE NEW PEACH.



AMERICAN SURFACE IRRIGATION PIPE

SAVES WATER, GRADING AND TIME

The only way to Irrigate Alfalfa. Cheaper than Flumes. This is only one of our specialties. We make Riveted Water Pipe in lengths of ten feet from single sheets. Let us prove to you that we make Pipe and Tanks right. WRITE FOR CATALOGUE.

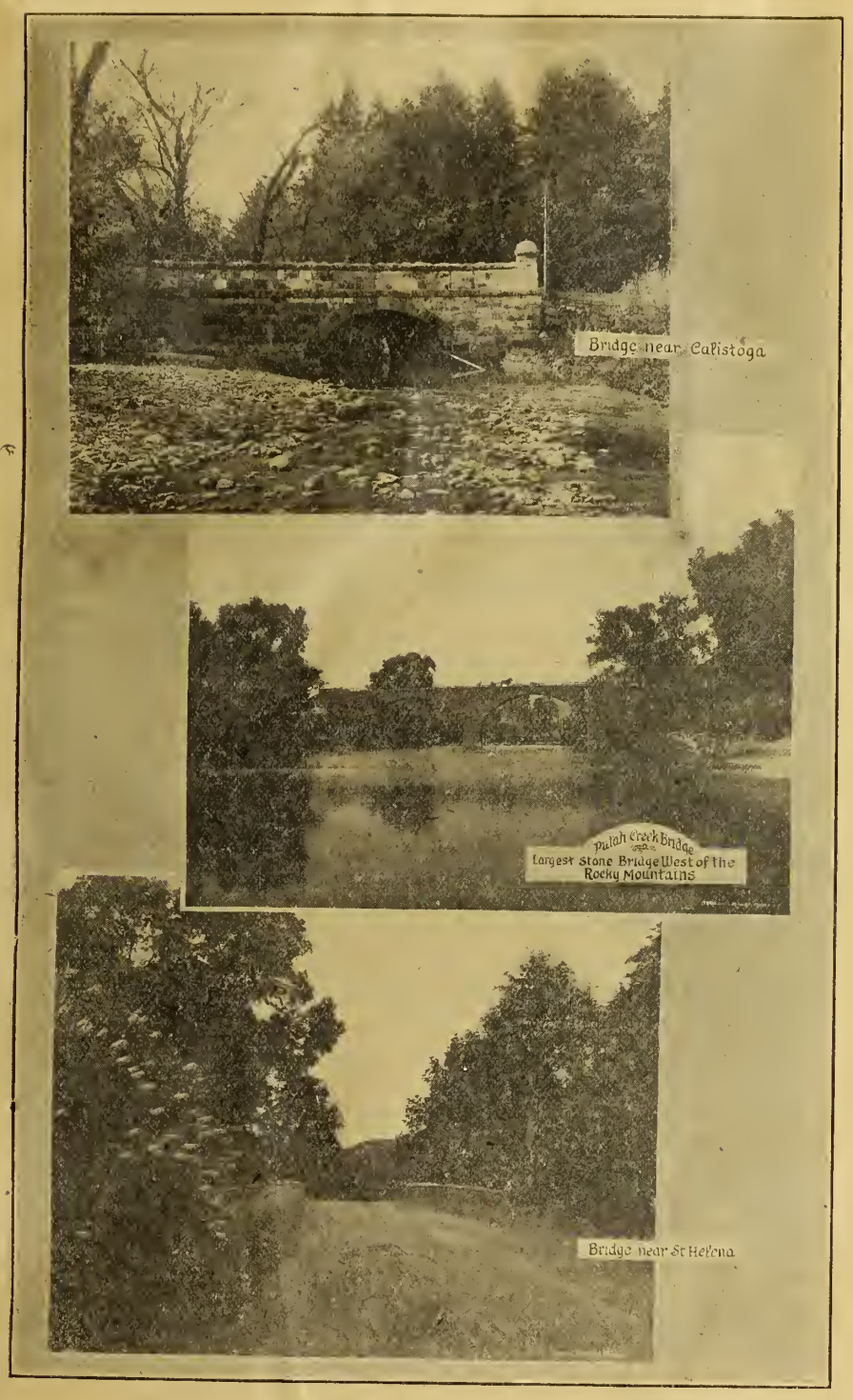
AMERICAN STEEL PIPE & TANK COMPANY
FORMERLY TALLERDAY MANUFACTURING COMPANY
636-7 Pacific Electric Building Los Angeles, Cal

HOW GRAPES ARE SOLD.

A writer in the Lodi Herald gives the following interesting account of Eastern grape sales:

To give a person an idea of the magnitude of this thing, we will take Monday's sales for instance. There were 32 carloads of grapes auctioned off in Chicago Monday, there is approximately 925 crates to the car, each car containing from 15 to 25 different lots from different growers These cars are all unloaded into an immense building, and each grower's grapes piled separately. The men in charge of the auction open from one to two of the crates for inspection, so that the buyer or man who intends to bid on the grapes can see what he is buying.

Each lot is scheduled, and numbered according to the number that they will sell under. The prospective buyer or bidder, is furnished with a complete list, giving the name, auction number, number of crates in each man's consignment. He is at liberty to go among the different piles of grapes and examine them, but if he is caught picking off just one berry or touching a single grape, he forfeits his rights to the auction room, and is at once compelled to leave the room. By going around and examining the different consignments, he is able to form an idea of how much he considers them worth, and accordingly makes a note on his list of how much he will start the bid, and how high he will go. Then if some one else wants the lot worse than he does, he can have it. In this way it simplifies the matter. Each man knows just how much he will bid for a certain auction number, and the whole 32 carloads are auctioned off in from one to two hours. There is no chance for any crooked work the way that the business is now handled. The bids are all recorded, and shorthand reporters make a complete list of everything This list of sale which shows the grower's name, the auction number, and the number of crates in the lot, besides the price at which it was knocked off, is at once set into type. and numerous copies printed, each shipper and person interested getting a copy. Any one has a perfect right to bid, and the excitement sometimes gets to a pretty high pitch.



NAPA COUNTY'S FAMOUS STONE BRIDGES.

Written for the Cultivator by S. H. Wyckoff, Secretary of Napa Chamber of Commerce, Napa County.

NAPA County has more stone bridges than any other county in the State of California. About twenty years ago the supervisors adopted the policy of replacing all worn-out wooden bridges and culverts with stone structures. This policy has been steadily pursued until at the present time there are very few wooden bridges or culverts left in the county, and those now in use will be replaced with stone as soon as they are worn out.

While the first cost of good stone bridges is more than the wooden bridges, it is proving a most economical investment, as after they are once in place there is absolutely no cost of maintenance.

Fifteen years ago the county was spending about eight hundred dollars a month for lumber to repair the numerous bridges in the county, besides the cost of labor involved in the repairs. Today this expense has been entirely done away with, proving that while first cost of stone bridges is greater, there is a great saving in expenses after they are once established.

AN EXCELLENT BULLETIN.

Bulletin No. 196 issued by the College of Agriculture Experiment Station and written by Norman Ingham is a valuable addition to our meager literature on the Eucalyptus. Never was there the demand for information along eucalyptus lines as at present.

Mr. Ingham is in charge of the Forestry Station at Santa Monica and has had opportunity to study the habits of this tree from observing those planted there many years ago.

The Bulletin treats of the Eucalyptus for timber, for fuel and for oil. It gives method of propagation, growing, etc., also short description of those tested in California.

It is well worth the asking and may be had by writing the Station at Berkeley.

AGRICULTURAL HUNGARY.

The Cultivator has received a well printed and tastily arranged book entitled "Agricultural Hungary" published by the Royal Hungarian Minister of Agriculture, Budapest. It treats of agricultural possibilities and methods of work of that country. Of especial interest is the chapter on forestry in which we note this statement. "The state annually distributes, free, some 42 to 43 million saplings for the afforestation of barren tracts: these tracts are planted at the rate of about 4,000 hectares yearly. The state further devotes a certain sum for afforestation purposes."

Some recent figures indicate that the importation of walnuts and almonds in 1907 was about 40 per cent greater than in 1906. This is about the rate of increase shown the year previous.

A few years ago the large, thin shelled nuts were eagerly sought for propogating purposes. Now the tendency is to find nuts of medium size, with plump kernels, that are produced by trees which bear regularly and abundantly.

EUCALYPTUS SEED

Eucalyptus rostrata, the Red Gum
E. corynocalyx, the Sugar Gum
E. tereticornis, the Forest Red Gum
E. globulus, the Blue Gum
E. citriodora, Lemon-Scented Gum
E. cornuta, the Yate Tree
E. polyanthema, the Red Box
E. leucoxylon, Victorian Iron Bark
and Many Other Valuable Sorts

I shall be pleased to correspond with prospective buyers and give particulars as to prices on the seeds I am offering. Trial packets of any variety 15c each, 2 for 25c, or twelve for $1.25. Also young trees of many varieties for sale. Send for circular and cultural directions.

THEODORE PAYNE
NURSERYMAN AND SEEDSMAN
Home Phone A2480
345 S. MAIN ST., LOS ANGELES

Australian Eucalyptus Seed

Our Mr. R. S. Webb (a native Australian) has just returned from that country with seventeen varieties of Eucalyptus seed, comprising the varieties that have been tried in Australia, and each variety is the best for the particular purpose for which it is used, or for the particular soil and climatic conditions where they grow.

The following are some of the varieties of Eucalyptus trees preferred by the lumbermen and manufacturers of Australia:

1. Iron Bark (Panniculata)
2. Microcorys (Tallow Wood)
3. Black Butt (Pilularis)
4. Turpentine (Syncarpis)
5. Resinefera (Mahogany)
6. Tereticornis (Red Gum)
7. Saligna (Blue Gum)
8. Corynocalyx (Sugar Gum)
10. Spotted Gum (Maculata)
11. Jarrah (Marginata)
12. Sideroxylon (Iron Bark)

We will have trees of the above varieties for sale about February 1st.

JOHNSON & MUSSER SEED CO.
113-115 N. Main St. Los Angeles, Cal.

Seed 75 varieties ***Sweet Peas*** Separate Colors, 5c per Pkt. 15 Leading Varieties, post paid, 50c. 4 Varieties, that bloom in 45 days, 25c. This is the best time to plant.

Get Seed Where Seeds Grow

We are headquarters for ***Lettuce, Onion, Melon, Radish, Turnips,*** Etc. Make up a list of your wants and submit to us for prices, also ask for catalogue.

Eucalyptus All the Leading Varieties in seed @ 15c per package. (Six of the leading varieties, E. Rostrata, E. Leucoxylon, E. Rudis, E. Globulus, E. Corynocalyx, and E. Tereticornis for 50c, with cultural directions). 500,000 Plants, all varieties, State your wants and get prices.

Send 10c for large packet each of our new ***Cabbage Head Lettuce, King of May*** and ***Brown Dutch***, earliest and finest flavor.

Cannon Ball Cabbage is finest grown. 5c packet, oz. 25c

Morris & Snow Seed Co.
425 So. Main, Los Angeles, Cal.

300,000 Eucalyptus

Fruit Trees
Shade Trees
Roses Shrubs
Palms Ferns

And everything that you need for your ranch or garden. Send for free catalogue

Sycamore Grove Nurseries
SAINT & WARNER
4584 Pasadena Ave. Los Angeles

For the Season of 1908-09

We Shall Have to Offer

Pedigreed Fruit Trees

SEVERAL NEW FRUITS AND NUTS OF IMMENSE VALUE TO CALIFORNIA

Eucalyptus Trees

BY THE 1000 OR 100,000
NO BETTER STOCK GROWN

Please send us your name and address, and you will get all particulars.

Leonard Coates Nursery Co. Inc.
Morganhill, Santa Clara Co., Cal.

AGENTS WANTED

GOPHER DOPE to exterminate gophers, ground squirrels, rats, mice.
KILLS A BUG Moths, Mosquitoes, Bed Bugs Ants, Roaches, Fleas, Lice and Mites on Fowls. Disinfectant and Germicide.
PUROLINE A Powerful Antiseptic and Deodorizer. Odorless, non-poisonous. For use in hospitals, homes, public institutions, boards of health and ranches. ***B. & G. Disinfecting Co.,*** 417 Laughlin Building, Los Angeles, Calif.

EUCALYPTUS

Growers of Commercial and Ornamental Eucalypti
EKSTEIN & EKSTEIN Modesta Euc. Nursery Modesta, Cal.
EKSTEIN BROS. Vignolo Euc. Nursery Anaheim, Cal.

TREES

Season 1908-9

Order Now for Future Delivery

If your trees are purchased from the Fancher Creek Nurseries they will be true tc name, well developed, with good roots.

FOR 25 YEARS we have been engaged in growing reliable nursery stock. Our thorough knowledge of every branch of the business makes it possible for us to raise and deliver stock that meets the demands of this country, and gives satisfaction to growers.

Last year we did the largest business in our history. This year our stock of

Deciduous, Citrus and Ornamental Trees, Grape Vines and Rose Bushes

is more complete and better than ever.

We are sole propagators and disseminators of

Luther Burbank's New Creations

Valuable Burbank Booklet illustrated in colors mailed for 25c.

SALESMEN WANTED

PAID-UP CAPITAL $ 200,000.00
FANCHER CREEK NURSERIES INC
Geo. C. Roeding Pres. & Mgr.
Box 12 Fresno, California, USA

300,000 Berry Plants

Perries of all kinds, Fruit Trees, Roses, Oranges, Lemons, Seeds, Etc.

Send for the most descripted Berry List on the Coast. FREE.

A. Mitting
Lock Box 380 Santa Cruz, Cal.

Improved Berry Plants

Bred for Big Berries

We are NOT in the berry business but make a speciality of propagating strong healthy plants for the home garden or commercial plantation. We help our customers to succeed. EVERY order receives our special attention. Our catalog tells the rest.

G. H. HOPKINS & SON
Burbank, Cal.

Pacific Seed Co.

C. Bagnall, Prop.
GROWERS AND IMPORTERS OF
Grass, Vegetable and Flower Seeds
All Kinds of Bulbs and Onion Sets
609 J St., Sacramento, Cal.
Send for Catalogue. Please mention Cultivator.

SEED GRAIN

Black and Red Oats, Wheat, Barley, Bean Screenings, Etc.
constantly on hand and for sale at lowest market rates
Bray Brothers Buyers of Grain and Beans
Members Merchants Exc.
220 Clay St., San Francisco, Cal.
Established in 1855. Correspondence Invited.

General Agriculture

RACES WITHOUT BETTING.

Last year the Oregon State Fair Board put an end to racetrack gambling at the fair grounds, and the result seems to have been a disappointment to those who confidently assert that "you can't have races without gambling," says an editorial in the Portland Oregonian. So great was the interest in last year's races that the Board has found it advisable to double the capacity of the grandstand, and this has been done. This does not mean that the attendance has been doubled, or will be, for presumably part of the space upon which the new grandstand has been built was formerly occupied by people who stood up while watching the races. Doubling the grandstand indicates two things, however—that the attendance has been and will be as large as before gambling was eliminated, and that the crowd will be a more orderly one. The gambling element found pleasure in jamming and jostling in front of the grandstand. By this means excitement could be aroused and the work of the "touts" could be facilitated. Those who do not bet on the races find it more pleasant and convenient to sit down, and they will now have an opportunity.

The race without gambling has many advantages over the race upon which pools are sold, and has no apparent disadvantages. To the lover of clean sport the race free from gambling is just as interesting and exciting as any speed contest upon which bets are made. Such a race is much more satisfactory, for there is no suspicion of unfairness, as there often is when large amounts of money are to change hands upon the result. But the race without gambling draws a considerable number of spectators who have conscientious scruples against lending the indorsement of their presence to any occasion which includes a violation of both civil and moral law. Such people have no hesitancy in attending a race meet where pool-selling has been discontinued. While gambling was never very extensive at the Oregon State Fair, the fact that it existed, with official approval, had an injurious effect. The crowds will be larger, instead of smaller, with the betting eliminated.

A WATSONVILLE PACKING HOUSE

SUGAR BEET INDUSTRY.

In the eighteenth annual report recently issued by the California State Board of Trade we find the following interesting details regarding the beet sugar industry:

Beet sugar production has become a permanent industry in California. Though there were but eight out of the nine factories operated for the season of 1907, and the output was over 21,000 tons less than for 1906, it was larger than for any other previous year but one (1902), and was only exceeded by Colorado with 183,345 tons, and Michigan with 76,078 tons. A largely increased acreage and output from the existing factories is expected for 1908, and a new factory at Corcoran, Kings county, costing $1,000,000, began operations this season. The existing factories and their locations are as follows:

Spreckles Sugar Co., Spreckles, Monterey Co.; Spreckles Sugar Co., Watsonville, Santa Cruz Co.; American Beet Sugar Co., Oxnard, Ventura Co.; American Beet Sugar Co., Chino, San Bernardino Co.; Alameda Sugar Co., Alvarado, Alameda Co.; Union Sugar Co., Betteravia, Santa Barbara Co.; Los Alamitos Sugar Co., Los Alamitos, Orange Co.; Sacramento Valley Sugar Co., Hamilton, Glenn Co.; Pacific Sugar Co., Visalia, Tulare Co.

The production of eight of these nine factories for the year aggregated 72,889 tons of 2000 pounds of sugar which, at 3½ cents per pound, represents $5,102,230.

The growth of the beet sugar industry in California is shown in the following exhibit for twenty years, beginning with 1888, that being the first year statistics were obtained and published by the State Board of Trade.

Beet Sugar Production of California.
Tons of 2000 lbs.

1888	1,910	1898	18,086
1889	2,457	1899	41,100
1890	3,351	1900	30,319
1901	5,224	1901	68,700
1892	10,761	1902	73,761
1893	17,420	1903	65,360
1894	18,615	1904	59,147
1895	23,827	1905	64,251
1896	31,815	1906	94,285
1897	35,280	1907	72,889

IMPORTING FRUIT FROM AFRICA.

As the seasons on the other side of the equator are reverse of those in the Northern Hemisphere, it has been thought that it might pay to bring fruit from such countries as South Africa when it is scarce in Europe. Accordingly, nearly three hundred tons of oranges and lemons were carried from Natal to London last summer. They arrived in good condition, but the freight charges were too high for profit.

A consular report from South Africa, received in Washington indicates that the experiment is to be repeated this year. Of course, the utmost care in packing and storing on shipboard is necessary to iusure arrival in good condition. Much higher temperatures are encountered at sea on the way from Natal to London than between New York and English points.—Ex.

The Right Kind

Can always be found in the celebrated

Canton Clipper Line

P & O CANTON PLOWS

Steel Walking Plows
Chilled Walking Plows
Sulky and Gang Plows
Subsoil Plows
Hillside Plows
Road & Grading Plows
Garden Plows
Orchard and Vineyard Plows
Shovel Plows
All sizes and patterns for all kinds of work

Pacific Implement Co
131-153 Kansas St., San Francisco
B. Hayman, Los Angeles
General Agents

Pioneer Rubber Sanded Roofing

The Roof that "proves," sun-proof and rain-proof; needs no paint or repairs. Following are a few "Wont's" about Rubber Sanded Roofing:

Won't chip. Won't warp.
Won't tear. Won't crack.
Won't rust. Won't decay.
Won't shrink.
Won't crumble.
Won't need repairing.
Won't absorb moisture.
Won't attract electricity.
Won't need any paint to preserve it.
Won't be affected by any climatic changes or conditions.
Won't cost as much, in the long run, as other roofing.

What Rubber Sanded WILL do is told of in our booklet "ROOF TALK," which will be sent free upon request, together with samples of the Roofing itself.

Pioneer Roll Paper Co

Makers of Rubber Sanded Roofing and Refiners of Asphaltum

Department 11, Los Angeles, Cal.

SECOND HAND PIPE AND CASING

All our pipe and casing has newly cut threads with new couplings attached and dipped in asphaltum. Guaranteed good as new. Prompt delivery on carloads or less. Small orders receive same attention as large ones. All sizes of pipe, also fittings and valves.

WEISSBAUM PIPE WORKS
133 Eleventh St., San Francisco

The Johnson-Musser Company of Los Angeles has established a seed farm at Alpaugh, Tulare, county, having recently acquired land there.

Live Stock and Dairy

By Mrs. Minna E. Sherman

MILK MAKING.

THE knowledge of the ordinary consumer of milk is vague when it comes to bacteria. It is therefore a great big bugaboo to them. I had one well educated woman bring me milk she said was full of bacteria, she could see them. When the milk was seen it had several dozen vinchoppers drowned in it. I told her if bacteria were bugs and that visible to the eye no one would think much about them. It is the fact that they are invisible and of the lowest forms of vegetable life, excepting that a few disease germs are considered as animal. We feared them, as they were insidious from their minute character. They seemed to be everywhere, waiting merely the proper soils and temperament to spring into active life.

Tuberculosis.

The one disease germ that we fear most from the cow is tuberculosis. The late congress at Washington, with the exception of Dr. Koch, regarded it as certainly affecting the human race, yet many do not today regard it in the bad air, for it will take up bacterial growths fully as well while cooling down as at any other time. When the milk is allowed to stand for a few minutes out of the refrigerator or cooling room it will pick up all manner of odors and taints as it grows warmer.

Manure.

There are few barns in Central or Southern California that manure is allowed to pile around. Usually the fault we have to contend with is having the cows wallow in mud during the rainy days. Now while paving the barnyard is distinctly beyond our means, we can lessen the filth materially by having the mud made of clean dirt. During the past week we have been busy scraping the corrals. This fine earth soaked with manure is one of the best things I know of for the strawberry and asparagus beds. It carries few weed seeds. Again, we are killing two birds with one stone. Farmers must make everything pay as it goes. We waste enough each year by not patiently picking up the little things that mean

ARIZONA COWBOYS.

the bacilla as identically the same. Still it would be poor comfort to a person having the disease to be told it was the bovine form, not the human form, he was dying with. The principal source of contamination of milk with these germs is not through the udder but from the manure getting into the milk. Covered milk pails and clean cows with whitewashed stables are, therefore, an important factor in keeping the milk free from disease. A cow sufficiently diseased to show the trouble should be taken from the herd. Then treat the rest with tuberculin and remove the reacting cows to others quarters and clean up thoroughly. These reacting cows, if still in good physical condition, have a good chance of recovering if they are well fed and have only open shed to shelter from the rain. Their milk can be boiled and calves or pigs raised on it.

Taints.

There are many other things besides the disease germs in the way of the milk producers. One of these is tainted milk. While the milk is cooling, yet warmer than surrounding air, it does not take on the odorous taints. This is the reason that sweet milk can come out of a foul stable. The milk man often reasons that it does not hurt the milk if the stable smells. Where there are only a few cows and the milk is removed before it has grown cold, the milk escapes tainting. This will not excuse the leaving of pennies. The surface of the corrals are made as level as possible, the Fresno iron scraper brings in the dry sand from the road near by to fill holes and the final leveling is done by running the old buck scraper over it all. Making the ground slope away from the barn helps to run the water away from the buildings as much as possible.

Milkers.

These little lifts make Alex smile. I wish I could show you Alex as I saw him come down from his room today to do the milking. He had fed the cows, swept the floor free from the dirt they carried in on their feet and freshly sprinkled the floors and gutters with gypsum. Then he went to clean up for the milking. His face, arms and hands had been scrubbed until one could see soap and water had done its best. Nails scrubbed as well. Newly washed overalls and jumper made him fresh. Years ago he worked here and received careful training under Manuel. The careful training of the men on the ranch will continue, handed from one to the other for years, until it becomes a ranch tradition that certain things are always to be done in such and such a way. Foremen may change and men may come and go, but the results of insistence that certain things must be done, remain established.

Gentleness.

Alex is kind to the cows and I often stop as I am passing to listen

MAKING AND SELLING A MILLION

CREAM SEPARATORS

AND THE KNOWLEDGE GAINED

Thirty years ago Dr. De Laval invented the first practical centrifugal cream separator. Since that time the De Laval Separator Company has manufactured and sold one million DE LAVAL machines. These separators are today in use in every civilized country in the world. They have been operated and criticized everywhere. Through all these years suggestions for their improvement have come by the thousands from every quarter of the globe. These have been investigated and tried out from time to time. The best have been adopted. The 1908 improved DE LAVAL cream separators represent the thirty years accumulation of such ideas and experiences. They represent the knowledge and experience gained through the manufacture and sale of one million machines. If in your lifetime you had milked one million cows, wouldn't you feel that you knew how to milk a cow just a little bit better than someone who had milked but one thousand? That's the way we feel about the cream separator. Our knowledge of its manufacture and practical use is many times greater than anyone else's. If you are thinking of buying a separator can you afford to ignore the knowledge gained by making and selling a million separators? We don't believe you can. We offer you the 1908 DE LAVAL for your most critical examination. An illustrated catalogue will be mailed for the asking. Write for it today.

DE LAVAL DAIRY SUPPLY CO.

108 So. Los Angeles St. LOS ANGELES
42 E. Madison Street CHICAGO
74 Cortlanot Street NEW YORK

General Offices: 101 Drumm Street, SAN FRANCISCO.

107 First Street PORTLAND, OREG.
1016 Western Ave. SEATTLE
Box 1052 VANCOUVER, B. C.

Red Cross Wind Mill
Is built right, Works right. Runs in light wind. Has ball bearing turntable and outer thrust. Easy mill to set up and take care of. Built upon honor.

Woodin & Little Pump House
70-72 Fremont Street, San Francisco

PUMPS FOR EVERY SERVICE AND USE

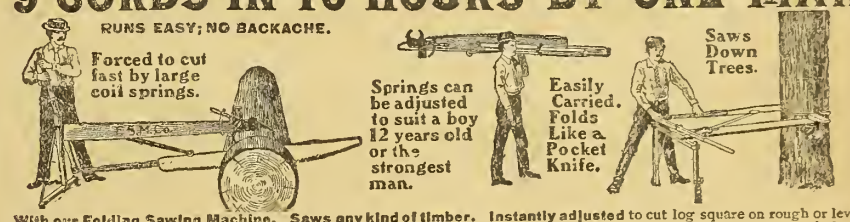
Pumps for Irrigation, Road Sprinkling, Electric Motors, Gasoline Engines, Spraying, Whitewashing, Wine Pumping, Wind Mills, Hand and Power Use, Steam, etc.

Gasoline Engines Wind Mills
Tanks Pipe Pipe Fittings

SEND FOR CATALOGUE

9 CORDS IN 10 HOURS BY ONE MAN

RUNS EASY; NO BACKACHE.



With our Folding Sawing Machine, Saws any kind of timber. Instantly adjusted to cut log square on rough or level ground. Operator always stands straight. One man can saw more with it than two men can in any other way, and do it easier. Saw blades 5½, 6, 6½ or 7 ft. long Champion, Diamond or Lance Teeth, to suit your timber. Send for Free Catalog showing latest improvements, giving testimonials from thousands. First order secures agency.

FOLDING SAWING MACHINE CO., 158-164 E. Harrison St., Chicago, Illinois

When writing advertisers, mention Cultivator.

Cultivator Order Blank

Balance of This Year Free—For New Subscribers Only

_____ 190

CULTIVATOR PUB. CO.
115 1-2 No. Broadway, Los Angeles

Gentlemen—Enclosed find $1.00 (Canadian and Foreign, $1.50) for which please send the ***Cultivator*** to the following address from date to January 1, 1910.

NAME _____ P. O. ADDRESS _____

Signed _____

Address _____

Creamery Supplies

Cream Separators — Milk Cans
Combined Churns — Milk Bottles
Babcock Testers — Brushes
Butter Moulds — Wrappers
Engines and Boilers — Milk Coolers
PASTEURIZERS
MILKING MACHINES
Creamery and Dairy Supplies and Machinery of all Styles and Sizes

Send List of Goods Wanted and we will Quote Prices

O. J. WEBER CO.
555-57 S. Los Angeles St.
LOS ANGELES, CALIFORNIA

CUTTER'S
Anthrax
and
Blackleg
VACCINES

Are given the preference by 80% of California stockmen because they give better results than others do.

Write for prices, testimonials and our NEW booklet on Anthrax and Blackleg

The Cutter Laboratory
Berkeley, California

Free Veterinary Book

Be your own horse doctor. Book enables you to cure all the common ailments, curb, splint, spavin, lameness, etc. Prepared by the makers of

Tuttle's Elixir

The world's greatest horse remedy. $100 reward for failure to cure above diseases where cure is possible. Write for the book. Postage 2c.

TUTTLE'S ELIXIR CO., 117 Beverly St., Boston, Mass.
Los Angeles, W. A. Shaw, Mgr., 1021 New England Av.
Beware of all blisters: only temporary relief, if any.

PASPALUM DILATATUM

King of dairying and fattening grasses. The great Australian drouth resister. Primest heavy seed direct from the grower, 4 lbs. (ample for trial) post free, $2.00. Full information.

C. F. JULIUS
Central Bucca, Coffs Harbor, New South Wales

Live Oaks Farm

Frank A. Meacham, Proprietor.
Importer and breeder of RED POLLED CATTLE, SHROPSHIRE SHEEP, RAMBOUILLET SHEEP, HORNLESS AMERICAN MERINO SHEEP. Both sexes for sale. Take electric car at Petaluma or Santa Rosa for LIVE OAKS STATION. Address all mail to
Petaluma, Sonoma Co., Cal.

HOLSTEINS

We Have For Sale a Number of Registered Young Bulls and Heifers **$100**

All our stock comes from the celebrated herd formerly owned by the Pierce Land and Stock Co., the premium herd of Holstein Friesians in California. Oakwoods Stock Farm Co., Lathrop, Cal

VENADERA HERD
OF REGISTERED JERSEYS

I have for sale a number of richly bred young bulls, some of them from cows that have high official yearly records.

GUY H. MILLER,
Route 3, Modesto, Cal.

Berkshires--Shorthorns

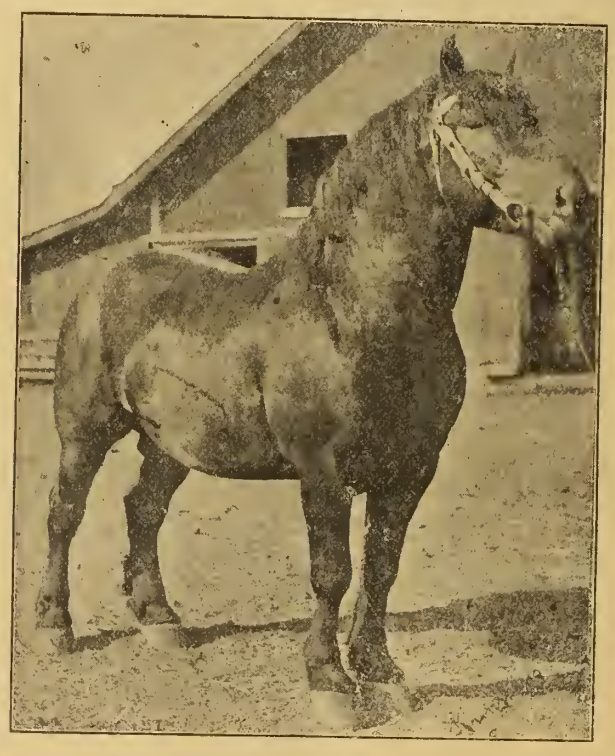
My Berkshires took 9 First, 6 Second and 4 Third Prizes and both Gold Medals. 50 Head For Sale.
G. A. MURPHY, PERKINS, CAL.

THIRTY THOROUGHBRED
Poland China Hogs and Pigs
FOR SALE
W. R. McCaslin, R.F.D. No. 1, Rosevelt Ave, Sacramento

John Lynch Breeder of Registered **Shorthorns**
MILK STRAIN
Box 321 Petaluma, Cal.

The exhibitor of the first premium butter at the State Fair whose name could not be deciphered has proved to be the Thompson Brothers of Petaluma.

to him talking in a low voice to them. He will stand by the open gate of the corral at the barn as the cows follow him in from the field. They move slowly along and he calls them. "Come, baby, come, baby." The great creatures move slowly by him into the barn. Sometimes one cow stops and locks the procession. Alex comes up and lays a gentle hand on her, petting her, while he admonishes her by saying, "Baby, baby, go in. Don't you see sister is waiting? She wants to come in, too." The cows are a good test of the gentleness of the milker with them. If the old matrons of a herd run away when any one comes to see them, there is something wrong in their case. The young heifer may not at first be as fearless but she soon understands that she is not to be hurt. In a short time she freely adopts the milker as a new form of calf and enjoys being milked. Indeed, being milked should be a soothing operation enjoyed and not dreaded by the cows.—M. E. Sherman.



A TYPICAL DRAUGHT HORSE.

ROPY MILK AND CREAM

During the month of June, two men in one day called at our office to inquire about the cause of "ropy" or "stringy" milk. One man said that a neighboring milkman had lost hundreds of dollars' worth of milk from this cause last year. He had had considerable trouble from the same source and was anxious to know how to prevent a recurrence of the difficulty. He said he had come on the excursion to the college chiefly to get some information on the subject. The subject of "ropy" milk is very thoroughly treated in bulletins Nos. 165 and 190 from the Cornell Experiment Station at Ithaca, N. Y. What we shall say on the matter will be based largely on the work contained in these bulletins, as we fortunately have never been troubled with this special ill of the milkman. Next to the man growing fruit and vegetables, we believe the milkman has the largest crop of small troubles of any other kind of a farmer. The cause of this "ropiness" in milk or cream is small plants with a very big name—Bacillus lactis viscosis. This ropy condition of milk caused by bacteria is to be distinguished from milk produced by a cow suffering from garget or inflammation of the udder and which may contain pus-like material.

"Ropy milk or cream is objectionable on account of its unwholesome appearance rather than because of any known harmful effect caused by its consumption. The slimy viscous condition of the milk is exceedingly disgusting to the consumer and its occurrence constitutes a serious menace to the success of a milk route. This fault in milk is one of financial rather than hygienic importance."

The author of the bulletins points out that "the surface of the vessel of milk and therefore generally the cream becomes viscous and will spin out in long fine threads." Skimmilk is just as liable to become ropy as the cream or whole milk. "Cold does not prevent the occurrence of the slimy condition. After ropy milk has once appeared in a vessel of milk, a fruitful source of future trouble is occasioned by careless scalding of the vessel when it is washed. The bacteria left clinging in the crevices are sure to survive a hasty scalding and will again seed down the normal milk placed in it."

The various experiments of the author lead him to believe that the dust of the room in which the milk is kept and the ice water in which the milk is cooled are the two most fruitful sources of the bacteria. Of these two, under ordinary conditions, the water for cooling the milk is likely to be the chief source of trouble.

In order to disinfect the water box or tank used for cooling milk it is necessary to use a disinfectant which is odorless, otherwise the milk and cream may become tainted from this source. For the purpose, potassium bichromate, which sells at about 35 cents a pound, is recommended. The quantity to use is about one to one thousand of water, or an ounce of the bichromate to each cubic foot of water. As the bichromate is poisonous, it needs to be used with care. It is not nearly so dangerous a poison as "corrosive sublimate," which is also a good disinfectant about the dairy, and without smell. The advantage of the bichromate is that it colors the water a yellow color, so that there is no danger of persons or animals drink-

For Mehring Foot-Power Milking Machines see O. J. Weber Co., 555-557 S. Los Angeles St., Los Angeles, Cal.

Anthrax Cure, Milk Fever Outfits. See O. J. Weber Co., 555-557 S. Los Angeles street, Los Angeles.

TRADE Sharples MARK **29 Yrs**

This is the age of specialists—each man an expert in his line.

Our specialty is building cream separators; and our years of experience have resulted in the **best** and **most original** separator the

TUBULAR

It is popular because it fulfills our claims and does its work in an easy and quick manner.

The Tubular is the acknowledged **leader of cream separators,** because it is easy to fill, clean, turn, oil and handle and because it **skims clean**—the trade mark guarantees it.

For proofs, ask a Tubular user or, better still, try one.

Free Catalog 260 tells how. Write for it.

THE SHARPLES SEPARATOR CO.,
West Chester, Penna.
Toronto, Can. San Francisco, Calif. Chicago, Ill.

CEMENT PIPE

Irrigation lines installed anywhere Skilled mechanics, work guaranteed. Estimates furnished. Main lines for Irrigation Companies a specialty.
Information cheerfully furnished.

Ben. F. Thorpe
Covina, Cal.

Geo. C. Roeding, Fresno, Cal, breeder of
Thoroughbred Holstein Bulls and Heifers
Thoroughbred Berkshire Boars and Sows

Thoroughbred Poland China Swine
Black Minorca and Barred Rock Poultry
High Grade Stock of Best Strains.
Young Stock For Sale
M Bassett *Hanford, Cal*

PURE BRED BERKSHIRES
Young Stock For Sale
Wm. H. Bird Box 6, Compton Cal.

The Whiting Jersey Stock Farm Company
Is making the very best strains of blood fresh from the island of Jersey a specialty.
Whiting Jersey Stock Farm Co. Heber, Imperial Co., Cal

Your Eastern Trip

SOUTHERN PACIFIC

May be arranged so that you may travel by way of

New Orleans and the Sunset Route

San Francisco and the Ogden Route

Portland and the Shasta Route

Enjoying the balmy air of the South or the cool and bracing air of the North.

Personally conducted excursions every day from Los Angeles via all routes without change to principal eastern points.

Southern Pacific

Sonoma county poultry people are predicting a big output of eggs this fall.

ing it. The "corrosive sublimate" is colorless and might do harm if not carefully used. The bichromate of potash is put directly into the tank of water after cleaning it as thoroughly as possible. The cans of milk may then be placed in the chromated water without danger so long as the water is not splashed into the milk.

The author's conclusions are worth quoting:

"1. Ropy milk contains bacteria that are responsible for its viscid condition. These bacteria live naturally in water. Measures for the prevention of the trouble must be directed to preventing the bacteria from getting into the milk.

"2. After milking at night the milk pails and strainer cloth should be washed and scalded before using in the morning, or a second set thoroughly clean and scalded should be used in the morning. The practice of merely rinsing pails and strainers in cold water at the barn at night offers an opportunity for the introduction of the bacteria into milk directly from the water.

"3. If the cows wade in mud and smear the udders with dirt and filth, put a stop to it. By this means many objectionable bacteria get into milk by falling into the milk pail.

"4. The floors of all rooms where ropy milk has been kept should be disinfected with a mixture of five parts of crude sulphuric acid to 95 parts of water. [Note—Great care must be exercised in mixing sulphuric acid and water, else an explosion may result.]

"5. All milk utensils should be scalded most thoroughly daily. Never let cold water come in contact with utensils unless they are scalded before using for milk again.

"6. Exercise the greatest care to prevent even a drop of water from the cooling tank getting into the milk That occurrence is probably the most common cause of trouble from ropy milk. If water must spatter about, the cans standing in ice water should be covered.

"7. Utensils after washing and scalding should stand upside down to prevent the accumulation of dust on the inside."

The foregoing suggestions may save many dollars to more than one milkman and save a lot of anxiety on the part of customers who are usually needlessly alarmed at the appearance of "strings" in milk or cream. We know from letters received and from personal talks with dairymen that it is a serious trouble, but if the precautions outlined are observed, the trouble can be prevented; or if already in the dairy, can be overcome. Where the trouble has been, consumers need to scald all utensils and give special heed to the refrigerator or other places where milk is kept. Consumers as well as producers must try to overcome the trouble.—Hoard's Dairyman.

ALL BARREN COWS AND HEIFERS CAN BE MADE TO BREED.

This can be none with little trouble and expense if given proper attention Many a valuable cow and heifer has been sacrificed or disposed of for the reason that she was not made to breed. This may have been due to a lack of proper knowledge along this line.

It is very important that a cow, in or to conceive, be in a reasonable healthy condition. The genital organs should be in a condition to perform their functional duties as nature would have them. A lack of secretion or an excess of secretion, renders conception difficult. A lack of ambition or vigor, or an over amount of either is an unnatural condition of the genital organs.

A cow before breeding should be carefully noticed to make sure that there is no unnatural discharge from the vulva. An unnatural discharge would be a discharge of mucous that has every appearance of the white of an egg and at the period of heat usually contains a little blood.—By Dr. David Roberts, Wisconsin State Veterinarian.

Wood Soled Boots and Shoes. Boots, $3.25; Shoes, $2.00. O. J. Weber Co., 555 South Los Angeles St., Los Angeles, Cal.

LITTLE OR BIG.

Jacob Riis says: "Everything in this world is little or big according to the size of the man's understanding who is looking on."

That is a good thought for every dairy farmer to consider. The proposition of being a dairyman, of living up to a full understanding of what such a life means, all depends on the size of our understanding. For, we may well understand that the problems of every dairy farm are big enough for the strongest of intellects, the deepest of inquiry, the highest of purpose and the broadest of ambition .A great field is this dairy industry, full of men as yet of small thought, who will grow bigger if they will but listen to the teachings it has to give. This field needs men of mental hospitality, who have a hunger and thirst for the great truths that lie all about them, yet unrecognized.—Hoard's Dairyman.

HOW TO HANDLE SICK STOCK.

Place the sick animal in a well disinfected and dry box stall with plenty of bedding and sunlight. (Avoid drafts.) In cold weather place a blanket on the animal, feed sparingly with digestible food, such as bran mashes made of linseed tea; keep manger sweet and clean. Water should be pure and clean, and warmed when necessary.

It is always necessary for new milch cows to be given warm water. An injection of warm water (per rectum) should be given all sick animals, excepting those afflicted with looseness of the bowels.—Dr. David Roberts, Wisconsin State Veterinarian

The basis of making good cheese and butter is in one word—cleanliness I may venture to say that there are very few manufacturers of butter and cheese who cannot make a good article if you will give them good milk to make it from. There have been few improvements in the stables, few improvements in the care of the cows, few improvements in the milk, and not a great many, though there have been some, in the improvement in feed We know a great deal about making, and very little about how to get your milk. When the women begin to take an interest in the stable as they do in the kitchen, then we will have good milk. Women should boss that job.

DAIRYMEN

Your cows are either making money for you or eating their heads off.

Figure it out. Would it not pay to use less of high cost fodders and more sugar-beet-pulp at the low price of 50 cents per ton?

If it is milk you want you will get your money back with profit, besides you will improve the condition of the animals.

And don't wait too long before arranging to silo some of it for use after the factory closes down.

Write, Los Alamitos Sugar Company, Los Alamitos.

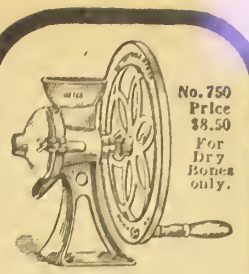
Cream Separators, all sizes, all prices. O. J. Weber Co., 555-557 S. Los Angeles street, Los Angeles.

Large Family Size. No. 10—Price $2.50.

It is really better to own an "Enterprise" Meat Chopper and cut your sausage meat easily, quickly and well, than to trust to a borrowed machine to "grind" it. The

No. 25. 4 Quart Japanned. Price $5.50. 4 sizes. Tinned and Japanned.

Half the work at butchering time is spent in lard and sausage making. You can increase your products and lessen the time and labor of Sausage Stuffing and Lard Pressing if you use an



No. 750 Price $8.50 For Dry Bones only.

Cracked corn, ground bone, oyster and other shells, etc., are important items of egg-making material and *must* be furnished in winter to secure an abundance of high-priced eggs. They *can* be furnished at lowest cost by the use of an

ENTERPRISE

Meat and Food Chopper

is made in standard family sizes, and not only saves half the work at butchering time, but is useful in the kitchen every day in the year. "Enterprise" Meat Choppers *cut* the meat with a revolving steel knife against a perforated steel cutting plate without crushing, and make tough meat tender. Easily cleaned, practically unbreakable, and will last for years.

Made in 45 sizes and styles; for Hand, Steam and Electric power. No. 5, Small Family size, $1.75; No. 10, Large Family Size, $2.50. Sold direct if not to be had from your dealer.

Sausage Stuffer and Lard Press

Stuffs sausage quickly and uniformly. Patented Corrugated Spout prevents air entering the casing, thus assuring the preservation of the sausage. Cylinder is bored absolutely true. Meat cannot rise above the plate.

Can be changed into a Lard Press in a jiffy. Machine is strongly made and will last for years.

Other famous "Enterprise" household specialties are Coffee Mills; Raisin Seeders; Fruit, Wine and Jelly Presses; Cherry Stoners; Cold Handle Sad Irons, etc., etc.

Look for the name "Enterprise" on the machine you buy.

Bone, Shell and Corn Mill

Order one early in the season, and the hens will surely pay for it. The mill shown in cut costs only $8.50. Will grind corn, *dry* bones, oyster and other shells, etc., making valuable poultry food. May be used for making bone meal fertilizer.

A good all-round mill for farmers and poultrymen, and for strength and durability is unexcelled. Weight, 60 lbs. Capacity, 1¼ bushels of corn per hour. Look for the name "*Enterprise*" on the machine you buy. Sold by Hardware and General Stores, etc.

FREE—The "Enterprising Housekeeper"—a book containing over 200 choice recipes and kitchen helps. Sent on request.

THE ENTERPRISE MFG. CO. OF PA., 229 Dauphin Street, Philadelphia, Pa.

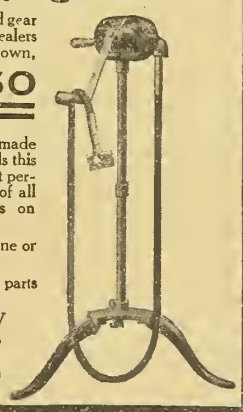
Clip Your Horses

with this superb **Stewart No. 1 Ball Bearing Clipping Machine**

The great enclosed gear machine at your dealers all complete, as shown,

only $8.50

No machine ever made at any price equals this one. It is the most perfect in every way of all clipping machines on the market.



It turns easier, clips faster and lasts longer. If you have but one or two horses it will pay you to have this splendid machine.

The gears are all cut right out of the solid bar, and all wearing parts are file-hard. It will last a lifetime.

If your dealer hasn't it, write us direct. GET ONE NOW

Chicago Flexible Shaft Co. Dept. H, Chicago

Compare Prices and Results

Analysis (from Bulletin 164, Jan., 1905—University of California)

Digestible Protein in

Linseed Oil Cake Meal	***24.4 per cent***	Shorts	12.2 per cent
Cocoa Cake or Meal	***16.4 "***	Mixed Feed	9.6 "
Wheat Midlings	12.2 "	Corn Meal	6.4 "
Wheat Bran	11.2 "	Wheat Hay	3.6 "

If You Feed for Protein You Get Results

Ask Your Jobber for Prices, or Write

Pacific Oil and Lead Works, San Francisco

SECOND HAND PIPE

We will sell you pipe that can be used for any purpose. ***Satisfaction guaranteed*** or money returned. We handle all sizes of standard pipe and casing. Shipments made on same day as order is received. Price of pipe is low now. Write for our prices.

Pacific Pipe Company

S. W. Corner Howard and Main Streets, San Francisco, California

When writing advertisers, mention Cultivator.

California Cultivator

ESTABLISHED 1889

Subscription Price One Dollar per year, payable in advance. Dates of expiration of subscription accounts appear each week on the address label. John Jones 7-08 means July 1, 1908. Notify us by mail if you desire to discontinue.

Thursday, October 29, 1908

Address All Communications to

CULTIVATOR PUBLISHING CO.
115½ No. Broadway, Los Angeles.
733 Merchants Ex. Bldg., San Francisco.

Copy for Change of advertisement must be in office on Saturday preceeding date of issue. New advertising copy should reach the office not later than Tuesday to insure insertion.

CULTIVATOR PUBLISHING COMPANY
H. A. PERKINS, EDITOR AND GEN. MGR.

C. B. MESSENGER - - - - Associate Editor
FRANK H. THOMAS - - Advertising Manager
H. G. HUTCHINS - - Subscription Manager

EDITORIAL CONTRIBUTORS:

J. W. MILLS - - Deciduous and Citrus
JOHN ISAAC - - - - Horticulture
J. B. NEFF - Walnut Culture and Irrigation.
Mrs. M. E. SHERMAN - Live Stock and Dairy
Q. A. LOBINGIER - - Vegetable Garden
RALPH E. SMITH - - Plant Pathology
S. A. PEASE - Plant Diseases and Injurious Insects

Entered at the Post Office at Los Angeles, California, as Second-class matter.

Contents

GOOD ROADS IN NAPA COUNTY, Cover.

FRENCH GARDENING, 411.

THE OLIVE.—Absorbing Power of the Soil, 412.

CALIFORNIA HORTICULTURALLY.—Tackling the Ant Problem; Banner Fruit Season; Growl from the Metropolis; Another Unusual Season, 413.

DECIDUOUS.—Grape Growing Difficulties; A New Peach; How Grapes are Sold; Napa County's Famous Bridges; An Excellent Bulletin, 414, 415.

GENERAL AGRICULTURE.—Races Without Betting; Sugar Beet Industry; Importing Fruit, 416.

LIVE STOCK AND DAIRY.—Milk Making; Ropy Milk; Barren Cows; Little or Big; Handling Sick Stock, 417, 418, 419.

EDITORIAL.—Wear Uniforms; Improving Country Life Conditions; Return of Old Farm Days; Be Careful; Test the Cows; Intensive Gardening, 420.

AGRICULTURAL NOTES OF THE PACIFIC COAST.—Northern, Central, Southern, The Coast, 421.

POULTRY.—A Tale of Tails; Farmers' Wives Who Keep Poultry; Roup; Preserving Eggs; Duck Culture; Cure for Bumble Foot; Green Cut Bone; Grit for Fowls, 422, 423, 424.

ORNAMENTAL GARDEN.—The Narcissus; Bulbs As House Plants, 425.

QUERIES AND REPLIES.—Grafting Wax; Spotting of Cabbage; Name of Apple; Scaly Bark; Unprofitable Prune Trees; Preserving Orange Seeds; Sowing Alfalfa; Wormy Apples; Fertilizer on Alfalfa; Blackeye Beans; Pickoline Olives; Cement Water Tank; Books on Fruit Growing, 426, 427; Ashes; Chestnut troubles; Vetch with Hay, 431.

VETERINARY.—Injured Teat; Spavin; Summer Sores, 431.

HOUSEHOLD.—The Call; Faithful Unto Death; Codfish Relishes; Wax Finish, 428, 429.

PRODUCE MARKETS.—Los Angeles Market; San Francisco Market; Citrus Markets, 430, 431.

WEAR UNIFORMS.

Some fair associations have begun to request exhibitors of stock that those who lead the competitors out for judging or for display in the arena on live stock days shall appear in uniform or in neater garments than usually have been worn. The attendant who leads the animal is more often the stable boy fresh from his work who presents a most slovenly appearance. This was quite apparent at the State Fair where the stock exhibited by Crouch & Sons was led by attendants in white suits neatly ornamented with darker braid. Some practical old farmers poohpoohed the idea, claiming that it was an effort to have the attendant rather than the stock judged. We do not think that is the idea in the case, and it should in no sense wnatever make any difference with the idea of quality of the animal. But it is an indication of the painstaking care of the stock owner and shows that he is a man looking after the little details. As to the entire effect of the parade or the fair exhibit, it cannot be gainsaid that it would be much more attractive.

Speaking along that same line, the Rural Spirit recently remarked:

"The expense of providing attendants in charge of a herd with a neat uniform of some cheap serviceable material with the name of the herd or breeding farm inscribed on the blouse or cap is very small and not only renders the attendants of said herd much more presentable, but serves as an additional and effective means of advertising. After the cleaning up is done it is only a matter of a minute or two to don the uniform and the added self-respect will well repay the trouble. We hope our exhibitors will generally heed the suggestion in some of the premium lists and instead of the decollete, don the khaki."

IMPROVING COUNTRY LIFE CONDITIONS.

The commission appointed by President Roosevelt to investigate as to conditions socially and financially of the farmers of the country is getting down to active work. The commission has recently sent over the country a series of questions asking for information as to farmers' social, intellectual and business privileges. Is the postoffice giving the farmers proper service? Are the telephones, insurance companies and other factors all they should be? And a hundred and one other questions which will give to the commission a general idea of farming conditions the country over. It is to be hoped that this will lead to more attractive surroundings in farm life, and will succeed in inspiring the farmer with using the natural beauties around him in a way which will make the country, as it surely can be made, far more attractive than the city.

RETURN OF OLD FARM DAYS.

In the handsome new marble building of the Agricultural Department are preserved the archives of the great American farms, which indicate that with the high prices of products and the bountifulness of crops, the farmer of today is likely to enjoy to the full the fruits of his labor, and that there has also been for the last quarter-century a decided trend toward making farm life more popular among young people than it has been in the past.

The time is coming when country life will attract the farmer boys and others from low-priced positions in the city back to the soil. The loneliness and dreariness of farm life are passing with the telephone and rural free delivery. This is all embraced in the action of President Roosevelt in appointing a commission to report and investigate on how to make farm life even more attractive to the boys already on the farm and to those who are struggling for a mere pittance and bare existence in the over-crowded cities.—Joe Mitchell Chapple in October National Magazine.

BE CAREFUL.

A Coachella Valley paper devotes considerable space to advocating the planting of quantities of camphor in the expectation that the manufacture of camphor for commercial purposes would be attended with great success. The paper says that one acre will yield a profit of $450. It doesn't say whether that is annually or for a period of years. In either case we feel that it is sufficient to remind the farmers, especially those who are not largely supplied with money to carry through such an experiment, that such an effort might possibly prove disastrous. While Coachella Valley may have proper conditions for growing the camphor tree the amount of labor required to put up this product and the fact that it has never been handled in this country except in an experimental way, should be sufficient to impel the farmer to proceed with caution. For experiment stations to take up this matter, or for the wealthier farmers to plant experimental plats is very wise and may possibly lead to a great industry which will add wealth to our farming communities. But until this is proved out we think the best plan for the farmer of small means is to stick to the staples.

TEST THE COWS.

Co-operative testing of the cows has succeeded in raising the average production of cows in Denmark from 120 pounds per cow to 200 pounds. Such an increase as that would mean that a farmer keeping 25 cows would have his yearly income increased by $500. The increase was brought about as much by the friendly rivalry between neighbors when once they started in their breeding experiments. Here and there in California are farmers engaged in making their own tests and in working up the quality of their own stock. But this organization of a co-operative society with the added inspiration of rivalry and the comparing of notes would certainly be a great factor in increasing the average yield of California cows. Let dairy communities stand together and make some such effort for a few years and observe results.

INTENSIVE GARDENING.

The Cultivator recently had a short article on the French method of gardening which caused some comment on the part of subscribers who wished to know more regarding it. This week we have a communication published as the leading article on the first page from a valued subscriber in England who has observed this style of soil culture. In the article is a timely warning to the uninitiated not to attempt a class of work for which they are not fitted by long training. French gardening is a trade by itself and the novice must not think that he can pick it up at a day's notice.

We expend annually $80,000,000 for road construction and maintenance and three times as much for the difficult transportation of our products over the roads.

In California we have a very serious highway problem to work out under uniform laws because of the extent of the state, the peculiarities of climate, and the varying topographic conditions. Yet it can be worked out to a satisfactory solution and to almost an ideal condition by organization, unity of purpose, sane legislation, and the aid of science in administration as well as in road building. We are transporting from 5,000,000 to 7,000,000 tons of agricultural products annually over imperfect roadways at a cost for such transportation of $10,000,000 to $12,500,000.—J. M. Eddy at State Farmers' Institute.

In welcoming you to all this and its beginning, the best we can hope for you is that you may take time to wander over the farm and dream a little of its possibilities; and in the wandering and dreaming be filled with some of the loyalty we feel for the great institution here represented, and with some of the enthusiasm we feel for its future; an enthusiasm borne of a proper conception of the largeness of the enterprise, a proper conception of all that it means of progress in the agriculture of California, and a proper conception of its power to develop the manhood and womanhood of California.—Prof. Anderson, in welcome to Farmers' Institute at Davis.

In the government report on crop conditions we note that the yield per acre of barley is about 25.0 bushels, which compares with 23.8 bushels, the final estimate for 1907, and 25.5 the average of the past ten years. A total production of 167,242,000 bushels is thus indicated, as compared with 153,597,000 in 1907. The average quality is 89.3, against 88.2 last year and 87.6 the average of the past ten years.

"In the United States, disregarding certain sections, and taking the nation as a whole, I believe it to be true that the farmers in general are better off than they ever were before. We Americans are making great progress in the development of our agricultural resources. But it is equally true that the social and economic institutions of the open country are not keeping pace with the development of the nation as a whole."

It's easy enough to keep everything neat around the farm if you always put the tools away when you are through using them.

Shop Talk

SOMETHING FOR NOTHING.—On another page you will find an order blank for the use of new subscribers to the Cultivator. It provides that those using this blank who are not now getting the paper will receive it the balance of 1908 and all of 1909 for the regular yearly price of $1.00 It is an opportunity for your friends, relatives and neighbors and we will appreciate your suggesting it to them. Do it now. The sooner the order reaches us the sooner the paper starts.

Agricultural Notes of the Pacific Coast

Northern California

Anderson, Shasta county, has shipped 51 cars of fruit this season.

Petaluma poultrymen are getting ready for their annual poultry show.

About $25,000 worth of machinery has been installed in the pre-cooling plant at Newcastle.

The Winters, Yolo county, creamery is doing more business than ever before at this season of the year.

The Oroville Register calls for a greater development of the fruit industry in that section of Butte county.

Rice growers in Jacinto, Glenn county, are very hopeful of extensive planting and good returns from the rice industry.

A Lake county farmer is reported to have sold 57 hogs recently which he fattened at a cash outlay of $42, receiving for them $616.87.

The Sonoma county poultryman who is getting eggs these days is reaping a rich harvest, for prices are now the highest of the season.

Over a thousand head of cattle were brought down to Red Bluff, Modoc county, recently, to be taken to the Miller and Lux ranges near Morganhill.

The Corning Irrigation Company is to absorb another irrigation plant which, it is hoped, will lead to better management of the irrigation systems of that section.

The city of San Francisco has filed and posted its formal notice of intention to appropriate 15,000 miners' inches of water of the Hetch-Hetchy for use of the city.

Although the recent rain was comparatively light over the Sacramento valley, the fall in the mountains was such that the Feather and other rivers are rising rapidly.

Sacramento is making extensive planting of camellias. One bunch of 350 plants was recently distributed. The effort is to make the city true to its name of the "Camellia City."

Northern poultrymen are putting up a strong kick against the excessive rate of 10 cents per dozen which it costs to ship eggs to Goldfield and other mining centers of Nevada.

State Horticultural inspectors are at work in the citrus groves in and around Marysville, Yuba county. Over 4000 trees have been examined and none whatever of the pest discovered.

A Sutter county bean grower has a crop of beans which he is now gathering with a ladder. It may be explained, however, that the beans are climbers and are planted amongst the trees, up which they climb.

Several land owners of land in reclamation districts in Yolo county recently held a meeting in the effort to secure more perfect co-operation in the best possible system of reclamation.

Humboldt county creameries on the last creamery payday paid the following prices for butter fat: Central, 33; Capitol, 33; Cream City, 33; Eeel River, 32-34; Ferndale, 33; Grizzly Bluff 32¾; Riverside, 32; Pioneer, 32.

Stock men in many sections of Northern California are organizing against the custom of "standing" cattle before they are weighed. This is an abuse which cattle owners claim they will not tolerate longer from the meat buyers.

Central California

Tulare county oranges are coloring very rapidly.

Watson has already shipped something over 1000 carloads of apples.

California Wine Association is to pay $8 per ton for second crop muscats.

Turlock is using some of her fine watermelons for hog feed owing to low market.

Lodi grape packers are making rigid investigation as to cause of mold of grapes in transit.

The Pajaro Valley sometimes ships as high as fifty cars of apples within twenty-four hours.

Tulare county supervisors have appropriated $1000 to aid the citrus fair to be held at Exeter.

Recent rain generally pleases the stock growers for the hope is that it will be sufficient to start the feed.

The deepest artesian well in the Porterville district is 352 feet deep. The water stands 72 feet from the surface.

Southeastern Fresno county is having a boom in citrus planting, plans being made for extensive orchards for next spring.

The Santa Clara county poultry men are making due preparations for the poultry and dog show to open in that city November 11-14.

Low grade apples, especially those covered with scale or diseased in any way have been barred from Sacramento and other large markets.

California Fruit Canners' Association has purchased all the tomatoes and other products which can be canned, of the Haywards truck growers.

Fresno county's exhibit at the Irrigation Congress at Albuquerque attracted much attention, especially the raisin seeder, which was in regular action.

The car shortage which prevailed for a long time in the Pajaro valley has been overcome, relief being secured from the receipt of 50 cars in one day.

The county supervisors of Monterey have passed an ordinance making it a misdemeanor for farmers to neglect or refuse to poison squirrels on their property.

Tulare Grange Patrons of Husbandry has put itself on record in formal resolutions opposed to any modification of tariff on horticultural and viticultural products.

The Selma packing houses are now running over time on dried fruits, which are going forward rapidly. Many growers, however, prefer to hold their raisins for higher prices.

Two thousand acres of a large ranch near Hollister have been placed under irrigation. Much of the land will this coming season be sown to grain, but thereafter will be devoted to fruit culture.

Apple men of the state are discussing the new packing and grading law which the International Apple Shippers' Association will endeavor to have passed by the National Congress this year. One feature of the proposed law is that the standard box shall contain 2150 cubic inches, which is larger than the box now used on the coast.

Southern California

Corona's lemons have commanded good prices this season and the market is seeking for them more each year.

A Redlands eucalyptus association will plant 700 acres of eucalyptus this season.

It is estimated that Southern California will produce $3,150,000 worth of hay this season.

A potato grower of Fullerton has what he claims as black potato scale infesting his crop of potatoes.

Recent showers were the cause of bringing great quantities of walnuts to the ground and aiding the pickers.

One ranch in the Imperial Valley has 35 men at work cutting the heads from the 400 acres of Egyptian and Kaffir corn.

El Centro, Imperial valley, land owners are planning to secure additional water for land which is now above the ditches.

Southern California's total returns from sale of agricultural products this year is estimated to be something in excess of $30,000,000.

Interest in orange culture in Coachella and Imperial valleys is increasing and quite extensive plantings are promised for the coming season.

The Cawston Ostrich Farm with headquarters at South Pasadena has secured 3000 acres of land near San Jacinto and will stock with ostriches.

California Lemon Company located at San Diego is buying all the cull lemons possible to secure at $5 per ton for the manufacture of citric acid.

Strange as it may sound, some cattle in the San Bernardino mountains have been hemmed in by snows and it is feared they may starve or die of the cold.

Southern California's production of beans this year will amount to about 35,000 tons; walnuts, 8000 tons; sugar beets, 105,000 tons; celery, 2000 cars, and honey, 1000 tons.

The Whittier Citrus Association shipped 516 cars of fruit. The average weekly pay roll of this association is $679. More members will be in the association next year than last.

The Cucamonga Citrus Fruit Growers' Association recently elected directors for the coming year as follows: L. M. Ledig, Isaac Mowrer, Hamilton Johnson, S. G. Cousins, George Thayer, George C. Stone. The navels for the year netted $2.10 to the growers.

Riverside Fruit Exchange this year shipped 1578 cars of oranges and lemons. The members of the board elected for the coming year are: George Frost, S. H. Herrick, W. P. Russell, M. J. Daniels, J. E. Cutter, L. A. Brundige, A. P. Johnson, C. H. Low, R. Brinsmead, L. C. Waite, H. G. Reed.

The large number of hives of bees which has been taken to the Imperial valley this season on account of short pasturage in other sections has overstocked that section so that the bee pasturage is exceedingly short. The Imperial Valley Bee Keepers' Association has resolved to discourage the future establishment of apiaries closer than two miles to any other established apiary.

The Coast

Strawberries are being received at Tacoma and commanding $4 a crate.

The St. John Washington Farmers' Union is endeavoring to start a Union newspaper.

The annual fair at Phoenix, Arizona, will be held for a full week, commencing November 9.

"Crown rot" is a disease which is proving quite serious in the citrus orchards of Hawaii.

The biggest icing and pre-cooling station in the West is to be constructed at Carlyn, on the Central Pacific, in Nevada.

Fig trees in the Hawaiian Islands are infested with a small beetle which causes the fruit to prematurely ripen and decay.

Farmers near Astoria, Oregon, have received from $10 to $20 per acre from stumps taken from their farms for wood distillation.

A Hood River, Oregon, fruit grower who has picked 10,000 boxes of apples has gone east and will sell his crop direct to the retailers.

The Hawaiian Experiment Station is successfully growing some plants of Mocha coffee and over 900 plants have been sent to various planters on the island.

It is predicted that the farmers of the Salt River valley will find a great commercial advantage in the sugar factory established at Glendale, Arizona.

The Horticultural Inspector of the port of Honolulu boards about thirty vessels a month in the search for fruit pests which may be introduced into that island.

Beginning with October 12, the Seattle-Tacoma circuit of Farmers' Institutes in Washington has a series of Farmers' Institutes which will extend well into November.

Experiment Station of Oregon Agricultural College is promoting the culture of cranberries in a section of Oregon which it is claimed is admirably adapted to that industry.

A deadlock which has been on between the Fruit Growers' Association at Cheney, Washington, and fruit buyers, has been declared off with 150 cars of fruit sold to an eastern firm.

A Hawaiian investigator has found that the leaves of the prickly pear cactus, cut into bits and thrown in the pools where mosquitos have bred, effectually rid the water of the wigglers.

Oregon now holds second place as a contributor to the reclamation service fund. The entire fund now aggregates $50,000,000, of which Oregon has furnished over $8,000,000 from its sale of public lands.

The Gresham Fair conducted by the Patrons of Husbandry of Multnomah county, Oregon, has proven a great success financially. The surplus, after paying expenses, is sufficient to guarantee a good fair next year.

The inspector of Josephine county, Oregon, recently caused the rooting out and entire destruction of the trees in a large orchard because of their infection with San Jose scale. The orchard was neglected and had been for several years the cause of spreading the scale through the section.

PER 2 BUSHEL SACK **$1.90** PER 2 BUSHEL SACK

Buy the World's Famous Egg Food No. 4

MIDLAND

IF YOU WANT EGGS
YOU WILL FEED NO OTHER.

Used by the largest and best breeders in the country. Thousands of poultrymen are using it, and it is the acknowledged standard of the world. Haphazard feeding is no longer profitable. Try Midland Food and be convinced.

Petaluma Incubators and Brooders

The acknowledged standards of perfection. All poultrymen who have used those machines have supreme confidence in their ability to hatch and breed. Hence their ever increasing popularity. Winners of the Gold Medal at the St. Louis World's Fair for the greatest hatch, with 40 different makes of incubators in competition. How's that?

St. Louis, Mo., Dec. 8th, 1904.—Petaluma Incubator Co., Petaluma, Cal.: My Dear Sir—The awards have been held up owing to a controversy between the Exposition officials and the national commission, but today I am able to state the award of a gold medal on your Petaluma Incubators has been confirmed. You are at liberty to make use of this in any way you see fit and in due time the diploma will be issued and the medal obtainable. Congratulating you upon this evidence of the merits of your incubators, in which there was very great competition, I beg to remain, yours very truly, J. A. Filcher, Commissioner.

And Now Comes New Reward for Merit

Read the following telegram received from the Lewis & Clark Exposition at Portland:
"Petaluma Incubators and Brooders just awarded Gold Medal at Lewis & Clark Exposition."

WRITE FOR CATALOGUE 47—A BEAUTY

Petaluma Incubator Co.

Main Office and factory, Petaluma, Cal., Box F.
Los Angeles, 636 South Main Street.
San Francisco Office and Salesroom, 83 Market St.

70c Eggs

Will they sell for that this season? Some say so. Will you get your share of this good money? More reason than ever with feeds so high that you should feed a scientifically balanced ration.

Egg-More

is not a strong tonic and stimulant, but a highly nitrogenous, concentrated Poultry Food, very rich in protein. A little fed daily with good grains will keep hens healthy, make them molt early, feather out quickly and lay lots of eggs. Have you tried it? Many have and are pleased. Here is just one:

F. W. Healy, the well-known banker and fancier of Pasadena, writes: "After hearing others praise Egg-More, I determined that if there was anything to keep hens laying through the fall and winter months, I wanted it. I bought a package of Egg-More and fed it and the improvement was very marked. Keeping on with it I soon proved the truth of your statement that 'you can't put all your eggs in one basket if you feed Egg-More.' I have raised poultry nearly all my life and for twenty years in California, but never did my hens lay so well as since I began to use Egg-More. I consider it the best egg producer on the market, and I do not intend to be without it."

You better try it. For sale by many dealers. If not by yours we will prepay freight on 12½ lbs., $1.00; 25 lbs., $1.90; 50 lbs., $3.60; 100 lbs. $7.00

Are you in the race for any of our

$50 Cash Prizes

$20 first, $10 second, $5 third, fifteen $1 each. Easily earned in an hour or more by any boy or girl, man or woman, but only one in each family, without any cost to you, and no peddling or canvassing. And to each one competing we will also give a useful article. Send postal for particulars, mentioning this paper.

West Coast Mill

707-709 So. Griffin Ave., Los Angeles, Cal.

Ranch Mirasol

S. C. WHITE LEGHORNS—MITCHELL STRAIN
LARGE, HEALTHY, HEAVY BIRDS BRED TO LAY

Carl C. Curtis, Owner Cor. Lincoln Ave. and Ventura St., Pasadena, Cal.
North Fair Oaks Altadena Cars

When writing advertisers, mention Cultivator.

Profit in the Poultry Yard

We solicit short articles of a practical nature from the fancier and utility breeder, giving their experience with poultry. All inquiries pertaining to feed, management, disease and its prevention will be answered through these columns.

A TALE OF TAILS.

ONCE upon a time the writer was young. It was a very long time ago as gray locks will testify, but as a laugh is a good thing to "pass on" will tell about it, with "ye editor's" kind permission.

I was a miss with a greater fondness for pretty cothes than my purse warranted and one fine autumn I found I had exceeded my allowance, and while I had a fine, new "myrtle green" suit and trimmings, I simply didn't see how I was to get proper trimmings for a new hat to wear with it.

I had been visiting in a neighboring city and had become enamored of the new glossy green-black "Coques-feathers" which the elite were then wearing upon their hats, but, alas! the price was beyond my reach.

It seems very silly now, but my happiness just then seemed to be hinged upon the possession of these plumes, which would just finish off my suit to perfection. My next door neighbor was a young married woman who was in just the same predicament. She had also a new green suit and no suitable hat trimmings to go with it and she confided to me that her husband didn't feel that he could give her the money just then, for he had invested in some very fine chickens which he intended showing at the fair and she must wait for the prize money, which he would surely win, before buying her hat decorations.

She wanted me to see the chickens but I had no interest whatever in such things and it was only after considerable urging on her part that I was induced to accompany her to the barn to see them. Once there my enthusiasm knew no bounds for those chickens were of the black Spanish variety and one look at their glorious green-black tail feathers was enough for me

Breathlessly I told her of the fashion and the rage for those "coques-feathers" in the city and what perfectly lovely hats we could have if only we pulled out the tails of those two roosters.

She fell right in with my plans and offered me half the feathers if I would trim her hat also, an offer I was not slow about accepting. Of course, we thought it wouldn't really hurt the birds any to speak of and when we got through with them those prize roosters were a sorry sight.

Happily we set to work upon our hats and they certainly did justify our direful deed in our own minds, anyway, for they were as handsome as any I had seen. But the language of that unhappy man when he went to feed his pets that night would surely burn this page, if transcribed literally.

In the light of my present knowledge I don't blame him in the least and can fully realize what his feelings must have been, but then I didn't know, so I stamped my foot at him and called him a "mean, stingy old thing, to begrudge his wife even the tails of his old roosters to trim her hat with" and the humor of the situation began to dawn upon him, and he vowed vengeance by threatening to tell all over town where our beautiful, stylish hats came from. But he didn't. The joke on him was too obvious, so we wore our stolen plumes in triumph and the birds grew another set quite as fine, so he won his prizes, later on, and quite forgave us our terrible tail thieving.

TO THE FARMERS' WIVES WHO KEEP POULTRY.

This page is called "Chicken Chat" and who ever heard of one person doing all the chatting. Now I know there are many of you who can tell us a whole lot of things that would be interesting and helpful and the editor has a standing invitation at the head of this department for letters from those who have succeeded, as well as for those in trouble. If you have found a certain food formula that gives you good satisfaction, pass it along that others may profit also. Don't be like the neighbor I used to have "away back east." This woman had some secret about making her flowers bloom which the rest of us could never discover. All winter her windows would be gay with blooms, while ours were bare of blossoms most of the time. We begged and we entreated her to impart the secret of her wonderful success but she always smiled a peculiarly irritating, superior sort of smile and said she "just took ordinary care of them, that was all." We used to wonder whether the sight of our blossomless windows seemed a tribute to her skill and justified her in keeping it to herself, but felt rather glad that we were not "built that way" and would willingly share each item of knowledge we felt would help one another and that's what we want you to do. Share your good feelings with us, as well as your troubles. Let us know when you have good egg yields and what foods produced the elusive egg. Those of you who have tried caponizing, write of your experience and whether it paid. Those of you who have tried the fireless brooders, let us know how they worked out. Those of you who have tried the Rankin system of raising ducks upon bran and grit, tell us all about your success. (I have never heard of any who succeeded but those who added alfalfa meal and meat to the ration.) A great deal has been said about the chicken business in California and we want the experience of those who are best fitted to give it and the farmer's wife is that person, so let us hear from you. I, myself, was a farmer's wife who always counted my necessities in chickens or dozens of eggs, not dollars and cents, for many years, so you are writing to one who knows what up-hill work it sometimes is and who can sympathize with either success or failure, for I have known both. All letters addressed to California Cultivator for "Chicken Chat" will be forwarded to and revised by me for publication, so do not hesitate to write because you are not "used to writing for the paper." Let us make this page at least worthy of the rest of this grand publication and that is a task worth doing and doing well.—Mrs. Frank Metcalf.

POULTRY QUERIES.

Roup.

Will you please tell me through your paper what to do for my turkeys? I have eight turkeys six months old. They have done fine until two months ago I noticed one morning, a swelling on each side of the nose and a discharge from the nose of one, and since, they have all been affected the same way. They eat well, are fed on corn and a bran mash every morning. They have free range on alfalfa and barley field. How long should they be fattened for market?—A Reader, Sunland.

I believe your turkeys are affected with a form of roup, but they may possibly have barley beards in their throats and nostrils which causes the irritation. Examine them thoroughly for the barley beards, and remove if possible. If they still show signs of catarrh, or roup, buy a nickle's worth of permanganate of potash, dissolve in a quart of luke warm water, and twice a day, duck their heads into this solution, holding the nostrils under until you are sure they have gotten a little into the throat, through the nose. This treatment will cure pretty bad cases of roup, but the cured birds should never be used for breeding.

About six weeks is the proper time to fit a turkey for market, as a rule.

* * *

Preserving Eggs.

I am engaged in poultry raising and in consequence am interested in everything pertaining to its success. Having seen recently a statement in regard to preserving eggs in "water glass" I am led to inquire if such eggs meet with the approval of dealers. If readily sold, they might be a profitable business. Can you advise me in the matter?—Subscriber.

Eggs may be kept perfectly sweet and wholesome in water glass solution, and answer every culinary purpose, if not over twenty-four hours old when preserved, but it is a nice question whether it is strictly honest to palm them off as fresh, and dealers do make a discrimination against preserved eggs, no matter how perfectly they have been kept.

If a market can be found, where these preserved eggs can be sold for what they are, at a fair price, it will certainly pay to put them down when eggs are cheap and plentiful.

I wouldn't trust the word of my own sister about the age of eggs, as eggs are usually gathered, (or left un-gathered until half spoiled.)

I have known people to come to grief buying up eggs to preserve, for while they may be candled, and seem perfectly good, there is always danger. It is well known that an infertile egg shows clear and fresh looking after being incubated two weeks or more, but that egg don't have a fresh taste, exactly, and might spoil a whole tub-full, if preserved in company with fresh ones.

In old Kentucky, the law has stepped in and draws a sharp dividing line between cold storage and fresh eggs, and forbids the former being used in public places unless properly advertised as such, and provides for a fine from $25 to $500 for a violation of this law, which goes to show how such things are regarded. So our advice, is "Go slow" try a few hundreds and see how they sell, then, if the experiment justifies you, enlarge your capacity; but I warn you, that if one person makes a success of it one year, the next year every body will be at it, thereby bringing the price down where there will be nothing in it.

But, its a poor rule that won't work two ways. While the preserving of eggs goes on, the price of spring eggs will be equalized, as preserving large amounts will keep them off the market at a time when the market is glutted, and fair prices may be obtained the season through.

My experience has been, that the better way is to keep a flock of thoroughbred fowls, pen up the best ones, and sell eggs for hatching, during the spring season. This method brings you a better price than any other can do, and if you advertise your stock properly, is safe and sure.

Of course, shipping eggs for hatching has its drawbacks, and perhaps, the preserved egg trade is only in its infancy. Certain it is, that most food products are now sold in packages, even condensed milk. Therefore, why not have a suitable package for "Water-glassed eggs. warranted fresh," of a convenient size for shelving, thus preserving them in small quantities, say a dozen and two-dozen size. The convenience of handling them thus would appeal to every grocer and house-wife, and if kept strictly up to the mark, would solve the problem of marketing eggs in the simplest way. It is worth trying, anyway.—Mrs. Frank Metcalf.

DUCK CULTURE

The most important thing is to have good healthy parent stock that is not inbred. What we mean by inbred is using male birds from your own eggs for breeders several years without getting new blood from some other source. Our practice is to get some other breeder to exchange eggs with us from which we hatch and raise our own drakes for breeding for next season. In raising stock for breeding we start from the time the present stock is hatched. These are selected from the April and May hatches and are not forced same as ordinary stock for market. They do not come to maturity in four weeks. As soon as they get their feathers (except the wings) we sort them, picking out all the most promising ducks for breeders. The drakes are put back in pens and fattened for market. For breeders we select the medium-size ducks, with drakes just a little under-sized. These we think are more active and eggs are more fertile. As soon as we have our breeders sorted we turn them out to pasture in flocks, say 200 on about two acres with plenty of shade and a creek running through the lot. They are fed sparingly on a light feed composed of three-quarters bran with the rest equal parts corn meal, low grade flour, ground oats, 5 per cent beef scrap; also one-third of entire mixture, cut clover rowen of second crop clover cut very fine, with all long stems screened out, or green corn fodder cut every day very fine. Feed all they will eat up clean quickly. Keep them purposely a little hungry. They are kept here until Nov. 1 to 15, according to weather. Then they are again sorted and put in pens 12x100 with 10x10 pen inside house, 20 ducks and 5 drakes to a pen. Each pen has a feed trough 1 foot wide 6 inches deep, 12 feet long, with another for water 5 feet long outside. Inside they have a feed trough same as others with a 15 quart pail for water not over 14 inches high. This pen is kept bedded with fine planer shavings preferred. It has a box for oyster shells and gravel size of wheat or corn. Here the feed is all changed to equal parts; corn meal, bran, low-grade flour, ground oats and stale bread or crackers, if it can be had, 10 per cent beef scrap and one-third entire mixture, fine cut clover. Steam the whole mixed thoroughly with warm water, not sloppy, but in a condition so it crumbles. Feed inside in stormy weather and outside if the snow is off the ground. They should start laying by last of December or first of January. The eggs are gathered first thing in the morniug, when one can see, to get them; also again at 9 and 11 o'clock. Later when it is warm 9 or 10 o'clock will do. As the pens are kept bedded the eggs which are laid on the floor are most all clean. Those that are soiled are washed lightly. We set our eggs twice or three times a week never using eggs over one week old. They are run in the incubator four weeks at 103, being turned on wire trays half over every twelve hours. We never open machine from time they start to hatch until all are out.. Machine is provided with a nursery under trays below into which they fall as fast as hatched and are out of the way of others that are coming out. When they are all dried off we take a bushel basket and line with paper, then put in soft cloth, first warming it; into this we place the little downy fellows, cover them up and hurry them off to the brooder house.—Misssouri and Kansas Farmer.

Excelsior Egg Food

Mr. W. W. Howard, the White Leghorn expert, is feeding Excelsior Egg Food exclusively. Mr. Howard's flock is noted as an egg producing strain. If you are not getting satisfactory results, try Excelsior Egg Food.

Excelsior Scratch Food

Is just what you have been looking for. Give it a trial and you will never be without it.

EXCELSIOR

None Others So Good

No others "just the same." Insist on **Excelsior** or write to us direct. Mention Cultivator.

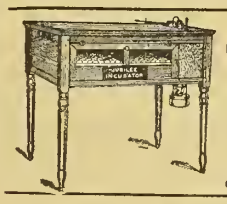
Excelsior Cereal Milling Co.

242 Central Ave.
Los Angeles, Cal.

Coulson's No. 3 Condition Powder

Is just the thing for molting hens. It acts as a tonic and digestive. Keeps the hens laying longer into the molt and quicker after it. Our FREE Booklet, "THE RIGHT WAY" gives full particulars and special offer. Manufactured only by

Coulson Poultry and Stock Food Company
Petaluma, California



WHY?

Do All Prosperous Poultrymen Use
Jubilee Incubators and Brooders
Our Catalogue A Will Tell You. It Is Free.
Jubilee Incubator Company ***Sunnyvale, Cal.***

Trap-Nested White Wyandottes

Eggs for hatching now ready from fall matings.

MISSION VIEW POULTRY RANCH, MRS. C. D. HUBBARD, SAN FERNANDO, CAL.

F. E. Baldwin's WHITE LEGHORNS

THEY LAY
THEY PAY
At Every Pop
THEY SHOW
THEY GO
To the Very Top

First Prizes Everywhere Shown. Bargains *now* to make room. Send for Prices and Free Booklet.

46 Washington Ave. - ***San Jose, Cal.***

GUTTING'S SUPERIOR WHITE ROCKS

Won 9 firsts out of a possible 10 and all specials and many other prizes at the great L. A. C. P. A. and Pomona Shows last winter. Place your order now for exhibition birds for the winter shows. Eggs now $3 per setting. Send for circular.

E. GUTTING 134 W. SLAUSON Los Angeles, Cal.

Now is the time to hatch **BANTAMS**
Golden Sebright, Buff Cochin, and Light Brahma Eggs, $2 per 15. Prize winners.
M. E. Dillingham **Box 67, San Gabriel, Cal.**

White Wyandottes Exclusively

Good, White, Typical Birds. Stock and Eggs For Sale.
W. A. SEYMOUR, R. F. D. No. 1, Anaheim, Cal.
Take Santa Ana Electric Line to Harper Station

White Wyandotte Cockerels For Sale

A few choice ones from best strains. Cheap—must be disposed of this month to make room in my yards.
Wm. C. Parker, 111 Pacific Ave., Santa Cruz, Cal.

High Priced EGGS

Are what all poultrymen like to get during the fall and winter; but without the very best of health in the flock and a good variety of sound, wholesome feed it is hard to get such eggs.

Nature requires that hens have a rest just prior to and during the molting period; the result is a scarcity of eggs, with higher prices, and a larger profit for those who can overcome the difficulty. The one that can get eggs during the fall will be just that much ahead of his neighbors and others who fail to do so, which in the end is the difference between success and failure.

COULSON'S EGG FOOD is the feed that will turn failure into success by enabling you to secure eggs in the fall and winter while prices rule high.

Improvements have been effected in the composition of the EGG FOOD during the past year, so that it is now richer in the various nutrients required by the laying hen, and is a better feed than ever before. Coulson's balanced ration poultry foods are guaranteed to contain nothing but wholesome ingredients.

"THE RIGHT WAY," our booklet fully describes COULSON'S IMPROVED MASH EGG FOOD and other balanced rations for poultry and gives full particulars of guarantee and directions for feeding and care of poultry from the time they are hatched. If you have no copy of it, you should drop us a line today; a postal card will bring it to you.

We have agents selling our poultry foods in nearly every town in California. If you cannot obtain what you want from your dealer, write to us and we will tell you where to get it.

Coulson Poultry & Stock Food Co.
Petaluma, Cal.

Germain Seed Co., Los Angeles
Distributing Agents for So. Cal.

CAUSE AND CURE FOR BUMBLE FOOT.

Bumble foot is a form of stone bruise. It is generally caused by confinement upon hard floors or runs or may be caused by the fowl jumping on a hard surface from the perch or other high place, writes a poultryman in Western Poultry Journal. Extremely narrow perches will cause it.

In mild cases the bottom of the foot is swollen and inflamed and noticeably painful. The foot should be held in warm water for fifteen or twenty minutes, after which apply boric acid ointment which is made by adding one part boric acid to five parts vaseline. Repeat this for three days or more, keep the birds confined in a coop that has some sort of soft bedding in it. In aggravated cases abscesses form and the swelling must be opened. Dust the wound with iodoform and apply the boric acid ointment. Bandage the foot daily, keeping the fowl confined until the wound is healed.

GREEN CUT BONE.

One pound of cut bone for a dozen hens once a day, which should not cost over 1 cent a pound, will produce more eggs than five times as much grain, because the cut bone is complete in egg-making substances, while the grain is largely deficient in many respects, says Mirror and Farmer. Some persons affirm that it does not pay to procure a bone cutter for small flocks. That is a mistake. Bone cutters are now cheaper than many ordinary garden tools, and are strong, durable and efficient. The cost of the bone cutter is soon regained in the increased number of eggs laid. It is almost indispensable to success, no matter how small the flock if fully determined to secure the largest profit possible. The great saving of bones and meat, and the utilization of materials that could not be appropriated as food for fowls without their use have given green bone cutters a place on all well regulated farms. They are sold at from $5 to $10, a price which places them within the reach of all, and they have added to the profits of poultrymen, farmers, butchers and poultry supply houses.—Commercial Poultry.

APPLIANCES AND METHODS FOR PEDIGREE POULTRY BREEDING.

The Maine Agricultural Experiment Station is now mailing Bulletin 159, containing an account of methods and devices for use in the breeding of pedigreed poultry. It describes a new trap nest; a pedigree egg distributing and turning table for storing eggs awaiting incubation; an incubator basket for keeping track of pedigreed eggs during incubation; a device for mechanically banding chick leg bands, and a system of keeping pedigreed records.

On account of its technical nature, this bulletin is issued in a limited edition, and is not being sent to the general mailing list of the station. Until the edition is exhausted, however, a copy will be sent to any interested person on application.

The description of the new trap nest is issued separately as a circular, and will be sent on application. Requests should be addressed to The Maine Agricultural Experiment Station, Orono, Maine.

Exercise produces warmth, provides pleasure and promotes health. Therefore it is well to let hens hunt in a deep litter of straw for all their grain. Hens love to scratch. They do it intuitively.

We Hatch 19 Kinds of Baby Chicks

Send for price list and descriptions. We can ship them safely anywhere within 48 hours. Can refer you to satisfied customers everywhere. Chicks from fine stock. ***Now*** is the time to buy chicks to get pullets to lay at the right time. We ship to all points on main lines in California, Arizona and Nevada. We sold over 230,000 chicks so far this year—buy of us and get what you pay for. This paper guarantees you fair treatment from us. We are the largest chick dealers in the world. Call and see us when in the city. Visitors always welcome.

Pioneer Hatchery Co.
108-110-112 E. 8th St., Los Angeles, Cal.

SPECIAL ANNOUNCEMENT

Poultry Department
OF
Aggeler & Musser Seed Company

I wish to announce that I have associated myself with the above firm, they taking over my business, and hereafter I will be in charge of the poultry department and will handle a full and complete line of poultry supplies. Headquarters for Petaluma Incubators and brooders, Drs. Hess & Clark Poultry and Stock remedies, Midland Poultry Food and Steinmesch Chick Feed. Agents for Swift's beef scraps.

I will be pleased to see all of my old customers and friends and can assure them of the same kind and courteous treatment as in the past.

S. H. CHURCH, Mgr. Poultry Supply Dept.

Aggeler & Musser Seed Company
113-115 N. Main St., Los Angeles, Cal.

IS GRIT NEEDED FOR FOWLS?

Whatever Spallanzani proved and did not prove in his experiments, it is a fact, and a fact easily proven, the fowls do not eat grit without any design. Though we may not know fully the whole purpose of the use that grit is put to in animal economy of the fowl, and I have sometimes thought that grit and other hard substances perhaps were eaten by the fowls to keep contents of the crop from packing, suffice it to say that in a number of crop-bound birds examined, grit seemed to be conspicuously absent, on the other hand, if grit may not be necessary to triturate the grain so that the gastric juices may complete the processes of digestion, it may be that the grit is necessary to keep the inner surface of the gizzard in its hard, rough and horny state, same as the finest pair of hands by the handling of hard substances becomes hard and callous, hence the form of speech, "horny hands."

This theory has, to my best knowledge, never been advanced by any of the numerous investigators on the subject, though it may only add another theory to the many others already advanced.—The American Fancier.

The only rule for feeding is the rule of appetite. Keep the appetite good. To do this is the fine art of feeding. It cannot be taught; it must be learned by practice. Fowls do not eat the same amount of foods each day. Those that are laying eat far more than fowls of the same age and breed not laying. Pullets not laying eat more than the same weight of old hens not laying.

It is safe to feed in an egg ration one-tenth to one-fifth by weight of meat in the total ration, the quantity varying with the richness of the meat and other foods used. It is preferable to mix the meat in the meal feed. It is, however, fed separately, with perhaps equally good results.

The successful poultryman keeps both his eyes and ears open—always alert for the appearance of lice or mites or the first symptoms of colds or roup. Eternal viligance pays.

POULTRY OWNERS

Leslie's Chemical Nest Egg

Positively kills all Lice, Insects and Vermin peculiar to poultry, one dollar per dozen. Send ten cents for sample.

Hollywood Supply Agency
420 Wright & Callender Building, Los Angeles, Cal.

Hollywood Supply Agency,
420 Wright & Callender Bldg.,
Los Angeles, Cal.

Gentlemen—I find my hens are greatly benefited by using Leslie's Chemical Nest Eggs. Am pleased to recommend them to owners of Poultry.

MRS. N. C. CLARK, 107 E. 63rd St.

You Get the Most for Your Money

When buying ***"Quality S. C. White Leghorn Chicks"*** from us at 10c each, because we give you ***FREE*** the "Chick Book," containing full instructions for raising them; with every order for 200 or more.

Rancho Los Encinas
R. F. D. 76, Glen Ellen, Cal.

DUCK NOTES.

The duck has no crop.

Ducks do not have gapes.

A sandy soil is best for ducks.

Don't forget grit in the mash.

Water ducks three times a day.

Hard grain is not the proper diet.

A duck well hatched is half raised.

Better have the ducks a little hungry.

Let the ducks make their own nests.

The weakest part of a duck is its legs.

The "green duck" is a late innovation.

Give the water first thing in the morning.

Duck eggs over a week old do not hatch well.

The Family Circle.

The great value of green food lies in its ability to aid in the digestion of other foods, thereby promoting good health, which means more eggs. For summer feeding, clovers and rape are among the best green foods. They should be provided in unlimited quantity. For winter feeding, cabbage and mangel beets are perhaps the best for feeding raw, but for cooking, turnips and small potatoes are preferable. No objection has ever arisen on account of the flavor of flesh or eggs from feeding any of these goods liberally.

The Ornamental Garden

THE NARCISSUS.

NARCISSUS—which includes daffodil, jonquil, etc—is a genus of hardy bulbous plants, most of the species of which are natives of Southern Europe. A few of the original types are still cultivated in gardens, but the most of the fine varieties now grown have been produced from seed.

Narcissi are undoubtedly the finest of our winter and spring flowering plants, and, being of easy culture, are deservedly popular. The forms of types are varied, although the range of color is limited. A number of varieties are much earlier than the majority, while a few of the best kinds are later in their blooming. Late-flowering varieties are not recommended for the earlier and hotter districts, as the blooms are not capable of enduring the hot sun or wind. In the cooler districts there is probably a fair opening for the culture of late varieties to succeed in the markets those grown in the metropolitan district.

Soil and Culture.

The most suitable soil for narcissi is a light friable loam. They will, however, grow and bloom well in any well-drained, fair, garden soil. The addition of fresh stable manure to the soil in the proximity of the bulbs is most injurious, and should be avoided. Well-rotted stable manure is beneficial when deeply worked into the soil well below the bulbs, but the best manure for all narcissi is a mixture of equal parts coarse bone meal and superphosphate, applied at rate of about 1 lb. to the square yard. In cool soil this manuring is quite sufficient, but in hot, sandy soils the addition of well-rotted cow manure to the bottom of the bed or patch is of special value, on account of its coolness and moisture-retaining properties. The bulbs are most satisfactory when planted in special beds, although they will succeed and often produce exceptional blooms when grown in borders among other plants. The advantage of the bed system is that the bulbs are not watered artificially in the resting period as is generally the case when they are grown in borders of mixed plants. In preparing soil for the reception of bulbs, the bed or patch should be worked to a depth of about 18 inches, the manure applied to the bottom 9 inches, and the soil firmly trodden before planting. Bulbs of the majority of varieties should be planted about 3 inches in depth, very large bulbs an inch deeper, and bulbs of small and weakly-growing varieties an inch less. The bulbs should be planted from 4 to 6 inches apart, and may be allowed to remain undisturbed for three years, when they should be lifted, divided, and replanted. The bulbs are ready to lift when the tops turn yellow, and should be replanted at once, if possible. Otherwise they should be dried and stored in a cool place till the latter end of March at latest. After the flowering period is over, the bulbs should not, as is usual, be allowed to suffer from want of cultivation. The longer the "grass" is kept growing the better the blooming in the next season.

The first car of walnuts was shipped to San Francisco on October 8. The new electric-salt bleach is proving entirely satisfactory.

BULBS AS HOUSE PLANTS.

Queries occasionally come, writes Prof. Paddock of Colorado Agricultural College, concerning the proper handling of bulbs for home decoration. Such information should be of general interest, as nothing adds more to the cheerfulness in the home than plants, and a few bulbs afford a pleasing and all too uncommon variety. No class of plants is of easier growth if a few fundamental principles are adhered to.

The first is perhaps a choice of kinds. The beginner will do well no doubt to experiment first with a few kinds, as a few well-grown specimens are much more satisfactory than many which give indifferent results. In this class may be placed the narcissi of various kinds, hyacinths and freesias.

Narcissi come in many forms, as the polyanthus, jonquils and daffodils. The two common forms of hyacinths are Dutch and Roman, while freesias are of but one kind.

Soil for bulbs should be made light with sand and loam, but aside from texture there is little else required. Any soil which the common house plants thrive in will answer.

Four or five-inch pots do nicely for bulbs, but the shallower pans look neater. One hyacinth bulb is all that should be grown in the smaller sizes, while from three to five narcissi, according to size, may be used. Some drainage material, as a few pebbles or bits of broken pots, should be placed in the bottom, then the pot is filled two-thirds full of soil, which should be pressed down firm, but not packed; then the bulbs are placed so that they may have half an inch of soil over them, and the surface of the soil should be at least half an inch below the top. A thorough watering is now given and the pots are put in a damp, moist place, where the temperature will remain at not far from 50 degrees. This may be in a cellar, or even in a room, though suitable protection must be afforded to prevent drying out. A common practice is to bury the pots out of doors where sufficient protection is given to maintain the required temperature. This treatment is necessary in order to secure a good development of roots before the top begins to grow. This will usually take about four weeks, but their condition may be ascertained by an examination at any time. Pick up one of the pots, invert it and tap the rim gently on a table's edge and the contents will usually fall out readily without disturbing either roots or soil. When the soil is fairly well filled with roots it is time to place the pots in the window.

Freesias are perhaps the most satisfactory for several reasons. They are very easy to grow, the bulbs are cheap and but few flowers surpass them in fragrance or in beauty. They are planted the same as the others, but as the bulbs are small, a larger number should be planted in a pot, perhaps six will be about right for a four-inch pot, a row around the outside with one or two in the center.

Unlike the other bulbs, freesias should be placed in the window at once. Keep in the sunshine as much as possible and water carefully. The plants are apt to take a spindling growth any way, so a little care will be well repaid. As the flower stalks begin to form they may need staking, but a small stake may be used which will not be too conspicuous.

After the flowers are exhausted, the plants should be well ripened by gradually withholding water, then the pots may be placed in the cellar until the next fall. The larger bulbs may be used for forcing a second time. This is not true, however, of the other kinds mentioned, as they are worthless for forcing a second time.

Malthoid Roofing

Cassin & Ish, Goldfield, Nevada, U. S. A., write: "During the last great fire in Goldfield, a building covered by Malthoid was right in the heat of the fire. A wooden shed attached to it burned, but though the roofing blistered and partly melted, it did not burn. It was the very best kind of an advertisement for the material."

The Paraffine Paint Co. San Francisco California

E. G. Judah, General Representative, Security Bldg, Los Angeles

SEEDS
Plants Trees
BULBS

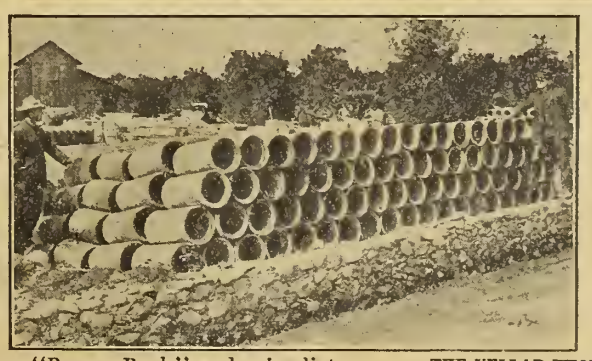
We are headquarters for
GARDEN AND FIELD SEEDS
Those who are not yet in receipt of our Fall Catalogue, send for it at once.
Prospective planters of ALFALFA, CLOVER and GRASSES are requested to write us before planting.
Remember, our handsome new 1909 General Catalogue, ready for mailing in December, will also be sent to those who write us now.

C. C. Morse & Co. 41 Jackson St., also Market St. San Francisco

West Coast Seed Co.

has moved around the corner from the old stand to
115 W. 7th St.
The best place to get the best values in
SEEDS THAT GROW JUST SOW
and Poultry Supplies
Just try us. Send for free catalogue and price list.
We make "Pacific" and "Business"
Incubators and Brooders

Germain Seed and Plant Co.
Seeds Bulbs Plants
and Poultry Supplies
Write for Catalogue. 326-330 So. Main St., Los Angeles, Cal.



From photograph showing amount of
Ten-Inch Pipe
made by four men from 10 bbls. of cement in 9 hours — 280 two-foot joints, or 560 feet. This pipe was made with the
"K T" Moulds
An equal amount can not be made with any other tools in the same period of time. Write for "Brown Book" and price list. THE KELLAR-THOMASON MFG. CO., Covina, Cal.

Six of the Most Valuable New Fruits

Ever Introduced in California

"Improved French" Prune
Originated by Luther Burbank

"Concord" Walnut French Variety
Grafted trees only. Better than Franquette or Mayette

"Paul" Cherry Finest Black Cherry

"Philippi" Grape Handsomer than Tokay; a month earlier. Disinfected cuttings only, to comply with quarantine laws.

All these, like Muir, Lovell, and Phillips Cling Peach, are of California origin.

"Comet" Red Currant Much larger, earlier and sweeter than any other.

"May Duke" Gooseberry
Earliest of all; large; smooth skin.

Write for Further Particulars.

EUCALYPTUS TREES by the 1000 or 100,000. No stronger stock; grown in the open, without lath shade or screen, therefore hardened to all weather.

GENERAL NURSERY STOCK

Leonard Coates Nursery Co., Inc.
EST. 1878. INC. 1905.
Morganhill, Santa Clara County, Cal.

PLUMBING

Plumbing Materials

WATER SEWER PIPE

ALL PLUMBING REPAIRS

We contract to furnish all the materials and do the work or furnish the materials only.

GET OUR PRICES

JAMES W. HELLMAN
Hardware, Stoves, Etc.
157-161 NORTH SPRING STREET
LOS ANGELES, CAL.

When writing advertisers, mention Cultivator.

300,000 Feet Water Pipe Cheap

ALL SIZES

150,000 feet of this shipment is second-hand pipe, practically as good as new, and is now on sale at a big discount by the Adams Pipe Works, 2025 Bay street. Sizes and prices: ¼-inch 2 cents per foot; ⅜-inch, 2 cents per foot; ½-inch, 2¼ cents per foot; ¾-inch, 3 cents per foot; 1-inch, 4¾ cents per foot; 1¼-inch, 6 cents per foot; 1½-inch, 7 cents per foot; 2-inch, 9¾ cents per foot; 2½-inch, 15 cents per foot; 3-inch, 19 cents per foot; 3½-inch, 24½ cents per foot; 4-inch, 39 cents per foot.

Oil well casing prices and sizes: 2-inch, O. D. 7 cents per foot; 2-inch, I. D. 9 cents per foot; 3-inch, 13½ cents per foot; 3¼-inch, 16 cents per foot; 3½-inch, 17 cents per foot; 4-inch, 20 cents per foot. All pipe is carefully inspected, new couplings and new thread are put on every piece, every joint is guaranteed to be first class, serviceable pipe. Mail orders promptly filled. To reach the Adams Pipe Works in Los Angeles, take car marked Pacific Boulevard, starting east on Seventh street from Broadway. Ask conductor to let you off at Bay street and go east half block. Phones, F1917, Broadway 1264.

LAND PLASTER

Gypsum will make available the plant food in your soil and bring good returns through small investment.

Wonderful Moisture Retainer

Write for prices in car lots.

Acme Cement Plaster Co.
750 S. ALAMEDA ST. LOS ANGELES, CAL.

When writing advertisers, mention Cultivator.

Queries and Replies

Questions to be answered in this department should be received at this office one week before reply is expected. Write plainly on one side of the paper and sign full name and address. Unsigned communications receive no attention.—Ed.

Grafting Wax.

Please give formula for budding or grafting wax. What width of budding cloth is best for wrapping buds? How is it prepared and what length should it be cut?—Subscriber, Phoenix.

Resin, 6 lbs.; beswax, 2 lbs.; linseed oil, 1 pint. Break the resin into small pieces, cut up the beeswax and place the two together in a suitable iron pot. Pour the linseed oil over them. Set the pot over a slow fire and allow the materials to melt. For waxed cloth, saturate thin muslin with the wax. Prepare the cloth by tearing it into strips four or five inches wide and winding it around sticks about a foot or so in length and one inch thick. The rolls should not be more than two inches thick, else the wax will not penetrate to the center. Melt the wax over a slow fire, place the rolls in it and allow to remain there until the wax has penetrated the cloth. The wax should not be allowed to become too hot, else there is danger of burning the cloth. Have it just hot enough to keep the wax in a melted condition. As soon as it is saturated, remove the cloth from the wax and store away When required for use, unroll the desired length and tear it into strips one-half to three-quarters of an inch wide. Some people, instead of cutting the cloth into strips, stretch out the cloth and apply the hot wax to its surface with a brush.

Spotting of Cabbage.

J. W. Anderson of El Monte sends in a cabbage from his ranch with small sprouts all the way to the center. At first we thought it a fungus and referred to Prof. R. E. Smith of the Pathalogical Laboratory and he replies: The cabbage leaves affected by a black spotting, which you recently sent us, do not seem to show any fungus or other parasitic organism. So far as I can determine this condition seems to be the effect of some injury which the cabbage received while a young plant. The black spots are small dead places in the leaves where they were injured in some way at a previous time. It is possible that it may have been done by insects, particularly the cabbage aphis or louse, which is our worst trouble with cabbage. I have not seen this condition in any other instance than the specimens which you sent.

Name of Apple.

What is the name of an apple of good size, deeply indented at blossom or stem end, pale green on one side, the other side red, mottled with green, flesh white?—Mrs. L. B. S., Fair Oaks.

The description fits Famous or Snow Apple, but of course cannot say that it is.

Scaly Bark.

Please find enclosed a sample of some bark from orange trees that are diseased. It starts about one foot from ground and works up through the limbs. The trees are 15 years old and Mediterranean Sweets. There are about 50 that have this disease in the ten acres. They have been well cared for with a fair amount of fertilizer, stable and commercial. Will this disease spread? Cannot find any in my navel trees or lemons.—D. A. C., Rialto.

Prof. Ralph E. Smith answers:

"The trouble with orange trees from Rialto is the disease called 'scaly bark.' This is a form of gum disease which has received considerable discussion of late in the horticultural press and elsewhere. The article written by Judge Call of Corona, published in the Cultivator some time ago, gives a very good description of this trouble and its treatment.

'The disease is not caused by any parasite, but is an effect of conditions of growth, the nature of which is not always easy to determine. The best treatment consists in digging up the soil very thoroughly close about the tree, cutting back the top of the tree quite severely if it is badly affected, and painting over the affected areas with neatsfoot oil, linseed oil or a 10 per cent solution of caustic potash. it is also well to cut out narrow slits of bark through the scabby portions. If the trees are badly affected it is about as well to dig them out and plant new ones, or cut back the whole tree to healthy wood, even down to the ground if necessary, and let new sprouts come up to form a new top."

Unprofitable Prune Trees.

I have a small orchard of prune trees in good heavy soil and the trees are very large, some of them measuring twenty feet across top. I do not get even a fair crop, although in the spring the trees are covered with bloom. These trees have only been known to have one good crop in the last twenty years. Some have dry rot in the butt of the tree. Could you kindly give a remedy or would it be advisable to take them out?—A. K., Geyserville.

Your trees surely have a bad record, and if there are other varieties of plum or prunes that are profitable in your section and your old trees are healthy, they might be grafted over with profit. If such is not the case we would surely dig them out.—J. W. M.

Preserving Orange Seeds.

Please tell me what is the best way of the preserving of the citrus trifoliata seeds? I have been keeping them in the moist sand and some in the paper box which is wrapped with woolen cloth, but I found out some kind of fungus on them.—T. K., League City, Texas.

This was referred to Prof. R. E. Smith, who writes: "In regard to the best way of preserving citrus trifoliata seed, I would say that the seed of this species of orange can be kept quite satisfactorily in a dry condition. Most citrus seeds have to remain in the fruit or be kept moist until the time of their germination, in order to preserve their vitality. With citrus trifoliata, however, the seed may be dried and kept for some time without impairing its power of sprouting.

"If your correspondent is unable to keep the seed in moist sand, which is the usual method, I would advise him to dry it and keep it in that condition, as he would other kinds of seed, until ready for planting.

Sowing Alfalfa.

Please inform me through the paper what is the best time to sow alfalfa?—Subscriber, Stanislaus county.

If the ground is in good condition we imagine the present to be as good

IRRIGATING HOSE

12 oz. canvas, coated or plain; good for several seasons. 1¾ inches, 2½ inches, 4 inches, 6 inches, 9 inches, 13 inches. Galvanized or brass couplings.

Tents, Tarpaulins Picking Sheets, Picking Bags, Stack Covers

Our Tent Catalogue, mailed free, gives full information.

The Wm. H. Hoegee Co. INC.
138-140-142 So. Main St., Los Angeles

THE "BOSS" Tree Protecter

Made of Yucca Palm

Is cheap, durable and quickly put on the tree. It prevents Rabbits from destroying your trees. A sure protection against frost, sun-burn, grasshoppers or dry winds. Can be easily removed; will last for years.
Send for samples.

Prices

12 inch long,	$ 9.00	per	1000
14 inch long,	10.00	per	1000
16 inch long,	11.50	per	1000
18 inch long,	12.50	per	1000
24 inch long,	15.00	per	1000
30 inch long,	17.00	per	1000

Agents Wanted Everywhere

YUCCA MANUFACTURING COMPANY
1380 Willow Street Los Angeles, Cal.

FARMERS' BOOKS

Order Through the Cultivator

FEEDS AND FEEDING.—By Prof. W. A. Henry. Is a thorough, accurate and reliable handbook for students and stockman, giving most practical and useful knowledge on plant growth and animal nutrition, feeding stuffs, feeding animals and every detail pertaining to this important subject, indispensable to every owner of live stock. 658 pages. 6x9 inches.
Cloth $2.00

AMERICAN GRAPE GROWING AND WINE MAKING.—By George Hussmann of California. With contributions from well known grape growers, giving wide range of experience. The author of this book is a recognized authority on the subject. Illustrated. 269 pages. 5x7 inches.
Cloth $1.50

STANDARD OF PERFECTION.—By the American Poultry Association and used as the standard for judging all shows. The thing for dealers in fancy stock.
Cloth $1.50

PERFECTED POULTRY OF AMERICA.—This is the most recent publication, and is one of the finest poultry books ever issued. It contains full page illustrations of all breeds and varieties of poultry, turkeys and water-fowl. On many of its pages are represented the feathers from each section of the fowl. Gives the information necessary for the selecting of the best specimen in your flock.
Cloth $2.50

A. B. C. AND X. Y. Z. OF BEE CULTURE.—By A. J. and E. R. Root, the leading authority on Bee Culture Its reputation is known to all Beekeepers. 536 pages.
Cloth $1.50

CAMPBELL'S SOIL CULTURE MANUAL.—By H. W. Campbell. The originator of the "Campbell System of Dry Farming." A complete guide to scientific agriculture as adapted to the semi-arid regions. Of great value to all Western ranches. 320 pages.
.... $2.50

THE NEW AGRICULTURE.—By F. Byard Collins. A new and authoritative work dealing with the changing agricultural conditions. Why "Back to the Soil" is calling millions from the cities to the farm. The debt which agriculture owes to science. Irrigation, fertilization, machinery, etc.
Illustrated, 374 pages, cloth.........$2.00

Cultivator Publishing Company

Warranted to give satisfaction.

GOMBAULT'S
CAUSTIC BALSAM

A safe, speedy and positive cure for

Curb, Splint, Sweeny, Capped Hock, Strained Tendons, Founder, Wind Puffs, and all lameness from Spavin, Ringbone and other bony tumors. Cures all skin diseases or Parasites, Thrush, Diphtheria. Removes all Bunches from Horses or Cattle.

As a **HUMAN REMEDY** for **Rheumatism, Sprains, Sore Throat,** etc., it is invaluable.

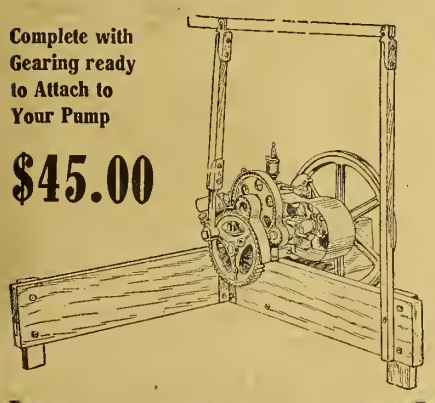
Every bottle of **Caustic Balsam** sold is Warranted to give satisfaction. Price **$1.50** per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars, testimonials, etc. Address

THE LAWRENCE-WILLIAMS COMPANY, Cleveland, Ohio.

Aermotor
Gasoline Engine

Complete with Gearing ready to Attach to Your Pump

$45.00



Will pump all the time, wind or no wind, and deliver as much water as an 8 ft. Aermotor in a good wind.

From 225 to 1600 gallons per hour, depending on height water is to be raised.

Air cooled, uses Gasoline or Distillate.

A reliable, durable engine at a very low price. Can You Afford to be without one.

Send for Special Circular.

Tanks Towers Pumps Distillate Engines

Smith-Booth-Usher Co
Machinery and Supplies
Successors to
S. J. Smith Machinery Co. and L. Booth & Sons
212-214 S. Los Angeles St., Los Angeles
Home, Ex. 1090—Sunset, Main 1090

Peckham Says:

How to Make $2000 a Year

Don't sell your life away by the week or month. Get busy and do something for yourself and your future You can do it by taking hold with me and building for yourself a self-supporting home on my land at Corcoran.

Where you can raise two crops every year—where you can make $2000 a year or better.

Is this what you are looking for? If so take the few minutes' time necessary and come in and see me, or if you cannot call send your name and address on a postal for my magazine, "Profitable Realty," which tells the whole story. Send for it today.

George C. Peckham & Company

Phones: Main 3221, F5392.
203-4-5 Union Trust Bldg., Corner Fourth and Spring Sts., Los Angeles Cal.

EDISON PHONOGRAPHS, VICTORS, ZONOPHONES
Records and Supplies, delivered at your nearest railroad station upon receipt of full retail price. Write for particulars and ask for catalogue. Peter Bacigalupi & Sons, 1113-15 Fillmore St. San Francisco

time as any time of the year. Surely it would be better than to wait until spring time. Possibly it might have been better if sown a few weeks earlier, in which case it would have been more liable to be out of the danger of frost, which may come in December or January.

Wormy Apples.

We have an orchard of very fine apples. They bear heavily but are nearly all infested with worms. What can I do to cure this evil? Are wood ashes scattered about the trunks of trees of value?—M. E. H., Santa Barbara county.

The wood ashes are of no particular value except to put the ground in better condition and to fertilize the trees. In that respect they are very valuable. For the worms you should supply yourself with a spray pump before the next blossoming time and when the trees are in full bloom or perhaps just going out of bloom spray with a solution of Paris Green water and a little lime. The proportion of Paris Green is 1 lb. to 200 gallons of water. This solution must be kept thoroughly agitated all the time the spraying is being done. Two or three weeks after this first spraying on the blossoms give a second on the young fruit which has just set, taking care to deposit as much of the poison solution as possible in the blossom end. Fuller particulars may be had as to this process next spring, when it will be in order to use. Some help may be had by placing bands of burlap about the trees at this time of year, which is allowed to hang a little bit loose and make a hiding place for the worms. As they drop from the apples, they have a habit of finding these hiding places, from which they may be taken with the band later and immersed in coaloil or hot water to kill them. This will somewhat reduce the next spring crop, and if generally practiced in the neighborhood is very valuable.

Fertilizer on Alfalfa.

Has commercial fertilizer been tried on alfalfa? What were the effects?—W. M. P., Riverside.

We do not think commercial fertilizers have been tried to any great extent. Stable manure has and invariably with good results. Lime has been recommended very highly, or still better, gypsum, which is very cheap and at the same time seems to fit the soil for alfalfa requirements as no other application will. Your other query regarding capacity of flume will be answered later.

Blackeye Beans.

I have about 300 sacks of blackeyes to sell. Can you find buyer for me at prices quoted in Cultivator?—W. N. G., Fillmore.

It is hardly probable that the Cultivator could secure for the producers wholesale prices as quoted in the paper. Those prices are given as an indication of the trend of the market and as fully explained in a long article in the Cultivator a few weeks ago, the wholesaler has built up his trade by making a large investment of capital and devoting a great deal of energy and business tact to it, so he cannot be expected to give to the producer the same price at which he wholesales his goods. If he buys of the producer or more probably the broker, which is usually the case, he will certainly advance the price over what he has paid. Should the producer of blackeye beans come to San Francisco or Los Angeles and look about among the retailers, it is barely possible he could sell at the ruling wholesale price, but to do so he would probably have to look over the town and sell in small quantities to the different retailers. The Cultivator, not being engaged in that business, could hardly agree to take off the hands of producers at quoted prices. Users must remember that until they have a large co-operative organization which will deal with buyers at first hand, that they can not expect the ordinary ruling price in the market. The selling of produce is a trade in itself.

Picholine Olives.

I have an orchard with nearly a hundred olive trees, of which some are Picholines. Can I graft or bud them to some good kind? Will they do well? What is best time to bud or graft? Where can I sell the Picholines, as I have a heavy crop?—H. J. L., Pomona.

We assume you mean the Redding Picholine, which is an exceedingly small berry, very rich in oil. The true Picholine is a larger and better fruit. They may be budded next spring similar to the budding of an orange tree, or the ordinary cleft top graft is sometimes used for making over olive trees. If the stocks are large, put in two or several scions. Bark grafting is also often practised, and may be used at any time when the bark will slip, or especially April or May. Where carefully done, the failures will not exceed 5 per cent. We presume the olives may be sold at any oil mill and are quite sure the American Olive Company of Los Angeles will handle them for you.

Cement Water Tank.

I wish to build a cement water tank about 8 by 10 by 6 feet high. Should the bottom or floor be built first or the wall? Can the bottom be put in after the casing is removed? Does it need reinforcing with steel rods? Is 8-inch wall sufficient for that size? What size outlet should be necessary to get the pressure for irrigation, distance of the tank from the garden being 50 feet, elevation 15 feet?—O. Z., Petaluma.

The Concrete Age Publishing Company at Atlanta, Georgia, published a little booklet, "Concrete on the Farm," which should be of value to you. In general, we may say, build the sides first on good solid foundation; then level floor of the tank and put on a two or three-inch concrete floor; after which cover with a float of almost pure cement. Reinforcing with steel or wire would make it stronger, and in that case 8 inches would be abundantly thick for the size you mention. Not knowing the size of stream you wish for irrigation, we cannot tell as to size of opening at the tank, but if simply for hose use on garden truck would imagine a 1-inch opening sufficient. A 2-inch opening would surely give you better pressure, however.

Books and Fruit Growing.

Please furnish me with names of books and where they can be obtained, furnishing information regarding culture, pruning and care of citrus and other fruits, especially dates and grapes. I want a book that will be of benefit to a man who has little experience in fruit growing. Will you advise fall plowing between fruit trees for mulching purposes?—O. A. D., Phoenix.

The best book we know of written in a general way as you suggest will soon be off the press. It is written by Prof. E. J. Wickson of the California University, and is entitled "California Fruits and How to Grow Them." Most of its information

Continued on Page 431.

Classified Liners

Rates 1½ cents per word per issue. No ad accepted for less than 25 cents. Our classified columns are the clearing house for the readers of the Cultivator. Here you can insert an ad for the small sum of 1½ cents per word per issue, and be sure that it will be read by thousands.

MACHINERY.

WE CARRY A GENERAL LINE OF MAchinery, gas engines, air compressors, boilers, engines and pumps. 40 car loads of screw pipe and casing can be cut to lengths, also all kinds and sizes of fittings. Several hundred iron fence posts. R. KELLY MACHINERY CO., corner of Mission road and Macy street, Los Angeles, Cal.

FOR SALE—MEHRING MILKING MAchine with extra parts and covered pail, all in good order. WM. H. BIRD, Box 6, Compton, Cal.

FOR SALE—RENT OR EXCHANGE, BOILers and engines, gas engines, pipe and oil well casing, pumps, all sizes and makes; get our prices before you buy. A. CANNADY & CO., 691 N. Main st., Los Angeles, Cal.

FOR SALE—CHEAP FOR CASH 9 H.P. portable gasoline engine mounted on wagon complete in good running order. Machinery Exchange N. W. Cor. MAIN & BRUNO Sts. Los Angeles, Cal.

FOR SALE—16 H.P. UNION DISTILLATE engine used but very little. Can be bought at a snap. Baille & Brandt Co. 210 N. LOS ANGELES St., Los Angeles, Cal.

FOR SALE—NEARLY NEW 5 H.P. WHITE & Middleton gasoline engine will be sold cheap. 943 N. MAIN St., Los Angeles, Cal.

FARM LANDS FOR SALE.

FOR SALE—165 ACRES IN VENTURA CO., 4 miles from Moorpark; 90 acres under cultivation, suitable for beans, corn or hay; balance pasture land, all fenced; ½ mile from school; 10 acres in fruit, full-bearing peaches, apricots, pears, apples, prunes, grapes; price $3000. Inquire or write to owner, W. C. MAYHEW, Moorpark, Cal.

FOR SALE—OR EXCHANGE FOR ALFALFA or dairy ranch or residence property. Good 34 acre fruit ranch, cherries, prunes, apricots and peaches; modern seven room, hard finished house, bath, toilet, pantry and basement; good water system; two barns; 3½ miles from San Jose. A. C. Ellis, ROUTE 21, BOX 37, SAN JOSE, Cal.

FOR SALE—1 TO 10-ACRE TRACTS ON CAR line, between Riverside and new cement works; good for chicken ranches, alfalfa or gardening; will sell on easy terms; plenty of water on each tract. C. C. POND & N. R. BELL, Riverside, Cal.

POULTRY

SPECIAL SALE—TO MAKE ROOM FOR my young growing pullets I offer at common stock price all my this year's breeding pens, including many prize winners. This is a rare opportunity to get first class breeders cheap. At the last L.A.C.P.A. show my birds won all specials, all first prizes, and all seconds but one, that were offered on Barred Rocks. CHAS. E. SMITH, Gardena, Cal. San Pedro car via Gardena to Smith's Crossing.

MAMMOTH BRONZE TURKEYS—NONE in State larger or finer marked. A few young toms and hens for sale Nov. 1st. Price on application. Eggs in season. Mrs. LAURA E. HARDING, Brawley, Cal.

PIT GAMES—THE LEADING AMERICAN strains and grade Japs. Young trios, breeding stock and walked cocks for sale; also breed pure Cornish Indians. O. L. CRANE, Rural No. 3, Santa Rosa, Cal.

FOR SALE—MAMMOTH BRONZE TURkeys, one eighth wild, but very tame. Strong stock having free range. Price reasonable. Mrs. H. E. Guthrie, BUENA PARK, Cal.

TREES.

WALNUT TREES—500 LARGE, STOCKY seedlings. Seed from grafted trees of Placentia Perfection variety. Will sell very cheap if taken before Dec. 1st. as land must be cleared. G. W. SHERWOOD, Fullerton, Cal.

FOR SALE—1500 EUREKA LEMON TREES and 1000 Washington navel orange trees, true to name. Also street and ornamental trees. Clean, healthy stock only offered. GEO. B. WARNER, Santa Ana, Cal.

CATTLE WANTED.

WANTED— TO PURCHASE FROM 5 TO 50 good fresh dairy cows. Mail address 2960 HOLLENBECK AVE., or call at the end of EAST 9th Street, Los Angeles, Cal.

WANTED—TO BUY A YOUNG BULL. Anyone having one for sale address Frank P. Leuer, LONG BEACH, Cal., stating price.

STRAWBERRIES.

DOLLAR STRAWBERRY PLANTS; HAVE you any cents (sense), then plant the Dollar Berry for profit. Strong healthy runners from young planting of 50,000 plants, grown on new land. Price $2.50 per thousand. A. H. BRYDGES, LOOMIS, PLACER CO., Cal.

SHOPPING BY MAIL.

SAVE MONEY AND GET A BETTER choice by shopping in a large city. We will do your shopping for you. Send for our free book. It tells you how. LOS ANGELES PURCHASING CO., 506 Bradbury Bldg., Los Angeles, Cal.

HOGS.

REGISERED BERKSHIRE AND POLAND China hogs, both sexes. C. A. STOWE, Stockton, Calif.

Rhoades & Rhoades
Expert Live Stock
AUCTIONEERS
Sales conducted in all parts of California and adjoining States. Write for dates and terms. Twenty-five Years' experience.
830-32 South Main St., Los Angeles

Mayer Leading Lady

THE CORRECT SHOE FOR STYLE, EASE AND GOOD WEAR

You could never hope to buy a more stylish or serviceable shoe than the "Leading Lady." It is right up-to-date in appearance and fits the foot perfectly from the very first. Besides being stylish and comfortable, the

Leading Lady

wears much longer than most shoes. It is so well made that it lasts twice as long as the average shoe, and will retain its shape to the end.

Why buy inferior shoes when, with the same money, you can get the "Leading Lady?" Your dealer will supply you; if not, write to us.

Look for the Mayer Trade Mark on the sole.

FREE—If you will send us the name of a dealer who *does not* handle Leading Lady Shoes, we will send you free, postpaid, a beautiful picture of Martha Washington, size 15x20.

We also make Honorbilt Shoes, Martha Washington Comfort Shoes, Yerma Cushion Shoes and Special Merit School Shoes.

MILWAUKEE Mayer's CUSTOM MADE

F. MAYER BOOT & SHOE CO.
MILWAUKEE, WISCONSIN

WESTERN BRANCH: Washington Shoe Mfg. Co.—Seattle.

When writing advertisers, mention Cultivator.

LEARN
Plumbing, Electricity, Plastering or Bricklaying

Our graduates make $6 per day after three months instructions
You can enter at any time.—No previous knowledge required.
NO BOOKS—TOOLS TAKE THEIR PLACE
Day and Night Classes. Our Scholars are from 15 to 50 years old
Positions Secured and Experience Given on Outside Work
Write for Free Catalogue

COYNE NATIONAL TRADE SCHOOL Inc.
233 8th Street, San Francisco, Cal.

Angle Lamp
The Light That Never Fails

Thousands in use all over the country. A good light is the greatest pleasure and the first necessity of every home.

The only lamp on the market that is sold under an absolute guarantee.

Remember, the light from Kerosene is the light science has agreed upon as being the purest and best, because it is soft and mellow and restful to the eyes.

Here are a few of The Angle Lamp Merits:

NO UNDER SHADOW. NO SMOKE, NO ODOR, LITTLE HEAT. GREAT ECONOMY—COST LESS TO BURN than an ordinary lamp. As easy to operate as gas or electricity, and better than either. ABSOLUTELY SAFE under all conditions. Lighted and extinguished like gas. Burned HIGH or LOW like GAS without a trace of odor. And a BRILLIANT, soft, steady, shadowless light—but this you will have to see to appreciate.

The lamp as shown in cut burns 22 hours on 3 quarts of oil.

Send for Illustrated Catalogue with Prices

Boesch Lamp Co., (Est. 1869) 1135 Mission St., San Francisco

$16.30 buys this handsome six-hole Nickle-Trimmed Cast Range direct from the Manufacturer

without high shelf. With high shelf, just as shown in the cut, $19.97; large oven, six cooking holes, best quality of iron. Burns coal or wood. Handsome nickle trimmings. OUR TERMS are the most liberal ever made. You can pay after you receive the range. You can take it into your own home and use it 30 days. If you don't find it exactly as represented, the biggest bargain you ever saw you won't have to keep it.

Write today for our beautifully illustrated Stove Catalogue No. 101-C. A postal card will do it. Don't buy until you get it.

P. F. Ross & Co.
268 Market St. San Francisco, Cal.

When writing advertisers, mention Cultivator.

Household Department

THE CALL.

I'm weary of toiling and worry,
Of living the strenuous life;
I tire of the struggle and hurry,
The tumult, the noise and the strife.
I long for a sight of the flowers,
The song of the murmuring stream;
I long for the forests where hours
Will pass like the woof of a dream.

I'm weary of plotting and scheming
That lay out the map of the game;
I'm tired of make-believe seeming
That oft is mistaken for fame.
I long for the lake and the river
That shimmer and shine in the sun;
Where leaves in the warm breezes quiver
And rest is the goal I have won.

I'm weary of sepulchres whited
That harbor but mouldy old bones;
I see childish toil unrequited
And listen to widowhood's moan.
I long for the day to be dawning
When right with the scepter shall reign;
When men at Mammon's feet fawning
Will rise to their manhood again.

I'm weary, but duty is calling,
And only the sluggard will shirk;
The tasks that are set are appalling,
But honor says simply, "Go work!"
I long for the woods in their beauty,
But over the call that they give,
I hear the stern calling of duty
That bids me be worthy to live.

—Farmers' Tribune.

FAITHFUL UNTO DEATH.

THIS is not really a story at all—only the simple relation of some facts about a dog that possibly may not be without interest.

On the outskirts of the little city of Buena Vista, Va., near the head of the valley, lived a farmer, with his wife, two sons and one daughter. This was in 1894. The farmer's name—I think I do not incorrectly recall—was Robinson, and his cottage stood on a level bench of the hills, near the Blue Ridge Mountains. His land sloped back to the pines and sassafras bushes that covered the foothills. Robinson owned some cattle that ranged on the indifferent pasture of his poorly-fenced farm, wandering from field to field through gaps and numerous breaks in the old fences, made of rails and brush.

He owned a large dog of uncertain breed of a black and reddish color, but which seemed to possess some of the instincts of the shepherd. This dog was sent out in the morning and in the evening at milking time to bring in an old, spotted cow that belonged to his master. This seemed to be his sole occupation. At other times he lay about the house, or slept under the stable shed in uninterrupted composure.

Through the lower part of these pasture lands ran the track of a narrow-gauge railroad, built for the purpose of conveying ore from the red hematite iron mines in the mountain gorge a mile away, to the iron furnace operated in the industrial portion of the town. One morning the engine and loaded cars, coming down from the Robinson farm, caught this old spotted cow in a short railroad cut which was made in the grading of the road through the pasture, where she at the time was grazing with other cattle, and striking her with great violence, cast her dead and mangled body upon the rocks on the right-hand side of the road. The sons of the family related to me how the dog showed signs of inconsolable distress when the carcass of the dead animal was taken away and rolled over the cliffs below.

In a few weeks Robinson got another cow, and the dog, that was growing rather old, renewed his occupation of driving in this second cow. But he had learned a new lesson—and a sad one. It was that his charge was in danger from the railroad. This faithful dog stayed with that cow day and night, following her from place to place, lying in the pasture near by when she was grazing, or standing under the shade trees with other cattle. And when the engine and train of cars would come thundering by, the dog would leap up and bark, and if near the track, would always drive the cow further into the field away from danger.

This continued for two years, the dog being fed by his appreciative master as often as the cow was milked. Often the days and nights were cold and damp on the north side of the mountain, and the snow covered the ground. But this made no change in the dog's faithfulness. One evening the dog lay down during the milking, drowsy and complaining to himself in sighs and little uneasy murmurings. The cow was then kept in the stable at night, the winter having set in. But in the morning he followed his charge back along the path that wound to the upper field around the mountain spur, and came in again the next evening as the sun lowered to the western hills, yet with weak and trembling step. The men thought he had distemper, and determined that they would not let him lie on those cold hills another day, even if he had to be chained at home. But when the morning came again they went out to work and forgot him. Not so the daughter of the household, a girl of seventeen, who saw and pitied his feeble condition, and went early to the shed where he slept, made an enclosure of empty barrels that lay conveniently near, and placing them upright all around him, thought he could surely not get over them in his weakened condition. She then went about her morning tasks.

That day had been ushered in with rain and snow, and along the paths in the field were little snow-drifts that the winds had swept down from the exposed hill-tops above. At noon the girl went again to the barn to see how the dog fared, but, to her surprise, found his bed empty. She knew well where to find him. There was no other place for him but with the cow. But, thought she, well enough to go, he will certainly be well enough to return, and the day wore sullenly away. He did return, and for several days following he hung on the heels of his inseparable companion.

It was late in November when Robinson put a collar around the dog's neck, and with a small rope tied him in the shelter where he slept at night and gave him food and water. He refused to touch his food, and with his last strength gnawed the rope, and some time during the day was gone again to the mountain side. They saw his tracks along the path toward the pastures, but the prints did not show that he ran with the freedom and strength of earlier days. They were close together and uneven, and here and there were traces of his having lain down from sheer weak-

Light and Cook with COLT TRADE MARK Acetylene

Refering to our illustration of Lighting and Cooking apparatus in the issue of the Cultivator October 15, page 351, we wish to show you this week, what a comfort and convenience this wonderful and cheap light is to the entire family. The light is simply sun-light itself, and therefore beneficial to the eye and health.

The Piping and attractive chandeliers can be installed at little expense while the generator is simply a machine, so simple that any one can install it. It needs no attention as it generates gas automatically.

If you will simply let us know your name and address, we will mail you free, our new 44 page catalouge, with fine description of the simplicity, economy, convenience and safety of Colt Acetylene.

Fowler Shankland
Pacific Coast Distributor
204 Severance Bldg; Cor. 6th and Main, Los Angeles
Phones: F7514; Main 4830

ness as he climbed the winding path.

The father and daughter went into the fields and called the dog for a long time, but in vain. Finally, going across the pastures to the side of a sheltered slope, where the cattle often lingered, and where the cow that day had fed, they found his dead body lying among the withered grasses and sassafras sprouts of the neglected land. The wind among the pines on the mountainside moaned a requiem over the old watchman dead at his post of duty.—Country Gentleman.

CODFISH RELISHES.

The following codfish dishes were recently given by a subscriber of Country Gentleman and are well worth repeating.

Codfish Patties.

Pick codfish into shreds, freshen and bring to a boil, add a thickening of corn starch and cream or rich milk and let cool. Line patty pans with rich pie crust. Fill these with the cold codfish, cover with whipped cream and brown lightly in a hot oven. Serve with tiny pickled cucumbers or slices of lemon.

Masked Codfish.

Stir four tablespoonfuls of softened butter into two teacupfuls of mashed potatoes, add a teacupful of very finely- shredded codfish, moisten with cream and season with pepper to taste. Butter a tin basin, press in the potato and fish mixture, cover with bread crumbs and beaten yelk of egg and bake fifteen minutes.

Another Way.

Bake the mixture (after making the top smooth) ten minutes; turn out on to the perforated plate of the fish kettle. The bottom of an old tin basin perforated with nails will answer. Cover with beaten egg and crumbs and drop into a kettle of very hot fat, enough to cover, and fry brown.

Codfish A La Mode.

Shred finely enough codfish to fill a large coffee cup, add two tablespoonfuls of vinegar, two tablespoonfuls of melted butter, a little pepper, juice of a lemon, and bind with a well-beaten egg. Form into cakes with the hand, roll in beaten egg and cracker crumbs, and fry in hot fat; drain on brown paper and serve with a sauce of cream slightly thickened with corn starch and seasoned with a little lemon juice.

Timbales.

Break macaroni into short lengths and cook tender in salted water; add a well-beaten egg, grated or chopped cheese to taste, and season with melted butter. Smear a small basin thickly with butter and dress with bread crumbs. When the macaroni is cold, fill the mold, but leave quite a hollow in the middle. Have some codfish prepared as follows: Shred and cook in water a few minutes, drain and season with cream, butter, and a pinch of caynne. Fill the hollow in the center of the basin, spread the top with a layer of the boiled macaroni and bake half an hour. Garnish with blanched celery leaves.

Escalloped Codfish.

Freshen, pick very fine, thicken with milk, cornstarch and beaten egg. Into a buttered dish put a layer of codfish, then one of bread crumbs, season with pepper and butter, and moisten with the sauce, and alternate, having the top layer crumbs, and bake slowly one hour, then brown the top.

Codfish Cakes.

Take equal quantities of shredded codfish, mashed potatoes and boiled beets, finely chopped. Bind with a beaten egg, form into flat cakes, and fry brown on both sides in a spider with a liberal greasing of pickled pork fat. Garnish with small, crisp slices of pickled pork.

Fish Chowder.

May be made on the back of the stove on washing, baking or ironing day. Crisp half a dozen thin slices of pickled pork in the bottom of an iron pot; remove, chop fine and return to the kettle. Put in a layer of freshened, shredded codfish, a layer of sliced onions, one of sliced potatoes, crackers, sliced peeled tomatoes; sprinkle with summer savory. if liked, and season with celery salt and pepper. Alternate these layers until the pot is two-thirds full. Nearly cover with cold water and boil slowly about an hour, or until the ingredients are soft. Watch that the water does not cook away and the contents burn at the bottom of the pot. When done, turn into a tureen or deep vegetable dish, pour over a teacupful of cream, or half milk and half cream. Serve with finger lengths of inch-wide toasted bread.

Codfish Gruel.

This is a good dish for supper. Freshen a tablespoonful of very finely-shredded fish. Stir in a teaspoonful of cornstarch, add a teacupful of boiling water, and simmer until the flour is well cooked. Add cream and a little butter, and serve with toasted crackers.

WAX FINISH.

A subscriber recently requested a formula for a wax finish which was given. We now notice another in Gleanings in Bee Culture as follows:

The beeswax finish is made by mixing turpentine and melted beeswax in such proportions that, when cool, the mixture will be in the form of a thin paste. The proportions we used were about three parts of turpentine to one of melted wax, by measure. While hot it should be thoroughly stirred. If not thin enough when cold to spread nicely, more turpentine without heating may be added.

This paste is spread upon the woodwork, covering it thoroughly; then with a brush the surplus is cleaned off, after which it is immediately rubbed down with a rag until a glossy finish is secured.

Nothing but pure beeswax will answer the purpose. The slightest admixture of paraffine will spoil it. The finish, while glossy like varnish or that of hard oil, has a rich, smooth appearance that brings out very clearly the grain of the wood. Indeed, to our notion it is richer and more in keeping with modern finishes than the old-fashioned glossy cheap varnish look. It does not begin to cost as much as hard oil or any other varnish. While one may use a filler, yet it is hardly necessary, as the effect is very pleasing without it. Indeed, the wax itslf acts somewhat as a filler as well as a finish.

As to woods, it looks nice on any wood, either hard or soft, although the effect is much richer with an oak or a maple than with the yellow pine. If we were to use the latter we would advise using what is known as the weathered-oak stain, then apply the beeswax finish.

I didn't come right out either way, but simply looked wise and kep' still which is a great common way of gettin' up a reputation for wisdom.—Josiah Allen's Wife.

Salt, used as a tooth powder, will harden the gums, preserve the teeth and sweeten the breath.

4 Per Cent
Interest on Term Deposits

Money deposited in this Bank is secure, being protected by resources of nearly $10,000,000.00. It earns the largest interest consistent with safety.

Special facilities are offered out-of-town depositors. Write for information, or call upon us when you are in Los Angeles.

German American Savings Bank
Spring and Fourth Sts., Los Angeles

6% Interest Paid -
ASSETS $2,002,111.
No Admission or Withdrawal Fee, Only 30 Days Withdrawal Notice.
Send For Booklet and Statement
STATE MUTUAL BUILDING & LOAN ASS'N.
223 S. Spring St. Los Angeles Cal.

$1.00 ONE DOLLAR'S WORTH OF MUSIC FREE **FREE**
Send 6c in Stamps for Our New Catalogue of **10c Music** Many new additions, also Catalogue of popular hits. We will send you four pieces of regular sheet music with same. State if songs or instrumental music is wanted.
BRODERSEN & BARBER
113 So. Spring St. - Los Angeles, Cal.

PIANOS Slightly used Steinways; 1909 Model Lyon & Healys, and other remarkable Bargains. Lyon & Healy, 80 Adams St., Chicago.
World's Largest Music House
Our Great Re-Building Sale is Now in Progress!

JAMES R. TOWNSEND
Solicitor of American and Foreign **Patents** Copyrights, Trademarks and Labels Registered. Rooms 428-433 Bradbury Bl'k. Los Angeles, Cal. Phones: Home, A4618; Sunset, Main 347

When a feller has tu use a crutch, er wear a bandage, he gits lots uv satisfaction thinkin' others sympathize with him, even if they don't.

The Produce Markets

Los Angeles Markets

LOS ANGELES, Oct. 28, 1908.

Butter.

Butter still stands as it has for weeks, 67½ with actual selling price at 70 cents for extras.

Creamery ex per roll........67½
Firsts........60
Dairy........25
Eastern Extra........30
Ladies........24
Cooking........24
"Butterine"........16@20

Cheese.

Southern California Anchor......17@18
Northern fresh........14½@15
Longhorn........18
Eastern singles........18
Cheddars........17
Swiss........18
Imported Swiss........28
Daisy........17½
Oregon........16
Limburger........17

Eggs and Poultry.

Eggs are anything but stationary and the market is exceptionally strong at the increased quotations. Consumers are now paying an even nickle each for eggs for breakfast. Case count price is 42 cents.

Eggs local candled........45@48
Eggs case count buying price......42
Firsts fresh........37
Storage selected........27@28
Firsts........24@25
Storage short time........36@39

Wholesale prices:

Hens per pound........13½@14
Young roosters per pound........16
Fryers........18
Broilers per lb........20
Old rooster........8
Turkeys........16@18
Geese........12
Ducks........11½
Squabs........1.25@1.75

Live Stock.

The following quotations are f. o. b., Los Angeles, on all stock.

Hogs from 175 to 200 pounds........6¼
Prime steers........4¼
Heifers........3½@3¾
Calves per lb........4½@5
Sheep ewes per head........3.25@3.75
Lambs per head........2.50@3.00
Wethers........4.00@4.50

Potatoes.

Wholesale prices are:

Sweets per ctl........1.25
Sweets red........1.00
Burbanks choice........1.00
Northern Burbanks fy........1.50
Local Burbanks........1.40
Highland fancy........1.00@1.25
Coast........1.00
Salinas........1.75@1.90

Onions.

Wholesale quotations are:

Silverskin new........1.25
Australian Browns........80@90
Danvers........90@1.00
Garlic........9@10

Vegetables.

Asparagus per doz........75
Artichokes per doz Northern........70
Artichokes local per box........40
Beets per doz........30@40
Bell peppers per lb large........3@4
Bell peppers box........25@30
Beans string........5
Beans limas per lb........4
Brussels sprouts per lb........9
Cabbage sack........1.25
Cabbage red per lb........2
Celery per crate........1.50
Celery ex fy........3.00
Chili per lb........20@30
Corn per lug box........45
Chicory per bunch........10
Cucumbers per box........65
Cauliflower per doz........50@75
Carrots per doz........30
Egg plant per lb........2
Green onions per doz bunches......15
Lettuce per crate........75@1.00
Okra........4
Peas sugar per lb........5½
Parsley........25@30
Parsnips........35@40
Rhubarb per box........1.00
Rutabaga per doz........30
Radishes per doz........15@20
Salsify........40
Summer squash per box........40
Spinach per doz........20
Turnips doz bunches........30
Tomatoes lug box........30@60
Tomatoes yellow per lb........2@3

Citrus Fruits.

Valencias........2.30@2.50
Grapefruit seedless........3.00
Grapefruit seedlings........1.75@2.00
Lemons fy........2.50
Lemons choice........1.50

Fresh Fruits.

Wholesale prices on the market are:

Astrachans........1.00
Astrachans packed box........1.35@1.50
Bellfleurs........85@1.00
Newton Pippins........80
Alexandria 4-tier........1.00@1.10
Gravenstein 4-tier........1.15@1.25
Skinners 4-tier........1.15@1.25
California Jonathans........2.00
Red Pearmains........1.00
Crab apples........1.50
Apricots cold storage........50
Cantaloupe locals large crate..1.50@1.75
Casaba doz........1.25
Figs per fig box........65@75
Christmas melons per crate........1.75
Figs black per fig box........60
Guavas per lb........4
Muscats per lug box........45@60
Grapes Malaga........50@75
Grapes Concord per lug box......1.00
Grapes Tokay........60@65
Grapes Red Emperors........75
Cornichons........1.00
Rose of Peru........70@75
Grapes Black Hamburgs........50
Isabellas per crate........75
Nectarines........1.25
Pears per box........1.60
Pears lug box........1.10
Pears Winter Nellis per box........60
Plums Kelsey........60
Peaches per box........35@75
Peaches clings........50
Pineapples per lb........7
Persimmons per lb........8
Pomegranates per box........1.50
Quinces........75
Raspberries per box........8
Strawberries per box........4½@5½
Extra fancy........10
Blackberries per box........5@8
Huckleberries per crate........1.20
Watermelons per crate........1.25

Dried Fruits.

Wholesale prices are:

Apricots........8@9
Evap. apples fy per lb........7½@8
Figs loose white........6
Figs blk........5
Peaches........7½@8
Pears........9@10
Nectarines........9@10
Prunes........4@4½

Beans Dried.

Wholesale prices:

Limas per ctl........5.00@5.25
Lima, new crop........4.50@5.00
Pink No 1........3.25
Lady Washington........3.75@4.00
Small white........4.10@4.25
Black eyes........4.50
Garvanzas........4.80@5.00
Lentils........10½
Bayou........3.75@4.00

Nuts.

Almonds IXL per lb........14
Almonds choice........10@12½
Pecans polished........16
Peanuts Virginia........8
Peanuts California........8
Walnuts No 1 SS........12½
Walnuts No 1 HS........12
Walnuts No 2 both hard and SS..8½
Walnuts all less 1½ per cent to trade

Honey.

Wholesale quotations:

Extracted Water White........7½@8½
Extracted Amber........6@6½
Comb W W........16
Comb white........15
Beeswax........30

Hay.

Prices paid to producers f. o. b. Los Angeles are as follows:

Barley No 1........13.00@15.00
Barley No 2........10.00@13.00
Alfalfa northern per ton....11.00@12.50
Alfalfa local........12.50@14.00
Plain oat No 1........15.00@17.00
Wheat No 1........13.00@16.00
Wheat No 2........12.00@14.50

Grains.

Wholesale selling price f. o. b., Los Angeles.

Wheat new per ctl........2.10
Wheat in 100-lb sacks........1.90
Kaffir corn........1.95
Corn Eastern sacked........2.00
White oats........1 90
Seed Rye........1.75

Feed Stuff.

Wholesale selling price F. O. B. Los Angeles as follows:

Cracked corn........2.05
Shorts........1.80
Bran........1.60
Oil cake meal........2.75
Feed meal........2.10
Rolled barley........1.60

A new record has been established for Douglass county, Oregon, apples by a fruit grower securing return of $2,400 from one acre.

San Francisco Markets

SAN FRANCISCO, Oct. 27, 1908.

Butter.

Butter stood as quoted last week till Monday when it advanced a half cent and now stands at 31½ for extras. Storage stock is rather weak. The official quotations of the San Francisco Wholesale Dairy Produce Exchange are:

California extras per lb........31½
California firsts........28
California seconds........23
California thirds........20
Eastern extras........27
Storage Cal ex........26½

Cheese.

California young American fy.....14½
Firsts........13
California flats fy........13
Firsts........12
Young America fy........14½
Eastern N. Y. Cheddars fy........17
Eastern fy........16½
Oregon fy........13

Eggs and Poultry.

Eggs advanced immediately after last week's quotations and stood at 52 for extras. Market is steady.

Official quotations of the S. F. Wholesale Dairy & Produce Ex. are:

Fresh ranch extras........52
Eggs firsts per doz........47
Eggs second........27½
Eastern selected........27
Eastern firsts........25
Cal Storage........31
Firsts........28
Eastern Storage ex........26½
Eastern firsts........25
Hens per doz........4.00@5.50
Hens extra........7.00@9.00
Young roosters........5.00@6.00
Old roosters........3.50@4.50
Fryers per doz........4.00@5.00
Broilers per doz........3.50@4.00
Geese per pair........2.00@2.50
Goslings per pair........1.75@@2.00
Ducks young........6.00@7.00
Hen turkeys per lb........20@23
Gobblers live........20@23
Pigeons young........2.00@2.50

Live Stock.

San Francisco prices gross weight:

Steers No 1........3¾@4
Do second quality........3¼@3½
No 1 cows and heifers........3
Second quality........2¾
Hogs 100 to 150........6
Hogs 150 to 250........6¼
Rough heavy........4¾@5¼
Calves per lb........3½@4¾
Lambs spring........4
Wethers No 1........3¾
Ewes No 1........3¼

Potatoes.

Wholesale market quotations:

River whites fy........70@85
River whites poor........50@65
do per box........1.00@1.15
Early Rose new........75@85
Salinas Burbanks........1.25@1.55
Sweets crates........1.50
Sweets sks........1.35
Oregon Burbank........1.25@1.35

Vegetables.

Wholesale quotations:

Bell peppers per box........50@1.00
Celery per doz........65@75
Cucumbers per box........75@1.10
Cucumbers pickle........1.00@1.25
Cucumbers pickle No 2........75
Chili peppers per box........50@60
Corn per sack........1.50@1.75
Egg plant per box........60@85
Green peas per lb........4@6
Lima beans........3@4
Squash per box........75@1.15
Onions green per box........70@75
Okra per box........50@85
Rhubarb per box........50@65
Tomato River large box........15@40
String beans........4@6
Wax beans........4@6
Garlic new........6½@7

Onions.

Onions yellow per sack........70@75
Brown Australian........65@70

Citrus Fruits.

Valencias fy........2.00@3.50
Grapefruit seedless........3.00@5.00
Lemons ch........1.75@2.25
Lemons fy........3.00@3.50
Limes........4.00@5.00

Fresh Fruits.

Apples per 4 tier box........90@1.10
Apples per 4½ tier box........65@75
Apples unwrapped........60@75
Crabapples........50@60
Blackberries per chest........3.00
Figs per crate one layer........50@1.00
Grapes seedless........75@85
Grapes Muscats........40@60
Grapes Rose of Peru........50@60
Grapes Tokays........40@60
Grapes Isabellas crate........75@1.00
Grapes Cornichon........50@65
Huckleberries per lb........15
Loganberries........4.00@6.00
Cantaloupes River nutmegs....25@50
Muskmelons........75@1.00
Nectarines red........75@1.00
Nectarines white........50@60
Pears Bartlett per box fy....1.00@1.25
Winter Nellis........90@1.25
Peaches mountain........40@60
Persimmons........65@75
Pomegranates per box........1.50@2.25
Aligator pears per doz........7.00@9.00
Quinces per box........75@85
Raspberries per chest........5.00@7.00
Strawberries per chest........4.00@6.00
Longworths per chest........6.00@8.00
Watermelons per doz........1.25@2.00

Dried Fruits.

Prunes 4-size basis........3¼@3½
Santa Clara........3½@3¾
1908s contracted for........4@4½

New crop contracts, 25-lb. lots—Apricots per lb.: Choice, 7@8½; fancy 10@10½.

PEACHES—Choice 5@5½; fancy 6@7.

Apples evaporated........5½@6
Pears........5@8

RAISINS—1907 crop f. o. b.; Clusters and layers. 30-lb bxs—Imperial Clusters, 6-crown, $2; Dehesa Clusters, 5-crown, $1.75; Fancy Clusters, 4-crown, $1.40; London Layers, 3-crown, $1.10; do, 2-crown, $1.05. Seeded, 25-lb bxs—Fancy bulk per lb, 6½@7c; Choice bulk, 6½@7c. Loose Muscatels, 50-lb bxs— Standard, 4-crown, 5½c; do, 3-crown. 4¾c; do, 2-crown, 3¾c; Seedless, 4¾c. Seedless Sultanas— Unbleached, 4¾@5c. Thompson Seedless—Unbleached, 5½@6¼c. Dried Grapes, 4c.

New Crop Raisins—Preliminary prices are named as follows: Cluster—Imperial 6-crown, $2@3; Dehesa, 5-crown $2.50; London Layers, 2-crown, $1.25; 3-crown, $1.35; 4-crown, $2. Thompson's Seedless, 5¾c. Loose Muscatels, 5¾c. for 4-crown, 5c for 3-crown, 4½c for 2-crown and 4¾c for seedless.

Nuts.

Walnuts S S No 1 new crop...12½@13
Walnuts No 2........10@10½
Almonds nonp........11½
Almonds IXL........10½@11
Ne Plus Ultra........9½

Beans Dried.

Limas........4.25@4.40
Pink........2.65
Small white........4.50
Large white........3.75
Lady Washington........3.45@3.50
Black eyes........3.25
Red kidneys........3.50
Garvanzas........1.75@2.25
Bayo........2.65
Horse beans........1.75@2.25

Hops.

Hops new crop........9@13
Hops old stock........3@6

Honey.

Clear white comb........15½@16
Amber........12@14
Extracted W W........6@7
Extract light amber........6½@7
Beeswax No 1 per lb........25@27
Beeswax No 2 per lb........24@25

Hay.

Somers & Co., say:

Shipments of hay to the San Francisco market continue to decrease, the total for the week just ending amounting to 2670 ton. Although this decrease has been occasioned somewhat by the prevailing car scarcity, yet the tendency of owners to hold in anticipation of higher prices is also largely responsible for present light shipments. The demand throughout the interior is steadily increasing and it is becoming more and more apparent each day that many districts are very short of hay. Therefore although the market here is not especially interesting and the demand still rather light, yet it is now generally conceded that the entire State's supply as compared with the entire demand is none too great, but that on the other hand a material shortage may be noted before hay grows again.

For the first time for a long period arrivals by water have exceeded in quantity those by rail. The Bay and River warehouses are being heavily drawn upon and unless the car shortage is relieved at an early date our entire stocks located on the water will be exhausted.

Choice wheat hay........18.00@20.00
Good wheat hay........16.00@17.50
Other grades same........13.00@15.50
Wheat and oat........12.00@17.50
Tame oat........12.00@17.00
Wild oat........11.00@16.00
Stock hay........9.50@10.50
Alfalfa........9.50@13.50
Straw, per bale........45@70

Grains.

Wheat No 1........1.67½@1.70
Barley new........1.35@1.40
Corn large yellow........1.80@1.85
Oats white........1.60@1.70
Oats gray........1.65@1.70
Rye new crop........1.45@1.50

Feed Stuff.

Bran per ton........30.00@31.50
Feed cornmeal per ton........37.00@38.00
Cracked corn per ton........38.00@39.00
Rolled barley per ton........29.00@30.00
Oil cake meal per ton........38.00@39.50
Cocoanut cake per ton........25.00@26.00
Middlings........33.50@35.50

Citrus Market

LOS ANGELES, Oct. 28, 1908.

This is the last week of the year in orange shipping circles. Nov. 1 begins the new year and already the navels are going while Valencias are finishing the old year. As we write the last cars of Valencias are being shipped.

Butte county got in ahead and has the honor of first shipments of navels. Tulare county is a close second and is now shipping several cars of navels. Next week will see Tulare county sending in several cars. Thanksgiving trade will be well supplied.

Mr. Sprott of the Tulare County Exchange informs us that fruit in that section is of better quality this year than last. It is both sweeter and of better appearance.

Valencias are closing at good prices, better than earlier. Prices of navels are not yet fixed and it would be only guess work to predict.

Shipments.

Shipments of citrus fruit to date since Nov. 1, '07 aggregate 29,402 of which 4885 were lemons.

To same date last season 27,450 of which 3468 were lemons.

NEW YORK, Oct. 23.—Two cars Valencias and one car lemons sold. Market very strong, higher. Weather clear, cold, favorable.

VALENCIAS— Avge.
Old Mission C C Chapma..n.....$7.95
Old Mission C C Chapman.....6.85
Golden Eagle C C Champan.....6.00
Orchard National O Co.....6.55
Standard National O Co.....5.20
LEMONS— Avge.
Excellent SP Cit Ft Assn.....$5.05

ST LOUIS, Oct. 23.—Weather cool. Market is strong on Valencias, steady on lemons. Three cars sold, two on track. Florida oranges selling $2.10 per box.

VALENCIAS—
Hunter ACG Ft Ex Azusa.....4.40
LEMONS—
Pico ST Ft Ex Whittier.....3.00

CINCINNATI, Oct. 23.—Weather cool. Market is steady. One car sold, one on track. Fancy Florida brights sold $2.10.

LEMONS—
Greyhound SA Ft Ex San Dimas ..3.25

PITTSBURG, Oct. 23.—One car sold, two cars on track. Weather fair. Market is unchanged.

VALENCIAS—
Coyote OK Ft Ex..... ....4.05
Blue Jay OK Ft Ex.....3.20

PHILADELPHIA, Oct. 23.—Two cars Valencias and one car lemons sold. The market is very strong. Weather cloudy. Three cars on track.

VALENCIAS—
Carmencita ST Ft Ex Fullerton..4.68
Los Palmas ST Ft Ex Fullerton...3.11
Honest Pack Tustin Pk Co.....4.47
Lucky Tustin Pk Co..... .....3.96
LEMONS—
Planet SS Ft Ex ElModena.....3.91
Searchlight SS Ft Ex El Modena..3.65

NEW YORK, Oct. 26.—Four cars Valencias and two cars lemons sold. The market is very strong, higher. Good demand for lemons. Cloudy, muggy.

VALENCIAS—
Old Mission C C Chapman.....7.85
Golden Eagle C C Chapman.....5.95
Purity Tustin Pk Co..... .....5.35
Old Oak Tustin Pk Co.....4.75
Mayflower R J Richardson..... .7.55
Fancy R J Richardson 6.30
Buena R J Richardson 5.35
Plain Ends R J Richardson.....4.10
Stag ACG Ft Ex..... ....7.30
Pointer ACG Ft Ex..... .....6.45
Hunter ACG Ft Ex..... .....5.05
LEMONS—
Quail OK Ft Ex..... ....4.95
Selected N W Blanchard.....4.55

PITTSBURG, Oct. 26.—Two cars sold, one on track. It is raining. Market is firm on good fruit.

VALENCIAS—
Coyote OK Ft Ex..... .....3.30
Blue Jay OK Ft Ex.....2.95
LEMONS—
Princess QC Ft Ex Corona.....3.00
Lily QC Ft Ex Corona..... .....2.70

PHILADELPHIA, Oct. 26.—Two cars Valencias and three cars lemons sold. The market is strong on good stock. It is raining. Two cars on track.

VALENCIAS—
Victoria AH Ft Ex Casa Blanca..3.98
Squirrel AH Ft Ex Casa Blanca..3.16
Palm Tree AH Ft Ex Casa Blanca 3.13
Troubador AH Ft Ex Casa B.....2.47
Defender Aitland Ft Co.....2.99
Buscado Altland Ft Co..... ..2.39
LEMONS—
Loma Limoneira Ft Co.... .....4.50
Las Fuentes Crocker S Smrld.....2.32
Montecito Crocker Sperry Smrld...1.87
Rey ST Ft Ex Fernando.....3.55
Tunnel ST Ft Ex Fernando.....3.03

CLEVELAND, Oct. 26.—Weather cool. Market is firm on good fruit. One car sold, two on track.

LEMONS—
Pet SA FT Ex San Dimas.....4.05

BOSTON, Oct. 26.—Two cars sold, two on track. It is raining. Market is very strong.

VALENCIAS—
Stag ACG Ft Ex Azusa.....6.15
Pointer ACG Ft Ex Azusa.....5.90
LEMONS—
Pet SA Ft Ex San Dimas.....6.05

ST LOUIS, Oct. 26.—It is raining. The market is weak on lemons on account of the weather. The market on Valencias is strong. Four cars sold, two on track. Florida oranges sold $2.40. Louisiana $3.05.

LEMONS—
Arab SA Ft Ex San Dimas.....2.85
Duck SA Ft Ex San Dimas.....2.25

QUERIES.

Continued from Page 427.

would apply to Arizona conditions. A good book on citrus culture is written by H. H. Hume of the Florida Citrus Experiment Station. Either book can be supplied from this office at $2.50.

Ashes.

A subscriber last week inquired as to quantities of ashes per acre which might safely be applied to orange trees. We now note that on sweet potato land valuable results have been secured by the application of from 1200 to 2000 pounds per acre. On citrus trees we should imagine half that amount would probably give good results.

Chestnut Troubles.

I am a grower of chestnuts, but fail to keep the kernel of the nut from decaying—that is, after picking same. I do not spray with any mixture, but have tried drying, both in ovens and by the sun—both proven failures. Please give me a remedy, if any.—B. B. C., Vacaville.

This query was referred to Prof. R. E. Smith of the Pathological Laboratory, and he writes: "I cannot give any definite answer to your subscriber's inquiry regarding the decay of chestnuts without further information as to the nature of the trouble. Perhaps if he would send on some specimens of the affected nuts we could determine the cause of the trouble."

If our Vacaville subscriber will send samples of nuts to Prof. Smith at Whittier, he may give us the needed information.

Vetch With Hay.

A grain grower of San Diego county inquires if advantage may be had by growing vetch with barley. That is, will it aid in gathering nitrogen so the barley will be benefited, or will it take moisture from the soil needed by the barley? His idea is that it will be of advantage and at the same time make an excellent addition to the hay. As wheat takes longer to mature than barley, would wheat work in better with the vetch? Again, would peas be better than the vetch with either barley or wheat? This was referred to Mr. Neff, who writes:

Planting vetch with barley will not benefit the present crop of barley, and be of but little benefit to any succeeding crop if cut off with the barley. It will make an excellent addition to the hay if sown early, but will take moisture from the soil just as barley does. Barley will be better than wheat with vetch where the rainy season is short, since the wheat takes longer to mature, and with scant rainfall all might dry out before either was matured.

Peas would not be as good as vetch because it is not as drouth resistant.

Do Irrigation Work---Quicker and Easier

For Leveling Fields—For Cutting and Clearing Laterals

The photo is from an actual field-scene in New Mexico, where a 20th Century Grader is leveling seed-beds on the great truck-farm of Herman Blucher. He says: "Your 20th Century Grader has no equal for land-leveling, seed-bed making, ditching and for all kinds of irrigation work. I have reduced my force one-third since buying this machine." The

20th Century Grader

weighs only 600 lbs—light and handy—and is easily handled by one man and two horses. It is all steel and malleable iron. Price very reasonable. It pays for itself in one season. If your dealer hasn't it ask for name of nearest agent. Write now for new free booklet with large cuts showing every part.

Baker Manufacturing Co.
281 Dearborn St. Chicago, Ill.

Veterinary

Dr. R. T. Whittlesey, veterinarian, of 714 East Seventh street, Los Angeles, will answer questions in this department. In writing of sickness or injury to any animal be explicit in giving symptoms and particulars. Always enclose full name and address, but if assumed name or initials are preferred they will be used.

If an immediate mail reply is wished enclose $1.00 for such service, but for replies in paper only, no charge is made if the answer will be of general interest.

Please address all questions that are to receive gratuitous replies through these columns to California Cultivator, 115½ N. Broadway.

All communications to Dr. Whittlesey direct should contain a great big dollar.

Injured Teat.

I have a cow, with one teat, which I suppose was snagged about one inch from the end of teat, and she now has a calf one week old and can not milk, as the milk runs out on the ground, and when I try to milk it comes out on the side where hole is. Please advise me what can be done.—J. P. G., Valencia, Santa Cruz Co.

I doubt if anything can be done as long as she gives milk, except to put up with the inconvenience. When she is dry, the edges of the hole can be denuded of skin, and the raw surfaces brought together, sewed with wire, all parts thoroughly sterilized, and covered with adhesive plaster. A perfect union should take place.

But this can not be done while milking, as the dressing will all come off and the milk work through from inside.—R. T. W.

Spavin.

Will you please inform me through your paper if a bone spavin or a bog spavin can be cured? How long it will take to cure it? The cost, and if the horse can be worked while being cured? P. M., Artesia.

Bone spavin and bog spavin, while similar, are not identical. Both are usually curable and it often takes several months. While it is possible to cure them and work the horse at the same time, the more rest they receive the quicker and surer is the cure.

The cost is usually $10 for the operation of firing, and that may be all the outlay necessary.

There are so many things entering into the question of curing a spavin that it is impossible to put it into an article like this. If you will take your horse to Dr. Whittlesey's office, he will be able to tell you more on five minutes' examination than in a dozen letters and answers. There would be no expense for the examination.

Summer Sores.

I have a seven-year-old mare which had small boils come one above the other below the knee, which have turned into large running sores, and the limbs are both swollen, one very bad and a trifle lame. Some horsemen here call them cancers.—W. W. G., Imperial.

The sores you ask about are not true cancers, but are about as hard to heal. They are known in different parts of the world under different names. In Europe the common name is summer sores. The little seeds which you will find in them are about the size of millet seeds. In the warmer parts of the United States they are very common, and require close attention and persistent treatment to produce a cure. The first thing is to destroy them deep enough to be below these little seeds mentioned above. This can be done by eating out with such drugs as arsenic or corrosive sublimate, or burning with a white-hot iron.

Either of which is a little dangerous for a novice to do. If you use either of the drugs mentioned, they may be rubbed into the sore dry, and the whole left until a large "core" falls out. If the iron is used the same result follows in about the same time.

But the danger lies in overdoing the job and making the sore larger and worse.

After the "core" has fallen out, a solution of formaldehyde, two ounces in one gallon of water or that proportion should be used. Saturate a piece of cotton and bind on the sore, change three times a week.

I have a preparation which I use in the hospital with good success for eating out these sores, there being no danger whatever.

For $2 enough will be sent to treat them all that is required.

COMBINATION.

S. H. Church who for the last 5 years has conducted a poultry supply store in Los Angeles has associated himself with Aggeler & Musser Seed Co., successors to the Johnson & Musser Seed Co., of No. 113 North Main street, Los Angeles. This firm has been enlarging their business and has added a poultry supply department taking over the stock of Mr. Church, and the agency of lines which he handled. These lines comprise the Petaluma Incubator and brooders, Midland Poultry food, Steinmesch chick food. Drs. Hess & Clark stock and poultry remedies and Swift's beef scraps.

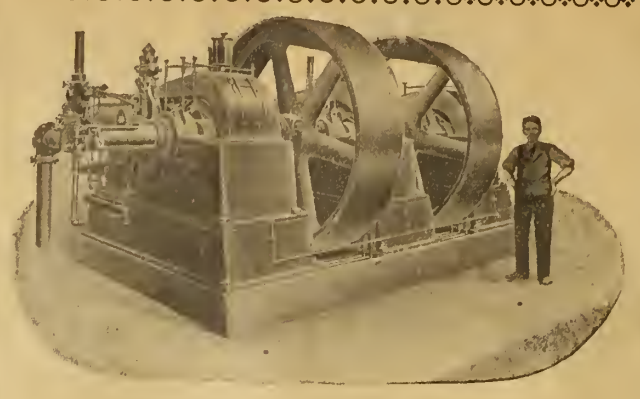
This is a move that ought to prove a winner for the Aggeler & Musser Seed Co., as the poultry supply and seed business naturally go together. Mr. Church who will have the management of the new department is a thorough seed man as well as being familiar with the needs of the poultry industry, and will be pleased to see all of his old customers and friends.

The Popular Western

Built In the West **Best** For the West

FACTORY AT YOUR DOOR

LONGEST LIFE LEAST FUEL FEWEST PARTS ALWAYS GOES



7 to 600 Horse Power

Irrigation Plants Designed Constructed Installed

Note results obtained with a 40 H. P. **"WESTERN"** at Ontario, Cal.

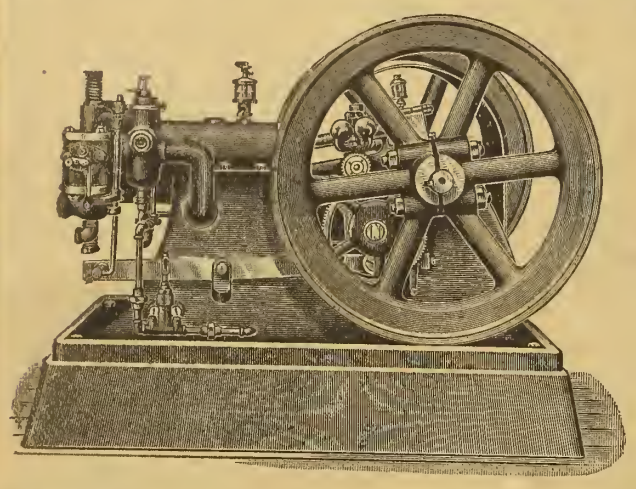
"We are lifting 175 inches of water against a head of 46 feet above pump; vacuum guage stands at 13, with a shade over 3¾ Gallons No. 2 Distillate per hour."

IOWA MEADOWS COMPANY
(Signed) S. J. Ulrey, Manager

Western Gas Engine Co.

Works and Office:
908-932 No. Main St. - Los Angeles, Cal.
Send for Catalogue

Alamo Gas and Oil Hoisting and Stationary Engines



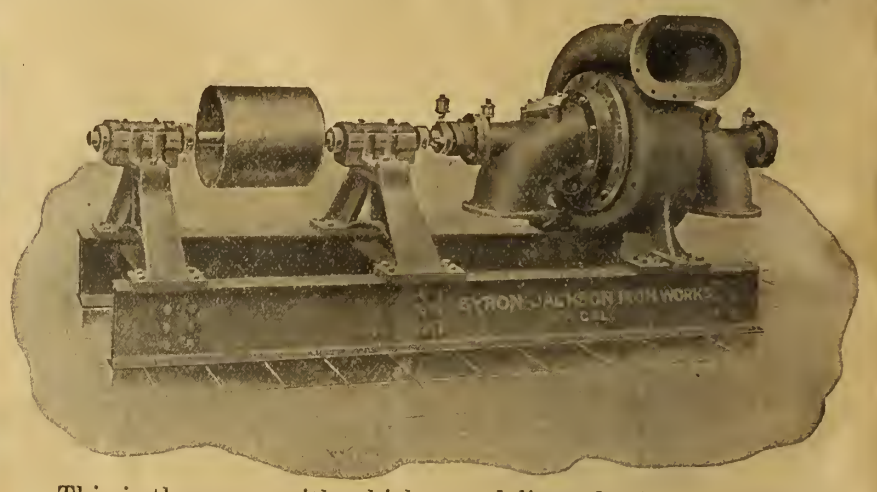
Best in price, appearance and quality. Self-starting and small operating cost. A complete line of repair parts and accessories always on hand.

Complete pumping plants installed and we are prepared to construct all kinds of mining machinery on contract.

Write for catalog and prices

Harrison Machine Works

719-721 N. Main St.
Los Angeles, Cal.



This is the pump with which we delivered 20 per cent more water than promised for a certain head and horsepower. The customer says in a letter that he desires to express to us his great satisfaction upon the result achieved.

Byron Jackson Iron Works

Main Office and Works:
West Berkeley, Cal.

Sales Rooms: *San Francisco, Cal.*
Los Angeles, Cal.
Portland, Oregon.

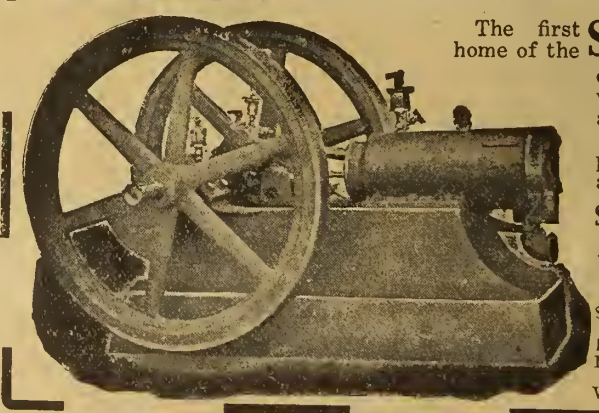
BOSTROM'S IMPROVED FARM LEVEL

Used for irrigation and drainage work. Cheapest and best level yet invented for farm use. Has the latest patented improvements in simplicity and usefulness. Can be operated by any one. Price including telescope tripod and target rod $15.00.

PALACE HARDWARE COMPANY
581 Market Street, San Francisco.

Coast Agents. Send for Circular.

Samson Gasoline and Distillate Engines



The first home of the **SAMSON** engine is a large one. Its second home, which is everlasting, is a happy one.

They may be compared with the sea—always ready to roll.

Samson Iron Works

Office and Factory:
1100 to 1198 Aurora St.
Stockton, Cal.

BRANCHES:
San Francisco,
Cor. Market and First Sts.
Fresno, 920 J St.
Los Angeles,
204 N. Los Angeles St.
W. L. Cleveland Co., Agents

KEROSENE ENGINES

No Batteries or Spark Plugs Used

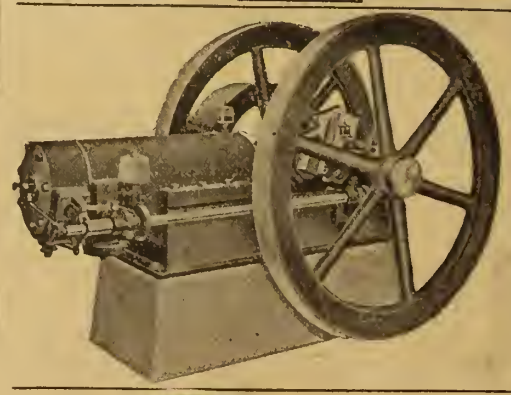
Simplest, Most Reliable and Cheapest Power on the Market

4, 8 and 16 Horse Power

Marshall Brothers

Point Richmond, Cal.

Catalog Free on Application



HERCULES DISTILLATE ENGINE

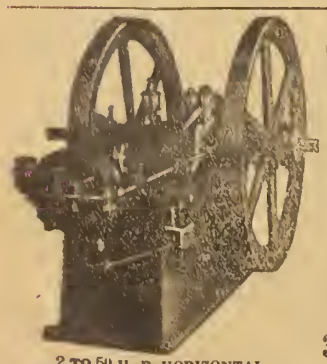
Heavy, Strong and Simple in Construction

The Right Engine at the Right Price

Horizontal and Vertical; All Sizes. Buy direct from the manufacturer and save agent's commission. Send for our new Catalogue C.

The Hercules Gas Engine Works

351 Market St., San Francisco
Telephone Douglas 3630



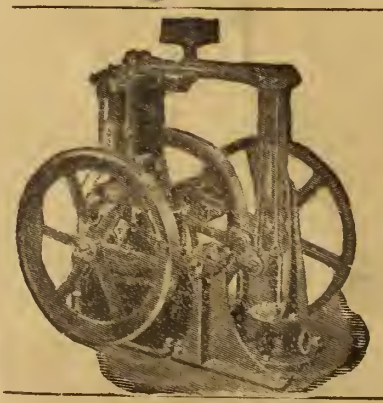
2 TO 50 H. P. HORIZONTAL

STOVER GAS ENGINES

The simplest and the best. We have had long experience installing pumping plants. We know our business. See us before you buy. 2 to 50 H. P.

LIVINGSTON & LEE

352 So. Los Angeles St., Los Angeles, Cal.



A Handy Little Engine

Just the thing to run the feed cutter, the pump, the churn, the grinder, or anything on the ranch. It's well named

The Little Wonder

Write or call on

Wm. Gregory

602 No. Main St. Los Angeles, Cal.

When writing advertisers, mention Cultivator.

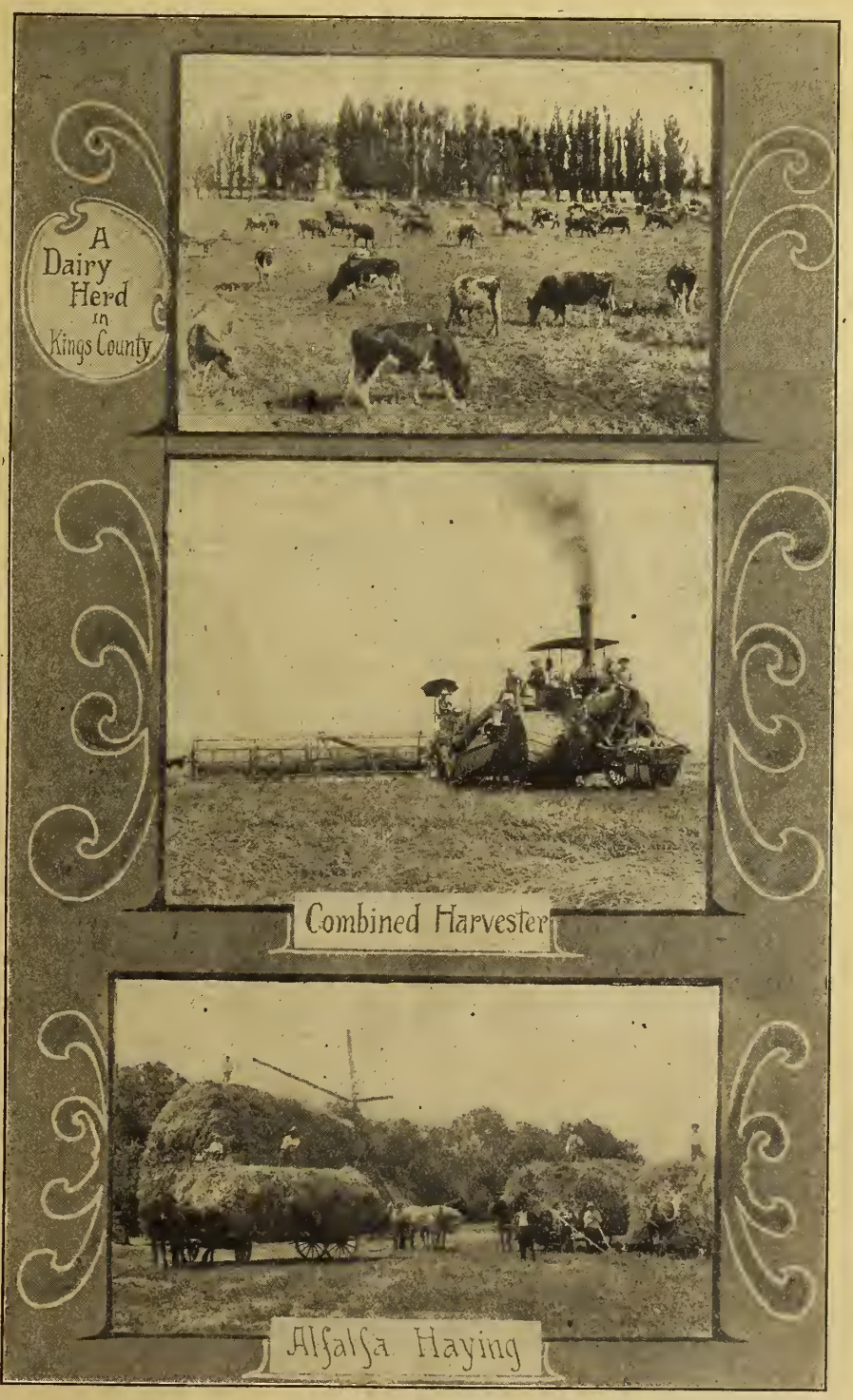
When writing advertisers, mention Cultivator.

California Cultivator

Published Weekly — One Dollar a Year

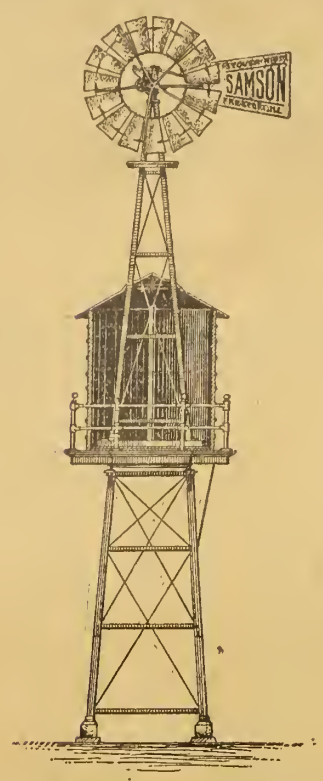
Los Angeles — November 5, 1908 — San Francisco

Doing Things Up in Kings County



SAMSON WIND MILLS

Have double gears, removable bearings and center lift, which double the life of the mill. They will last longer, pump more water and give better satisfaction than any other WIND MILL.



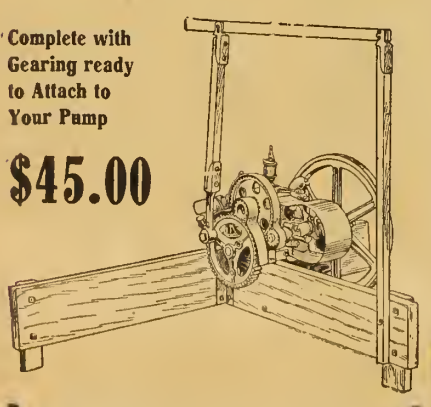
This is an up-to-date Sub-structure, Tank and Wind Mill outfit complete; substantial, economical and attractive. We build all kinds. Write us or our general agents for full information and prices, description &c., before purchasing.

The STOVER MFG. CO.
FREEPORT - ILLINOIS
30 California Avenue
CRANE CO., LOS ANGELES and SAN FRANCISCO
General Agents for California

Aermotor Gasoline Engine

Complete with Gearing ready to Attach to Your Pump

$45.00



Will pump all the time, wind or no wind, and deliver as much water as an 8 ft. Aermotor in a good wind.

From 225 to 1600 gallons per hour, depending on height water is to be raised.

Air cooled, uses Gasoline or Distillate.

A reliable, durable engine at a very low price. Can You Afford to be without one.

Send for Special Circular.

Tanks Towers Pumps Distillate Engines

Smith-Booth-Usher Co
Machinery and Supplies
Successors to
S. J. Smith Machinery Co. and L. Booth & Sons
212-214 S. Los Angeles St., Los Angeles
Home, Ex. 1090—Sunset, Main 1090

When writing advertisers, mention Cultivator.

Rhoades & Rhoades

Expert Live Stock AUCTIONEERS

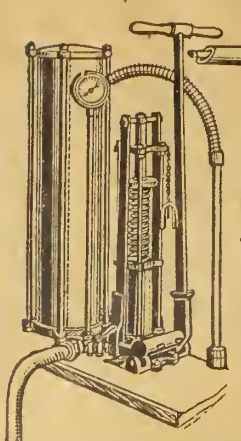
Sales conducted in all parts of California and adjoining States. Write for dates and terms. Twenty five Years' experience.

830-32 South Main St., Los Angeles

EDISON PHONOGRAPHS, VICTORS, ZONOPHONES

Records and Supplies, delivered at your nearest railroad station upon receipt of full retail price. Write for particulars and ask for catalogue. Peter Bacigalupi & Sons, 1113-15 Fillmore St. San Francisco

When writing advertisers, mention Cultivator



More Money For You

Greater productiveness of trees—larger, cleaner, and finer fruit—more money. Isn't that fruit growers' reasoning? Nothing will contribute to this end more than effective spraying. And **Effective Spraying** can best be attained with

Bean Magic Spray Pumps

Effective spraying means **High Pressure Spraying** and till the advent of the Bean Magics a high pressure could not be maintained with a hand pump for any length of time, on account of the body-racking effort needed to operate it. The Bean patent spring divides the work between the two strokes of the handle and works against only one-half the pressure shown on the gauge and saves exactly one-third the labor.

Our illustrated catalog No. 21 describes ten sizes of hand pumps, and contains much valuable spray information, and formulas. Catalog No. 22 describes Power Sprayers. Both books sent free. Write for our special offer; state number of acres and kind of fruit.

BEAN SPRAY PUMP CO.
212 West Julian Street
San Jose, Cal.

FARMERS' BOOKS

Order Through the Cultivator

FEEDS AND FEEDING.—By Prof. W A. Henry. Is a thorough, accurate and reliable handbook for students and stockman, giving most practical and useful knowledge on plant growth and animal nutrition, feeding stuffs, feeding animals and every detail pertaining to this important subject, indispensable to every owner of live stock. 658 pages. 6x9 inches.
Cloth $2.00

AMERICAN GRAPE GROWING AND WINE MAKING.—By George Husmann of California. With contributions from well known grape growers, giving wide range of experience. The author of this book is a recognized authority on the subject. Illustrated. 269 pages. 5x7 inches.
Cloth $1.50

STANDARD OF PERFECTION.—By the American Poultry Association and used as the standard for judging all shows. The thing for dealers in fancy stock.
Cloth $1.50

PERFECTED POULTRY OF AMERICA.—This is the most recent publication, and is one of the finest poultry books ever issued. It contains full page illustrations of all breeds and varieties of poultry, turkeys and water-fowl. On many of its pages are represented the feathers from each section of the fowl. Gives the information necessary for the selecting of the best specimen in your flock.
Cloth $2.50

A. B. C. AND X. Y. Z. OF BEE CULTURE.—By A. J. and E. R. Root, the leading authority on Bee Culture Its reputation is known to all Beekeepers. 536 pages.
Cloth $1.50

CAMPBELL'S SOIL CULTURE MANUAL.—By H. W. Campbell. The originator of the "Campbell System of Dry Farming." A complete guide to scientific agriculture as adapted to the semi-arid regions. Of great value to all Western ranches. 320 pages.
..... $2.50

THE NEW AGRICULTURE.—By F. Byard Collins. A new and authoritative work dealing with the changing agricultural conditions. Why "Back to the Soil" is calling millions from the cities to the farm. The debt which agriculture owes to science. Irrigation, fertilization, machinery, etc.
Illustrated, 374 pages, cloth.....$2.00

Cultivator Publishing Company

Why Wants Baby Chicks?

We Hatch Nineteen Varieties of Chicks

And can ship them safely anywhere within 48 hours. Send today for our free price list and full particulars. We have been in the business several years—our sales in 1908 were over 230,000 chicks. We are the largest chick dealers in the world. Refer you to any poultry or farm paper on the coast. We guarantee you a square deal. We sell all kinds of hatching eggs. Now is a good time to write us. When in the city call and see us in our own building.

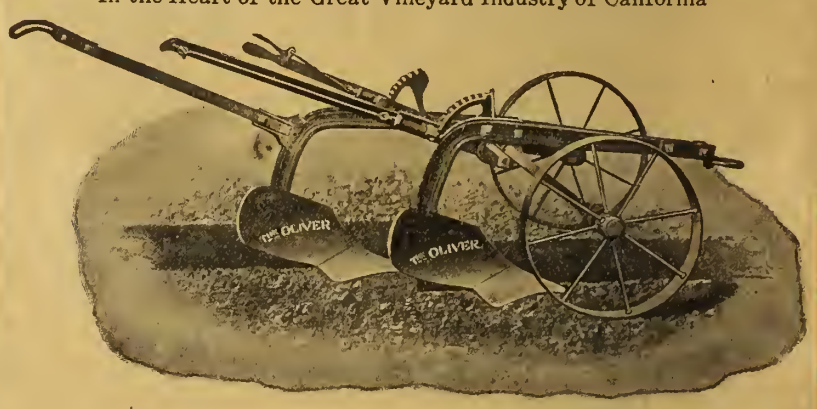
108-110-112 E. Eighth St.
Pioneer Hatchery Co., Los Angeles, Cal.

Winner of the First Award

The Nos. 17 and 18

Oliver Orchard and Vineyard Gang Plows

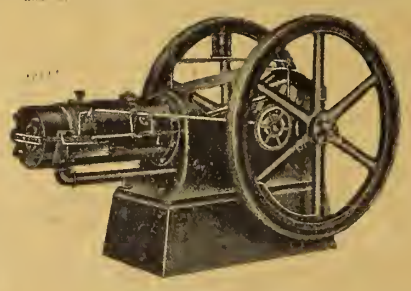
At the Great Fresno County Fair
In the Heart of the Great Vineyard Industry of California



The Greatest Improvement of the Age in Plows for Orchard and Vineyard

Get particulars from your nearest Oliver agent, or write to

Newell Mathews Company
Southwestern General Agents 200 N. Los Angeles St., Los Angeles, Cal.



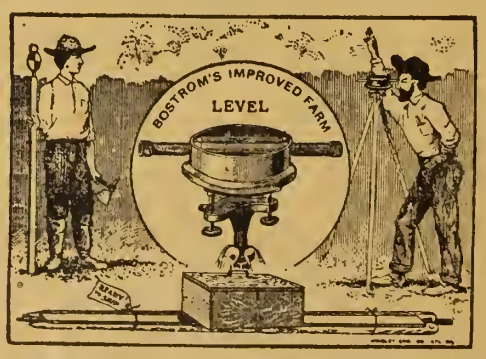
For the Land's Sake!

IRRIGATE WITH A

Commercial Gas Engine

SEND FOR BULLETIN NO. 12 AND YOU WILL

Commercial Engine Company
953-955 No. Main St. - Los Angeles, Cal.



BOSTROM'S IMPROVED FARM LEVEL

Used for irrigation and drainage work. Cheapest and best level yet invented for farm use. Has the latest patented improvements in simplicity and usefulness. Can be operated by any one. Price including telescope tripod and target rod $15.00.

PALACE HARDWARE COMPANY
581 Market Street, San Francisco.

Coast Agents. Send for Circular.

Red Cross Wind Mill

Is built right. Works right. Runs in light wind. Has ball bearing turntable and outer thrust. Easy mill to set up and take care of. Built upon honor.

Woodin & Little Pump House

70-72 Fremont Street, San Francisco

PUMPS FOR EVERY SERVICE AND USE

Pumps for Irrigation, Road Sprinkling, Electric Motors, Gasoline Engines, Spraying, Whitewashing, Wine Pumping, Wind Mills, Hand and Power Use, Steam, etc.

Gasoline Engines Wind Mills
Tanks Pipe Pipe Fittings

SEND FOR CATALOGUE

California Cultivator

Vol XXXI—No. 19 Los Angeles, California, Thursday, November 5, 1908 Subscription $1 a Year

Pedigreed Vines and the Young Vineyard

A Paper Read Before the Farmers' Institute at Davis

By MRS. MINNA E. SHERMAN, of Fresno, California

WHAT shall I plant is usually the first question asked by the new arrival in the fruit growing sections of California. The nursery man's catalogues pile up and everything that is recommended is marked with a cross until enough has been selected to plant a county. The fact that each variety of fruit requires somewhat different handling, different styles of boxes and ripens at a different time is overlooked. A mixed fruit farm should be balanced up or the work is never done. The man that is wise will look around before deciding on his plantings and visit the successful men of the neighborhood.

Not Accidental.

Success is not accidental in fruit growing and the successful man has something to show why he has won out. The common mistake the new comers make in California is to regard the older residents as "moss backs." The giddy talk of the great profits, reeled off by the real estate man, upsets the new arrival, just the same as it makes the older fruit grower's head spin, to listen to the tales of one tree, or vine that produced so many pounds of fruit one year, multiplied by a hundred to give the tons produced by an acre; then, by the hundred acres. The multiplication is good, but trees do not produce in that ratio, or a million or more of us would be too rich to be fruit growers.

The leading men in the growing of fruit in California are men of brains that could do well in any other business. Then, for practical work we must visit the successful men of the neighborhood, find out what they are doing, and why they prefer certain varieties of fruit. In many parts of California any fruit will grow and give good crops. Even when this is the case it is not wise from a business standpoint to try to grow anything different from your neighbors. The locality has a reputation as a producer of certain fruits and the markets look to that locality for that particular fruit.

Regular Helpers.

The railroads provide cars to handle that fruit and the packing house help have been trained to pack it in good acceptable shape.

The attempt to be the only packer of one kind of fruit in the neighborhood means that the packing crew must be broken in every year to the work; this means a large per cent of unskilled labor, and poor packing. In every neighborhood there are holders of vineyards and orchards that have sunk large sums of money by planting unsuitable varieties and kinds of fruit. A case in point is the extensive planting of the olive tree in the Southern orange belt, where few have proven profitable. In the San Joaquin the olive tree is very profitable. They are beautiful and bring thought with a touch of romance. The magic brush of fancy of the Bible writers has given them a place in the world's literature. The dove returning to the ark with an olive leaf to signify that all was peace after the terrors of the deluge. Yet it will not do to build up to a commercial standpoint a vineyard or orchard on the poets, though there is no reason why the mind may not be busy with all the poetry of the world as part of the daily rounds of the ranch work. The poetry and the pictures are there to make part of the life.

The raisin industry was young, but an assured success when I planted the first vineyard down in the barley stubble field. On the ranch when first purchased were four acres of old vines, old enough to be on the wane as far as fruitfulness was concerned. These vines were of many European varieties grown from the early importation of cuttings. Some of these varieties showed particular adaptability to the Fresno climatic conditions and soil. Malagas, Muscats, Rose de Peru, Tokays, Hamburgs, Bergurs, Palominos, Ferazagoes, and Zinfandels. In this little vineyard we received the first lessons in pruning that, afterwards, proved to be all wrong, as the vines were pruned all alike without regard to the variety.

The general subject of grapes falls into three groups formed by the use that is ultimately made of them, raisin grapes, table grapes and wine grapes. I have been working with raisin grapes, and table grapes for 23 years, and sometimes I feel I know a little about their growth and needs. Every year, however, comes new insight into better ways than the old routine.

The Vineyard.

There is the individuality of the vines themselves. Personality is not as marked in plant life as in animal, yet it is an element that must be considered. Each vine and tree is a separate individual, but as the vines in a commercial vineyard are grown from the cuttings and not from seed, each vine is the direct part of the parent vine. Changes, therefore, in its character as a fruit bearer come from external sources.

The choice of cuttings for a new vineyard should come from a vineyard that is vigorous and of high productiveness. Haphazard taking of cuttings from the brush pile is surely a poor way of increasing the yield of fruit. Going back further still, have you ever thought how we have handled ordinary vineyards? We imported vine cuttings from Europe and planted them just where we pleased without regard to former conditions—heavy land, sandy land, dry land, wet land, no matter so the cutting was in the ground. Too many vines found a burial place; naturally a few vines fell into fertile soil and did well, while others merely cumbered the ground.

What did we do next? Why, we pruned them to suit our fancy and, again, many good varieties were pronounced worthless because we did not understand their nature. A few table and raisin varieties we have at last come to a reasonable degree of understanding of their habits of growth and have made them fairly profitable. The next step of importance to be taken, if we are to raise profitable vineyards, is the selection of the mother plants. This is called pedigreeing of vines. The muscat can be greatly improved by intelligent selection of the vines, producing good crops of early sugaring grapes. The time of ripening can be brought forward two weeks, for there are vines in our vineyard that show 24 per cent of sugar year after year between the 12th and 17th of August. A whole vineyard of like early ripening fruit would make raisins many years by the first of September.

The Malaga grapes ripen over a period of five weeks and vary from a rich amber-tinted berry full of sweetness to a grape of sickly greenish hue and sour enough to make any fox declare it is indeed sour grapes to give them to any one.

Varieties.

The Emperor, Cornichon and Tokay vineyards form another group. If the grapes from these vineyards are closely examined as they come to the packing tables, the diversity of form of berries, shape of bunches and coloring will be seen to be very great. In many vineyards the culls are heavy enough to make one give the grape pickers specific instructions to send in only merchantable fruit. Just how much is rejected the grower does not realize. It will pay you one season to send all the fruit through the packing house and see for yourself the losses that are made yearly. It will trouble you at first. I felt the first time I discovered this leak of profits, like Edward Everett Hale has said of a certain class of men. "They bear three kinds of trouble at once, all the trouble they have had, all the trouble they have now and all the trouble they expect to have."

Cheer up! there is a pleasant way out, by a little interesting work. The vines should have been culled before they were planted and then the unsatisfactory fruit would have been largely eliminated. Our first Emperor vineyard was not planted with selected vines; we found that we had four forms of fruit. Then by looking carefully, we found some fruit that was perfect. The berries were large and of tranluscent red and the bunches shapely. This surely, was the type of the grape, while the other forms were made by accidentally retarding the proper growth of the parent vines. I have an idea that when unfavorable conditions overtake a portion of a vineyard, that the undesirable type of fruit becomes a habit and is carried to the succeeding generations made from the cuttings.

Be Exclusive.

The work of selecting the vines that produced the fine fruits for at least two consecutive seasons was then begun. I found it necessary to do this work personally. I waited until the week before the pickers went into the vineyard. Armed with a pot of red paint each vine that had a good crop of fine fruit was marked with a red band. Being a week in advance of the pickers, the paint had time to dry and yet the grapes were practically in the best stage of ripeness. The next year, this marking was repeated with white paint. The using of paints of two colors was to be able to make any allowances for short crop. If the general crop of the valley was short, either year, then the crop of these vines had to be taken in a relative degree.

Some Worthless.

The vines were counted after the leaves had fallen. It was found that in a seven acre vineyard, thirty-three per cent were practically worthless as producers of merchantable grapes, eleven per cent had produced on alternate years enough good grapes to receive one mark, while fifty-six per cent had produced good grapes each year. The cuttings for a new vineyard were made from the producing vines. This seven acres of old vineyard that were marked off, at five years of age, produced a scant thirty tons of grapes counting in the culls. The second vineyard at five years of age, produced eighty tons on the ten acres. These marked, for two seasons, and the result showed that twenty-two per cent were not fruitful every year, while three per cent were worthless.

The most striking thing about the two experiments is the readiness with which beauty of color and form were secured. The vines only wanted a chance to show out the latent beauty of their fruit. The increasing size of berries depends on abun-

Continued on page 438.

WISS
ORANGE CLIPPERS
Will Not Bruise the Fruit

Indorsed by the United States Government Experts and by the leading citrus growers.
Recognized as the most practical clipper:
Made of the very finest material by expert workmen.
The blades are perfectly tempered and specially curved.
Handles are correctly shaped and will not tire the hand.
Every pair absolutely guaranteed.

WISS Solid Steel Pruning Shears will snip a Broom Handle and cut the most delicate tendrils. All parts interchangeable. Any broken part can be readily replaced. 9-inch size, $2.25.

For Sale by all first class Dealers

J. WISS & SONS CO., Littleton Ave., Newark, N. J.

Save Time--Save Fruit
With the Brewster Picking Sack

A new method sack—invented and perfected by lifelong growers. Eminent orchardists pronounce it perfect. Those who have tried it say they would not be without it. Actual tests show that a man can pick twenty-five per cent more fruit with it and with greater ease.

Sack forms semi-circle about picker's body—is supported by straps over both shoulders and held tight by belt around body. The picker can thus work with ease either on ground or ladder. When full, it does not extend below the hips.

A great feature of the Brewster Sack is the patent gate (see illustration), WHICH PRACTICALLY ELIMINATES BRUISING. Simply unfasten a hook—the gate drops—and the fruit can be quickly but very gently poured out.

The sack holds as much fruit as the old style sack.

Made of double filled canvas, over strong steel frames; strong sustaining straps; practically indestructible.

Sent express prepaid to any address for $1.50.

Sierra Madre Sack Company - Sierra Madre, Cal.

We want reliable men in every locality to demonstrate this sack and act as our agents.

Third Annual

Tulare County Citrus Fair

TO BE HELD AT **Exeter, California**

December 1st to 5th, 1908

Don't fail to attend this great exhibition of Citrus and Deciduous Fruits—one of the grandest displays of orchard products ever collected under one roof.

Baseball, Football, Basketball, Dancing and many other games of sport. Five days and nights of unalloyed pleasure with music all the time.

For further particulars address

W. R. WOOD, President. **C. F. BALAAM, Secretary.**

Exeter, Tulare County, Cal.

When writing advertisers, mention Cultivator.

With the Citrus Growers

WONDERFUL POSSIBILITIES.

Speaking of some of California's past fruit-growing history, and referring to the future, Eugene Germain of Los Angeles recently said in the Los Angeles Herald:

"In my judgment our agricultural development is only in its infancy; its expansion is only just beginning.

"Allowing for the fact that all our leading staples of orchard and field, ranch and garden are exotic to our soil; and allowing that their production in the main is only possible by the artificial application of water, often secured at great effort and expense; and allowing that under these somewhat anomalous circumstances the horticultural production of the state has grown to the enormous sum of nearly $20,000,000, the rural economies of California can be regarded only in the light of the most marvelous exploitation in soil products of this or any other time. For nearly half a century it has been my good fortune not only to see this development, but, in a small way, I have been part and parcel of it, contributing something toward its fruition from a packer's and shipper's point of view, rather than from that of a grower.

"Obviously, horticulturally California has made history rapidly; indeed, so much so that all of us, in the strenuous experience of our own affairs, have quite lost sight of the many important things that have happened in the past forty years; and correspondingly I am of the conviction that but few of us realize what the future will unfold. I know it is so in my case. Why, it seems but yesterday that the shipment of a few carloads of citrus fruits to Eastern markets was heralded as an event; yet today we are less surprised at the statement that 25,000 carloads go forth valued at something like $19,000,000. In 1887 I was in a small way, as things go now, shipping fruit and mid-winter vegetables north per steamer to San Francisco, the only market available. We used to hear of Fresno only as a spot on the map; now that town 'turns' $28,000,000 worth of soil products a year. Riverside in those days was unkown; our oranges and lemons came from a few groves in the San Gabriel valley and from what is now a portion of Los Angeles. The walnut, the olive, the fig cultivated spasmodically, where now they are as much a feature of the landscape and the market place as wheat or corn is in the Mississippi valley. Indeed, horticulture has crowded all other activities to the wall in this state, and by reason of values has for fully twenty years been recognized as our basic industry, affording not only a living to thousands of our citizens, but also a competence.

"And while the enterprise of our people has been the cause, nevertheless it would not have been possible but for superior natural advantages. Given a soil and climate which are inferior to none, it only remained to create our marvelous system of irrigation to make possible a horticulture the like of which the world has never seen; an industry already stupendous in its ramifications, with the geographical area of the state scarcely scratched. Prior to the advent of the Anglo-Saxon the country was practically a wilderness; now it is the seat of the most profitable soil production known to man. Its benefits, not only in a pecuniary sense, but in the light of a higher civilization and a patriotic citizenship, are incalculable. I doubt if there is anywhere a community of soil tillers that possess the intelligence and moral fiber which so thoroughly individualize the man behind the plow in California."

The Avocado

The Avocado, or alligator pear, by the way a comparatively new product of Florida so far as the average American citizen knows, has begun to show up on this market in suprisingly large quantities. Here and there along the street now you see a sign reading, "alligator pears." At least 75 per cent of the stay-at home trade did not know what an alligator pear looked like two years ago.

It looks as though the alligator pear has come to stay, if the recommendation of those who know all about it counts for anything. However, the pears must be introduced to the public and it may be that the men who make the introduction will likewise make a fortune as was done in Rocky Ford cantaloupes and even grapefruit. About twelve or fifteen years ago the peddlers sold the first grapefruit that came here for "big oranges" and the following day the housewives of New York were out looking for them with broom sticks and hatchets. Now the grapefruit, in season, is an indispensable adjunct to millions of breakfast tables.

Hickson Bros. of Miami. Fla., extensive growers of alligator pears, in writing The Packer say of the product.

"This is one of the best, if not the best, of all tropical fruits. It is the most easily digested, the most wholesome and the most nourishing. According to government statistics it contains over 10 per cent of fat and in a form that the most delicate persons can partake of it with a relish, when they cannot partake of fat from an animal source. It is an upbuilder of the system; nerve as well as muscle. It requires but little coaxing of the palate for one to become extremely fond of it.

"The Avocado is a salad fruit and is prepared or served with any and all kinds of condiments, according to one's taste. It welcomes olive oil, lemon or lime juice, the ordinary salad dressing or with pepper, salt and vinegar. The favorite way is to halve the fruit, remove the seed and skin, then cut the meat into cubes of about half-inch size and add the desired dressing.

"Another favorite way to serve the smaller varieties is to halve the fruit and after removing the seed and inner lining to serve each half in a saucer to each person, the fruit to be eaten with a light sprinkling of salt, (pepper and vinegar if desired) out of the skin with a teaspoon. We quote the following from the Tampa Times:

"'The Avocado makes the basis of a score of the finest salads that ever tickled the palate of an epicure and it has the great merit that it cannot be spoiled.

"'It welcomes olive oil and lemon

YELLOW MONEY AND YELLOW FRUIT

Are a pair that travel together in good shape in an orange or lemon grove. Especially is this true if you will plant only the robust and true-to-name

Citrus Trees

grown by the San Dimas Citrus Nurseries, the largest growers of choice orange and lemon nursery stock in the world. No branch of horticulture offers better inducements in the way of profits, nor is there one more alluring to the person contemplating commercial fruit culture. For the past twenty years we have supplied the leading growers with their trees, and hope to number many more among our friends and patrons. Orders now being booked, subject to future delivery. Send for book on

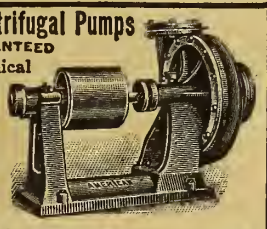
"The Citrus Fruits: Historically, Horticulturally, Commercially."

Beautifully illustrated, and some 20,000 words of text. Price 25 cents.

The San Dimas Citrus Nurseries

R. M. Teague, Proprietor
San Dimas, California

American Centrifugal Pumps
GUARANTEED



Highest mechanical efficiency. Saves 25% of power over all other pumps. Give us your pump specifications.

Manufactured by

THE AMERICAN WELL WORKS
Aurora, Ill., U. S. A.

Branch Offices:
Chicago, Ill., First National Bank Building.
New York, N. Y., 2-4 Stone St.
San Francisco, Cal., 305 Market St.
New Orleans, La., J. H. Menge & Co.
Dallas, Texas. Joplin, Mo.

Notice to Orchardists

Now is the time to plant your cover crops. Plant Vetch, Blue peas and White peas in sandy soils or where there is slight alkali. Plant Burr Clover or Foenugreek on heavy soil. Write us for prices and for any particular information you may wish.

Aggeler & Musser Seed Co.
Successors to Johnson & Musser Seed Co.
113 N. Main St., Los Angeles, Cal.

Ever Hear of a Billiard Table for $22.50? Here is one, 2½x5 feet, with 16 balls, 4 cues, triangle, pool bottle, ten pins, etc. Simply can not be beat. Smaller and larger tables at corresponding prices. Send for catalog today and see tables down to $7.00.

C. Ridderhof, Laughlin Bldg., Los Angeles

The Coachella valley will shlp 150 cars of onlons this season.

juice alike, extending a friendly welcome to mustard and pepper sauce. But the best way to enjoy an Avocado is to secure a fine specimen, just ripe enough to yield gently to a pressure of the thumb, which, if applied to a baby's ear, would make it look up at you wonderingly, sit on the kitchen steps, split the pear in halves, lay aside the beautifully ugly seed, tenderly scrape out the inside lining, arm yourself with a teaspoon, a lemon and a trifle of finely ground salt.

" 'Squeeze a modicum of lemon juice into the globular cavity, sparingly of salt, gouge out gently a heaping teaspoonful of the meat, place in the mouth and let it dissolve under pressure of the tongue against the teeth, swallow the resulting paste unctuously and with thankfulness.

" 'Then, when the delicious impression upon the sensory nerves has begun to fade, repeat the operation, and so on until you have nothing left but the skin.

" 'Half a good sized pear is enough. It may be taken before and after and with meals. The taste is good, the effect is good, the only necessary precaution being to eat slowly and not too large a quanity.'

"This is a fruit that all physicians should look carefully into, on account of its nourshing and digestible qualities."—The Packer.

NEW IN IRRIGATION.

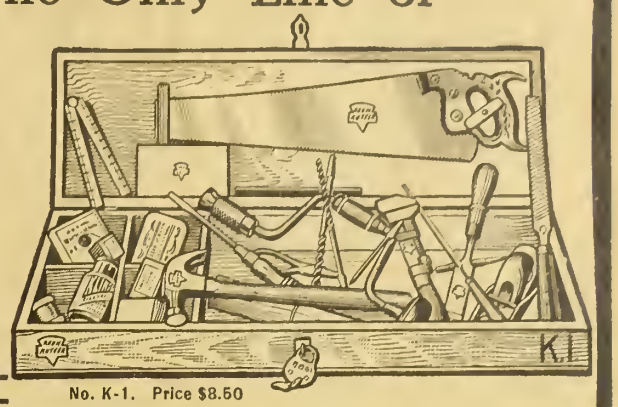
The University Farmers' Institute has a ripe field on the subject of irrigation of deciduous fruit trees in Central and Northern California, some of the growers in those sections using the crudest and most wasteful methods. One grower irrigated his peach orchard by plowing one shallow furrow on each side of each row, turned on the water and cut it out at intervals, allowing it to flood the ground under the tree and in the spaces. The ground was allowed to dry out and crack open, no attempt being made to retain the moisture by cultivation. Another peach grower was running the full irrigation stream in one ditch through the orchard and letting it out at intervals to flood the ground. Some places the water stood a foot deep and in others it was only run over the surface. It was suggested that it would be cheaper for them and better results would be realized by plowing deep furrows at intervals so the water could not get out of them and as soon after irrigation as possible run over the furrows lengthwise with a harrow with a 2x4 timber wired between the two front rows of teeth. This will drag in enough dry dirt to cover the wet bottoms of the furrows and stop the greater part of evaporation at once.

When furrowing out shovels are used on a riding cultivator, a handy device and a cheap one, is a heavy wagon tire cut and bent in the shape of a W and fastened to the back of the cultivator frame with the two points of the W pointing backwards. If attached so that center and upper or front part of the W shaped iron follows between two furrows, the dirt will be dragged into the furrows from both sides, filling them almost full at one operation.

There is scarcely any realization of the amount of loss by evaporation by allowing the soil to dry out before cultivation. It is shown very plainly by comparing the appearance of the surface early in the morning with the same surface in the middle of the

Continued on Page 455.

The Only Line of High Grade Tools Under One Name and TRADE MARK



No. K-1. Price $8.50

Almost every day some sort of tool could be used to advantage around the house, and oftentimes it is absolutely necessary to have tools at once, to make repairs. The best way to buy them and the most convenient way to keep them is in a cabinet.

E. C. SIMMONS KEEN KUTTER TRADE ST. LOUIS MARK U.S.A.

KEEN KUTTER TOOL CABINETS

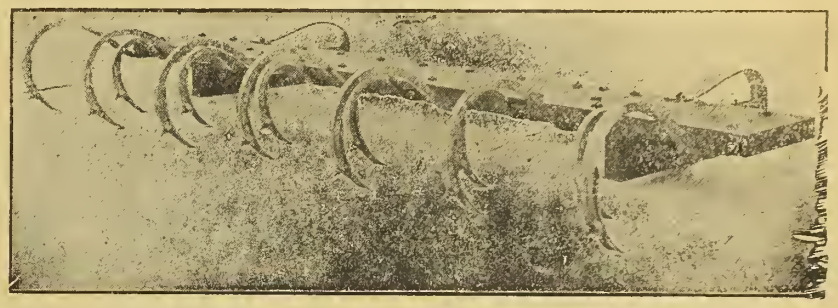
are the only ones made containing a complete set of high grade tools under one name and trademark. Every tool is a KEEN KUTTER, which means it is the highest grade and fully guaranteed. No cheap tools.

Ask us to send you handsomely illustrated Catalog showing our complete line of KEEN KUTTER Cabinets; then select the cabinet containing the assortment of tools you want and your dealer will supply you. If not, write us and give us your dealer's name.

This booklet contains cabinets from $8.50 to $125.00, according to assortment of tools. *A postal will bring it.*

SIMMONS HARDWARE COMPANY (Inc.), St. Louis and New York, U. S. A.

WILLIAMS' GOOSE-NECK CULTIVATOR



Especially adapted for citrus orchards. Sizes 8 to 14 feet. Lightest draft. Free trial to responsible parties. No agents. You pay only one profit. Write today.

WILLIAMS & SON, Manufacturers
Orange, California

George B. Warner's Orange County Nurseries

Established 1889

Grower and Dealer in Citrus and Deciduous Trees of all Standard Varieties

Soft Shell Walnut Trees, 1, 2, and 3 years old. Grafted Placentia on Native Black Walnut Root and Soft Shell Root. Street and Ornamental Trees, Palms, Dracænas, Blue, Red and Sugar Gums (large stock.) Write for prices.

Sales Yard—Corner Sixth and Main
Residence—Tenth and Bush Sts
Santa Ana, California
Phone—S. S. Red 92

TENTS

Fumigating and Lemon Curing Tents our Specialties

Irrigating Hose, all sizes. Prices and Samples quoted upon application. Write your wants
Wagon Covers, Hay Covers, and Canvas Covers of Every Description.

Mellus Bros. & Co
Phones—Home, F 4871; S. S., Main 3500
250 East Fifth St., Los Angeles, Cal.

RHODES DOUBLE CUT PRUNING SHEAR

Pat'd June 2, 1903.

THE only pruner made that cuts from both sides of the limb and does not bruise the bark. Made in all styles and sizes. We pay Express charges on all orders. Write for circular and prices.

Dept. J
RHODES MFG. CO.,
GRAND RAPIDS, MICH.

ARNOTT HARNESS $10.00 to $80.00

Everything guaranteed. Money back if not satisfactory. Factory in Los Angeles. California leather for all uses. Send for No. 10, eighty page FREE Catalogue.

ARNOTT & COMPANY 112-118 So. Los Angeles St. Los Angeles, Calif.

TREES TRUE TO NAME

AND

Propagated From the Best Specimens of Their Kind

TWO IMPORTANT FACTORS

Placer Nurseries

(Established 1878)

OUR ASSORTMENT

Comprises all the Best Commercial Varieties of

Peaches
Plums
Pears
Apricots
Almonds
Cherries
Apples
Persimmons
Grapes, Etc.

Order Now
Write Us

and our stock is the best that years of experience, care in selection, and care in growing can produce. That is what you want.

Catalogue and Price List Mailed on Application

The Silva-Bergtholdt Co.

Newcastle, California

Agents Wanted

TREE TANGLEFOOT

A Sticky Preparation Applied Directly to the Bark of the Trees

Will not injure trees. A band 5 inches wide and 1-16-inch thick cannot be crossed by any climbing insect pest. Remains sticky five to ten times as long as any other known substance. You can test it at slight expense, as no apparatus is required. Used by the carload in New England against the Gypsy and Brown-Tail Moths. In California it preserves prune orchards from the Canker Worm. Wherever the Gypsy or Brown-tail Moths, Tussock Moths, Fall or Spring Canker Worm or Web Worm appear TREE TANGLEFOOT is of great value, and should be used when the caterpillars begin to crawl while they are very young.

Price 25c per lb. Liberal discount on quantities. The only safe and effective banding preparation. Send for testimonials

THE O. & W. THUM COMPANY

Manufacturers of Tanglefoot Fly Paper — Grand Rapids, Michigan

Pacific Seed Co.

C. Bagnall, Prop.

GROWERS AND IMPORTERS OF

Grass, Vegetable and Flower Seeds

All Kinds of Bulbs and Onion Sets

609 J St., Sacramento, Cal.

Send for Catalogue. Please mention Cultivator.

SEED GRAIN

Black and Red Oats, Wheat, Barley, Bean Screenings, Etc.

constantly on hand and for sale at lowest market rates

Bray Brothers Buyers of Grain and Beans Members Merchants Exc.

220 Clay St., San Francisco, Cal.

Established in 1855. Correspondence Invited.

LAND PLASTER

Gypsum will make available the plant food in your soil and bring good returns through small investment.

Wonderful Moisture Retainer

Write for prices in car lots.

Acme Cement Plaster Co.

750 S. ALAMEDA ST. LOS ANGELES, CAL.

The McDonald Peach

The entire output for 1908 has been sold. Orders for next year can be addressed to

C. A. McDonald,
Box 662, Colton, Cal.

Kill the Gophers and Squirrels

You can rid your ground of hundreds of them in a week with my device; No experiment, a sure thing, the best thing ever invented; Bank guarantee; Send postal for descriptive circular.

Peerless Rodent Destroyer Co.
P. O. Box 307, Santa Cruz, Cal.

Deciduous Fruit Culture

By J. W. Mills

YELLOWS.

The "yellows," which swept so like fire over nearly all peach sections of the East a few years ago and later subsided somewhat, is reported now to be returning. An eastern exchange in speaking of it says:

Undoubtedly "yellows" is by far the most serious disease that attacks the peach, indeed it is far more dangerous than all the other diseases put together, and it is more virulently infectious. In that respect it may be compared with cholera or yellow fever as they affect the human race.

Think you, if some well authenticated cases of cholera or yellow fever were detected that there would not be a hurrying and a scurrying of the medical authorities and boards of health, etc., and the severest measures would at once be taken to stamp the disease out? It is true that yellows in the peach does not seriously attack the health of the people, although cases are on record of persons affected with this disease, but it does seriously menace the pockets of the fruit growers and threatens the destruction—for the time being—of a most important industry. And yet, with the exception of a few wide-awake persons, the majority of fruit growers are going on their way with their eyes tight shut to their danger. It is not too much to say that there are but few orchards between Stoney Creek and Beamsville, above or below the mountain, entirely free from it. And east of Beamsville much the same is true. And still, as I have said, the greater number of growers are fast asleep as regards this matter. More than that, in many cases where the inspector has gone through and marked the trees some time ago they are still allowed to stand undestroyed, a danger of the most deadly kind to the trees of their owner and his neighbors. Another point of much importance here crops up. The inspectors as a body no doubt do their best but some of them do not seem to be thoroughly conversant with the symptoms of yellows, for I have been in orchards where trees have been marked by the inspector, and rightly marked, and other trees in the same orchard just as badly affected have not been marked at all. It will, therefore, pay every peach grower to learn the symptoms for himself, and where one or two trees have been marked by the inspector, to very carefully examine all the trees near by.

During the last few years, a great many new men have gone into fruit growing, who know nothing about "yellows" except as a name, and one can find some excuse for their neglect in this matter, but there is absolutely ought to be thoroughly alive to the no excuse for older growers who danger, being equally careless and indifferent and they deserve severe condemnation. What would you think of men who knew that cholera was present in their families and yet did nothing? You could scarcely conceive of such a case. Yet yellows is just as dangerous to the peach as cholera is to people. It is true that yellows is a most insidious disease and is sometimes present in the orchard, one or event two years before experienced men can detect it. The first indication is generally in the central head of the tree. Usually the leaves there are large, but when yellows first attacks, they begin to set much closer, say about three leaves to the inch. The next sign is that the inner leaves near the ground show a rolling up and at first a tinge of yellow, and the next year there will be an occasional specimen of prematurely ripened fruit and then what is termed "pennyroyal" ripening. Water sprouts also start from the main limbs. By the time the disease shows on the fruit, it has been in existence for some considerable time and it is then quite easy to detect. The fruit ripens prematurely and shows red streaks all through it and the bees sucking the pieces of this fruit, if allowed to ripen, help to spread it from tree to tree. At this stage the fruit is quite unfit for consumption.

The only remedy for yellows is, immediately on detection, to pull out and burn up and get all your neighbors to do the same. For my part, if I had trees in my peach orchard that I knew had yellows, I would not delay a minute, but dropping all other work, would pull out and burn at once. Do not drag the brush from infected trees out through the orchard and let it touch other trees. If possible burn up the tree or trees right where they grow, but if that cannot be done, cover the brush over with something as you take it away. From the wide way this disease is spread through the peach belt and also from the fact that it is making its appearance in quite young orchards, it looks very much as though the nurserymen—quite unknowingly—have been propagating from pits taken from diseased trees.

PEDIGREED VINES AND THE YOUNG VINEYARD.

Continued from Page 435.

ant water supply even in the selected vines.

Land for a young vineyard should be selected in regard to levelness, ease of irrigation and cleanness from weeds. Land infested with weeds that are pests, and Johnson grass, Bermuda grass and morning glory had best be left to plowed crops for a few years. The soil for a vineyard does not require to be of great depth, three to eight feet being sufficient. With good sub-irrigation a vineyard will rarely require surface irrigation after the third year. An old alfalfa field is not as good soil to plant young vines in as a grain field. The alfalfa field soil is denser and has been shaded, until it is no longer friable enough for vine growth. The heavy long roots of the alfalfa rot slowly and the young roots of the newly set out vines are not in healthy surroundings.

The condition of the land before planting a vineyard can be readily examined by digging a pit to hardpan or to the underlying soil. The top soil shows the action of light, then the more dense soils come, that lie below the regular plow lines. If the soil has been well cared for the upper portion will be friable, moisture not too far from the top and not wide cracks. A poorly cultivated soil will show cracks where the moisture has passed into the atmosphere. These great cracks in the soil indicate poor mechanical condition in the soil; they show that it needs humus, in the form of barn yard manure or of a green cover crop. On much of the

land that has been grain farmed for years it is perfectly safe to consider that it lacks humus.

Level the land carefully and throw the checks up broad and straight enough to be used for wagon ways. This work should be done early to have plenty of rain fall on the land. Plow deeply and harrow it smooth before starting to plant. When land has to be leveled, it is well to do the work the year before planting the vineyards, and grow a winter crop of cereals and a summer crop of corn. The soil will then be well aired and in fine condition to receive the young vines. When land has to be leveled, and must be planted the same season,

WHERE ROLLS THE OREGON.

the scraped over places should have particular attention, being top-dressed with a heavy coat of manure. After a rain or two turn the manure ten inches under the soil. After the vines are planted top-dress these spots again with manure. A spot of land that has been leveled and not given special care will remain less fruitful for years, and the vines will show shorter wood growth than the rest of the vineyard.

A LESSON IN APPLE PICKING.

In the matter of picking receptacles the greatest diversity prevails. Buckets, baskets and bags have each their devotees and I know one man who provides his pickers with coal scuttles. The latter, however, suggest pouring a little too strongly, and such rough treatment is not thought of any more than with eggs. Buckets and baskets are awkward to handle compared with bags. A lining of burlap greatly improves them although it should not cause any relaxation of care in placing the fruit in them. Bags are open to the objection that the fruit in them is easily bruised if the bag brushes against a limb or ladder.

In many styles of bags it is unhandy to remove the fruit without pouring, and to overcome this difficulty a bottomless bag has been devised, which allows the fruit to roll from the bottom when the chain is released. The average picker, however, could never withstand the tempation to stand up and let them shoot into the box the moment the foreman's back was turned. The best picking bag that has come to our notice is the apron bag. It is cheap, being made of a heavy grain sack; hangs in the most convenient position for filling, leaving both hands free; is so shallow that the first apples can be conveniently laid in without dropping and yet holds all the wearer can readily carry and, finally, can not be emptied by pouring unless the picker stands on his head.

For hauling to the packing house the fruit is usually emptied into apple boxes and the ease of handling these can be greatly increased by having a slot for the hand cut in each end. Any box factory will slot them for a trifling sum. The slots also serve to mark off these boxes sharply from the others and prevent fruit being packed into them, more or less soiled as they are. Some growers have boxes especially made for this purpose, one-third larger than the common size and of heavier material, with ends higher than the sides to permit stacking without danger of bruising the fruit. These boxes should be hauled to the packing house on a spring wagon or, if the distance is not great, a stone-boat is admirably suited to the purpose.—Field and Farm.

Scraping out the dead wood and filling the cavity with cement will be the means of saving valuable apple trees that otherwise would soon be destroyed by rot.

BEN DAVIS' MARRIAGE TO WESTERN BEAUTY.

Ben Davis was a Wealthy Mann. He was married to a Western Beauty by the name of Caroline R. June In Early Harvest by a Fameuse Dominie by the name of Gideon. They journeyed by Horse to Lowell where they were seen by a Northern Spy by the name of Jonathan Baldwin, who was drunk on Smith's Cider and who lives on the Saint Lawrence tributary to the Wolf River. He was Stark mad and saw Stars in midday which made the Maiden Blush. An Arkansas Black Senator, Peter Longfield by name, a perfect Paragon, was sitting on a Stump near a Smoke House eating a Golden Sweet Winter Banana that was very Early Ripe, bought at Cooper's Market. He saluted the Lady who wore a Red Astrachan and carried upon her arm a McIntosh fit for a Bismark or even a King and upon her corsage she wore a Bellflower imported from Ontario by a gentleman by the name of Rolfe Vandevere, who is employed by the Duchess of Oldenburg, wife of Alexander Wagener, esq., nephew of the late Walter Pease Primate of Langford, whose marriage to Lady Henniker, daughter of the York Imperial, and author of Ivanhoe, was such an Opalescent failure.—Green's Fruit Grower.

The honest fruit grower who puts up good fruit and gives honest-sized packages does not need to look up a trade. It will come to him.

TREES
Season 1908-9
Order Now for Future Delivery

If your trees are purchased from the Fancher Creek Nurseries they will be true tc name well developed, with good roots.

FOR 25 YEARS we have been engaged in growing reliable nursery stock. Our thorough knowledge of every branch of the business makes it possible for us to raise and deliver stock that meets the demands of this country, and gives satisfaction to growers.

Last year we did the largest business in our history. This year our stock of

Deciduous, Citrus and Ornamental Trees, Grape Vines and Rose Bushes

is more complete and better than ever.

We are sole propagators and disseminators of

Luther Burbank's New Creations

Valuable Burbank Booklet illustrated in colors mailed for 25c.

SALESMEN WANTED

PAID-UP CAPITAL $ 200,000.00
FANCHER CREEK NURSERIES
INC.
Geo. C. Roeding Pres. & Mgr.
Box 12 Fresno, California, USA

Six of the Most Valuable New Fruits
Ever Introduced in California

"Improved French" Prune
Originated by Luther Burbank
"Concord" Walnut French Variety
Grafted trees only. Better than Franquette or Mayette
"Paul" Cherry Finest Black Cherry
"Philippi" Grape Handsomer than Tokay; a month earlier. Disinfected cuttings only, to comply with quarantine laws.
All these, like Muir, Lovell, and Phillips Cling Peach, are of California origin.
"Comet" Red Currant Much larger, earlier and sweeter than any other.
"May Duke" Gooseberry
Earliest of all; large; smooth skin.
Write for Further Particulars.
EUCALYPTUS TREES by the 1000 or 100,000. No stronger stock; grown in the open, without lath shade or screen, therefore hardened to all weather.
GENERAL NURSERY STOCK
Leonard Coates Nursery Co., Inc.
EST. 1878. INC. 1905.
Morganhill, Santa Clara County, Cal.

Fruit Growers and Vineyardists

We would advise you to use our P. N. K. This is a Fertilizer well adapted to produce a good, vigorous growth to your trees and vines, and the best quality of fruit in quantities that you desire, consequently paying you large interest on the money expended. Give a trial of this brand and you will use no other. Write for our pamphlet, "The Farmers' Friend," for 1909.

The Pacific Guano and Fertilizer Company
268 S. Market Street - - San Francisco, California

West Coast Seed Co.

has moved around the corner from the old stand to

115 W. 7th St.

The best place to get the best values in

SEEDS THAT GROW JUST SOW

and Poultry Supplies

Just try us. Send for free catalogue and price list.
We make "Pacific" and "Business"
Incubators and Brooders

Plants SEEDS BULBS Trees

We are headquarters for
GARDEN AND FIELD SEEDS

Those who are not yet in receipt of our Fall Catalogue, send for it at once.

Prospective planters of ALFALFA, CLOVER and GRASSES are requested to write us before planting.

Remember, our handsome new 1909 General Catalogue, ready for mailing in December, will also be sent to those who write us now.

C. C. Morse & Co. 41 Jackson St., also Market St. **San Francisco**

Crimson Winter Rhubarb

$1.50 a Dozen $6.00 per 100
$40.00 per 1000

Now is a good time to plant.
Pedigreed Stock.

Fruit Trees and Berry Plants of All Kinds

J. B. Wagner, Pasadena, Cal.
The Rhubarb and Berry Specialist
Dept. F

SEEDS

TREES PLANTS BULBS

If you are interested in the Best Seeds, Etc., write for our 1909 Seed and Plant Annual, which we will mail to you free. Please mention this paper.

Trumbull Seed Company
Successors to Trumbull & Beebe
61 California St., San Francisco

Germain Seed and Plant Co.

Seeds Bulbs Plants

and Poultry Supplies

Write for Catalogue

326-330 So. Main St., Los Angeles, Cal.

Improved Berry Plants

Bred for Big Berries

We are NOT in the berry business but make a speciality of propagating strong healthy plants for the home garden or commercial plantation. We help our customers to succeed. EVERY order receives our special attention. Our catalog tells the rest.

G. H. HOPKINS & SON
Burbank, Cal.

When writing advertisers, mention Cultivator.

IT'S PENNY WISE

Policy to set out a good tree, costing good money, and then let the sun burn the bark or the rabbits gnaw it, when for $1 an acre you can get Yucca Tree Protectors that are practically indestructible. Write for free sample of the wrap. Yucca Manufacturing Company, 1380 Willow street, Los Angeles.

The recent fair at Escondido was pronounced to be a complete success.

The Vegetable Garden

THIS MONTH.

Strawberry plants may be planted though as a rule the greater planting is later. Onion sets may be planted. Silver skins and Australian Browns are winners. Crystal wax is a favorite with many. Prices have been low for the past few months. They can't always rule. Celery, Cabbage, cauliflower and Parsley plants, Horseradish and Rhubarb roots are planted. Of course lettuce is always in order.

Burn the rubbish. It harbors insects and fungous troubles. You may lose a little humus by burning it but clean it up.

Spade in plenty of stable manure for the spring planting plats. The intensive culture of the garden demands rich, friable soil. It's money back to work up the soil before the planting.

METHODS OF GROWING.

From the address of Mr. H. S. Hazeltine before Winterburg Institute.

But some of you may be asking yourselves. "How can I grow a first class product which will meet the requirements of the trade?" If you will permit me the time I will take up a few of the most important subjects which interest the farmers of today. It will not be necessary to go into details relative to growing and packing celery, as I believe we are pretty well versed and united on the matter. I think more attention should be given to preparing the soil for a crop, and to irrigating. Black Heart is also an interesting subject to talk about; crop rotation should be studied more closely than it is; and in order to start a discussion I will give my views on the four subjects:

Properly Preparing Soil for Celery.

Beginning in the winter as soon as the land is available, level it to a grade, as it is necessary to irrigate frequently and this cannot be done successfully without an absolutely perfect grade, so that the water will run from one end of the field to the other without pooling up. This done, plow the soil shallow if it be of a clay nature, or a deep discing will do if the soil is peat or of a sandy sediment nature; then seed to some leguminous plant, the California burr clover preferred, owing to the enormous amount of humus it furnishes in addition to the nitrogen. It is a natural crop for our soil and climate, starts quickly and makes a vigorous growth during the cold weather. If the soil is of a clay nature and insufficiently drained, I would recommend sowing rape, as it sends out a tremendous mass of roots, penetrating the hardest clods, thereby rendering the soil mellow, porous and sun fertilized, ready to produce a crop. The crop thus grown should be turned under about thirty days prior to transplanting the celery, plowing the soil at least ten inches deep. Follow this with a light irrigation to settle the soil, and hasten the decay in the clover. A much better stand is secured by two irrigations, and by so doing the soil is thoroughly settled, clover is decayed and the soil will hold the moisture much longer, giving young plants a good start before the moisture goes down.

Irrigation.

Celery should be irrigated with great care, as I believe more celery is ruined each year by careless irrigating, or lack of same, than by any other one cause. Taking the crop from the time it is transplanted, an even moist soil should be maintained, allowing the water level to lower as the celery advances; in other words, keep the roots of the celery going downward seeking the moisture. This will have a tendency to make a strong, healthy root that will support the plant a great length of time without irrigation, and this is what we want, as too frequent watering causes the roots to spread out on the surface to be torn up by the cultivator, and dry out if neglected a few days, when in need of water. Under these conditions the main root is very small and nourishment is furnished almost entirely by surface roots. This might be all right if a quick growth was desired; but in California the prime object is to grow a plant that will hold a reasonable length of time after maturity, as market conditions are not always favorable and many other difficulties arise in which it is necessary to hold the crop in a semi-dormant state, so to speak. The tile system of irrigating and drainage has proved to be the best, as absolute control of the moisture is possible under adverse conditions. A main line should be laid around the field with laterals every sixty or seventy feet and connected at each end. Gates should be installed at frequent intervals in the main, so that the water can be held at any depth desired in the summer. Artesian wells should be connected with the main lines at the highest points in the field, and when necessary to raise the moisture it is a matter of only a few minutes time to turn on the wells and close the gates, as desired, and wait for results. By this system any portion of the field can be irrigated independent of the other. This system is, of course, used for drainage during the wet season.

ASHES FOR VEGETABLES

Wood ashes contain potash, phosphoric acid and lime, all of which are useful in the growing of vegetables, writes Prof. R. Harcourt, O. A. C., Guelph, in Canadian Horticulturist. The ashes are usually valued more for the potash which they contain than either of the other two constituents, for vegetables require potash more than lime or phosporic acid. On clay soils, lime has an additional advantage in that it liberates potash from the soil. Thus the ashes will supply potash direct and lime will liberate it from the insoluble combinations in the soil. If you can buy wood ashes that have not been leached, and of which you know something of the history, for five cents per bushel, they will make a very cheap form of fertilizer. For vegetable crops you may safely apply these at the rate of a ton to a ton and a half per acre.

A NEW WAY TO KILL GOPHERS.

Dig down into their runways and put a few lumps of calcium carbide in the same as used to make acetylene gas of. It comes in small cubes one-eight to one-quarter inch square and is not explosive.

After putting it well down into the hole, pour in one-half to one bucket of water and fill the hole quickly with dirt or sod. Firm down with the foot so that the gas cannot escape. Mr. Mole will go out of business instanter. —Exchange.

The Ornamental Garden

THIS MONTH.

BULBS which were not planted last month should be planted at once. Freesias especially should be planted now. Gladioli which were taken up early and dried may now be planted for late winter bloom. The main part of this crop, however, should be planted later. Lilies should be planted, Stocks, Pansies, Roses, Cineraria and Primula are set out. November is the month in which Rose and Carnation cuttings are made.

Spading and making ready of soil for rains and for later planting is timely. Stable manure spaded into the soil is now beneficial. Sweet peas, a big lot of them, may be planted.

Don't let the ground get too dry. The heavy rains haven't come and soaked the ground, and while many shrubs and even annuals are where the demand for water is not great yet the mistake is often made of letting them become too dry and they suffer.

Watch the poinsettias, and if danger of frost appears, protect them. They are a wonderful flower and worth a little extra care. They may go several years without injury, but when the frost does threaten it is worth while to protect. It is but a few weeks till they are in full bloom, so the protection will be but for a short time.

LANDSCAPE OF THE FARM.

A GREAT many, if not a majority, of farms are of forty acres or more. The problem of making the farm an attractive place is best solved at the beginning. The common method is to build house and out-buildings close by the highway, along which every comer chances to run. The result is that the opportunity to beautify the farm-home is thus lost at the outset. If one has only a city lot to build upon, this crowding to the front is not only permissible, but necessary. But with forty acres of background the squeezing of the home into the extreme corner shows lack of imagination.

The farm view from its buildings should be one of magnificent distances. Two things may aid in securing this. First, if there is an elevation anywhere upon the farm the homestead, other conditions being satisfactory, should be located there. It is an inspiration of incomparable value to the farmer in his few leisure moments to stand at the door of his home and look down upon the domain which he is yearly conquering. The nearer such an elevation is to the center, the better the opportunities for securing fine landscape effects, and if there be no such elevation upon the farm, a few acres near the center should be chosen for the home inclosure, from which a driveway should connect it with the highway by the shortest route compatible with regular laying off of the fields.

The reasons for having barns and implement houses at this point are especially sound. It is the point of vantage from which all portions of the farm are of easiest access which means much in economy of time, and of wear and tear upon machinery going to and coming from the outlying fields. On two different farms in New York state, one of twice the size of the other, it was found that the position of the farm buildings near the center of the large one resulted in less loss of time going to and coming from the fields than in the smaller, where the buildings were inconveniently located.—Leslie F. Paull, Colorado Agricultural College.

IRRIGATING BY GRAVITY FROM SAN JOAQUIN RIVER, SAN JOAQUIN COUNTY.

NEATNESS.

What is it to have neatness characterize our surroundings? Is it to have a pile of empty tin cans and broken dishes lying by the side of our back door step? Is it to have heaps of ashes reposing on our lawn? Or is it to have rubbish cumbering the yard, filling up the angles of the fences or piling against the very buildings themselves? Neatness means cleanliness in our surroundings. Fortunately this cleanliness is not difficult to secure. To be frank, it is quite a simple matter if a little forethought is exercised at the outset and vigilant care is afterward maintained.

Then, too, neatness has its own reward. When garbage is thrown about indiscriminately it may become a menace to the good health of the household. Then there is an economy of labor in having a definite place or receptacle in which to deposit all waste matter. When this is provided one is not obliged to wander about wondering where to cast the worn-out shoes, the broken cup or the stale bread, so that they may be disposed of for the time being and be somewhat out of sight. All this necessitates a loss of time and energy and is no small tax on the mind.

Then neatness is essential if our surroundings are to be beautiful. Nor is the effect of beautiful surroundings on the character of our lives of any inconsiderable moment. Cleanliness of surroundings exerts no small influence in moulding clean characters. So we should not neglect this simple matter of neatness. On the contrary, we should strenuously cultivate the habit on our farms. It will repay our efforts bountifully in ways of healthfulness, convenience and beauty.—Green's Fruit Grower.

BEWARE THE TREE PEDDLER.

Now is the season when the tree peddler is abroad in the land, and all sorts of inducements and arguments will be made by him to sell stock. He will usually sell anything demanded, and it will be well for the purchaser to fight shy of him. It will take several years before you can find out whether you, as well as the trees, have not been sold, and if he has sold you stock which you did not want you will have lost so many years of valuable time, so many crops of fruit, as well as the money and time expended. This does not apply to the agents of well established nurseries, for these cannot be classed as tree peddlers. It is good advice to all who are contemplating planting trees to get them from some well known, established nursery, one with a reputation and one which is likely to be in existence for several years to come. In such cases, if trees are not what they are represented as being, the purchaser has a source of redress. But more than this, such establishments are especially careful to keep up their reputations, which is their stock in trade, and they cannot afford to misrepresent or substitute. Even in such cases mistakes may occur but they are rare and not intentional, whereas the peripatetic peddler has but one object, the selling of stock, and he will sell anything desired, whether he has it or not.

THE FRONT YARD.

The neatest yard now has a smooth grass sod kept closely mown, while the flowers and shrubbery are restricted to the sides and rear. This not only renders the lawn more easily kept than when there were flowerbeds to mow around and trim and trees or shrubs to dodge, but it is really more restful in appearance.

TWO CYLINDER ENGINES.

The Temple Pump Company, of Chicago is the pioneer in the manufacture of the Multiple Cylinder Gasoline Engine. The Master Workman, a double cylinder Gasoline Engine, was the first in the field. Now, the whole course of progress in the making of Gas Engines is towards the multiple type, engines of two, four, six and eight cylinders being made. The Temple Company are now manufacturing two and four cylinder engines for general farm use.

The advantages of the two and four cylinder engines for the farm are: Economy in the use of fuel, greater certainty of continuous running, quick and easy starting, less cumbersomness and adaptation not only for stationary use but for portable and traction use. Sooner or later the need of an engine for traction purposes as well as for stationary will be felt by every agriculturist.

This is the fifty-fifth year of the Temple Pump Company.

IRRIGATING HOSE

12 oz. canvas, coated or plain; good for several seasons. 1¾ inches, 2½ inches, 4 inches, 6 inches, 9 inches, 13 inches. Galvanized or brass couplings.

Tents, Tarpaulins Picking Sheets, Picking Bags, Stack Covers

Our Tent Catalogue, mailed free, gives full information.

The Wm. H. Hoegee Co.
INC.
138-140-142 So. Main St., Los Angeles

Special Sale of 1,000 Lbs. of

Australian Brown Onion Seed

Crop 1908. Heavy Seed. The Best Paying Onion on the Coast.

$1.50 per lb.
4 lbs. for $5.00
10 lbs for $10.00

200 lbs. Yellow Danvers

$1.00 per lb.
6 lbs. for $5.00

100,000 Strawberry Plants

200,000 Other Berry Plants and Trees

Send for Catalogue. Free

A. MITTING
17 to 23 Kennan St.
Santa Cruz, Cal.

Creamery Supplies

Cream Separators — Milk Cans
Combined Churns — Milk Bottles
Babcock Testers — Brushes
Butter Moulds — Wrappers
Engines and Boilers — Milk Coolers
PASTEURIZERS
MILKING MACHINES
Creamery and Dairy Supplies and Machinery of all Styles and Sizes

Send List of Goods Wanted and we will Quote Prices.

O. J. WEBER CO.
555-57 S. Los Angeles St.
LOS ANGELES, . CALIFORNIA

CUTTER'S
Anthrax
and
Blackleg
VACCINES

Are given the preference by 80% of California stockmen because they give better results than others do.
Write for prices, testimonials and our NEW booklet on Anthrax and Blackleg
The Cutter Laboratory
Berkeley, California

SECOND HAND PIPE AND CASING

All our pipe and casing has newly cut threads with new couplings attached and dipped in asphaltum. Guaranteed good as new. Prompt delivery on carloads or less. Small orders receive same attention as large ones. All sizes of pipe, also fittings and valves.

WEISSBAUM PIPE WORKS
133 Eleventh St., San Francisco

The Knot That Holds

"Jubilee Year" of Page Fence

Page Fence is woven just the same today as 25 years ago. A real triple knot—not a simple twist! Page Fence is made of High Carbon Steel of double the tensile strength and elasticity of common fence wire.
Page Catalog—"Jubilee Edition"—SENT FREE!
Box 114X
Page Woven Wire Fence Co. Adrian, Michigan

PASPALUM DILATATUM

King of dairying and fattening grasses. The great Australian drouth resister. Primest heavy seed direct from the grower, 4 lbs. (ample for trial) post free, $2.00. Full information.

C. F. JULIUS
Central Bucca, Coffs Harbor, New South Wales

Live Oaks Farm

Frank A. Meacham, Proprietor.
Importer and breeder of RED POLLED CATTLE, SHROPSHIRE SHEEP, RAMBOUILLET SHEEP, HORNLESS AMERICAN MERINO SHEEP. Both sexes for sale. Take electric car at Petaluma or Santa Rosa for LIVE OAKS STATION. Address all mail to
Petaluma, Sonoma Co., Cal.

HOLSTEINS

We Have For Sale a Number of Registered Young Bulls and Heifers **$100**
All our stock comes from the celebrated herd formerly owned by the Pierce Land and Stock Co., the premium herd of Holstein Friesians in California. **Oakwoods Stock Farm Co., Lathrop, Cal**

VENADERA HERD
OF REGISTERED JERSEYS

I have for sale a number of richly bred young bulls, some of them from cows that have high official yearly records.
GUY H. MILLER,
Route 3, Modesto, Cal.

Berkshires--Shorthorns

My Berkshires took 9 First, 6 Second and 4 Third Prizes and both Gold Medals. 50 Head For Sale.
G. A. MURPHY, PERKINS, CAL.

THIRTY THOROUGHBRED
Poland China Hogs and Pigs
FOR SALE
W. R. McCaslin, R.F.D. No. 1, Rosevelt Ave, Sacramento

John Lynch Breeder of Registered **Shorthorns**
MILK STRAIN
Box 321 Petaluma, Cal.

Live Stock and Dairy

By Mrs. Minna E. Sherman

MILK AS FOOD

THERE seems to be a number of subscribers interested in making the milk they are selling conform to the required standard of butter fat. Where the milk is below the standard this is commendable but when it is too rich, reducing it, I confess, I think bad practice. I do not like the laws that start people to altering a natural product. Human laws have to be carefully framed or they fail in their restrictions. One of the amusing instances is the law making all the milk conform to a standard per cent of butter fat. The national one is low enough, 3.25. Nearly all the milk sold to the city trade is higher than this, for the housekeepers will patronize the milkman that furnishes milk rich enough to make a little cream for breakfast coffee. Wherever there is a legal standard the milk men at once start in to make the milk no richer than the minimum requirements. The legal minimum is always the result of any attempt to regulate a food supply of any sort.

Standardizing Milk.

This had better be called debasing milk, for not a single one of the five letters I am attempting to answer says one word about adding butter fat to the milk they are selling. It is all how much skim milk must I add to reduce the butter fat to the legal minimum requirements. A late number of the Pacific Dairy Review gives the following as a rule:

The number of pounds of skim milk to be added is found by multiplying the number of pounds of original milk by the test of the original milk, dividing results by test desired, and subtracting the number of pounds of original milk. For instance: How many pounds of skim milk must be added to 70 pounds of milk testing 5 per cent to reduce the test to 4 per cent? Applying the above rule, we multiply 70 by 5 and divide by 4, subtract 70, and have 17½ pounds as the number of pounds of skim milk to be added.

The business principles of the world all seem to work away from the Golden Rule. Today, instead of having things as good as they can be made, we simply try and have them as cheap as we can and still sell them. Educating the consumer seems to me the best way out of it. In food products the women do the buying and the need of educating them as to the food values is greater than the need for some other things now included in women's education.

Wrong Standard.

The proper standard for milk handling would be to make it unlawful to add or subtract from the milk. Then test the dairies for butter fat and sell the milk according to the price of butter fat. The unit of butter fat prices could be fixed from time to time by the dairy men themselves. The fertilizers we use we purchase on the unit plan and the farmer does not find it hard to estimate the prices he should pay on this basis. Enforcing this selling rule would require no more testing and inspection than the present rule of watching that the milk does not fall below a certain standard. In feeding invalids, excepting those with wasting diseases, the lower per cent in milk is preferred as being more digestible. Children, too, thrive better on a three and a half per cent milk than on the richer milks. The protein is better balanced with the fat and heat making materials than in the richer milk.

Good Milk.

There is of course the great necessity of having milk clean if it is to be wholesome. There is, also, the need of healthy cows. The heavy, forced feeding of grains is not only expensive, but, as they render the cows more liable to garget and udder troubles, may not make the milk so wholesome as if the cows were fed on more simple and natural foods. We neglect too much wheat straw, for example; this, fed with alfalfa, is fairly productive food for dairy cows. The silage comes in; and where a silo is thought to be too expensive, then surely some cow peas, hay, or bean straw can be secured. We in California always try to do things too quick. Do not buy cows until you have the feed for them grown on the home place.

Milk.

Really it is little trouble to keep a cow clean if it is only made some one's business to do so. Now, down South I have had the darkey children tell me they did not have time to wash their faces. In other words they had not been trained to consider it necessary. Did you ever think how many things we all do every day as a habit that we never think anything about?

It is so with the cows; start the men doing these things rightly and they soon come to think there is no other way to do it. The large cities of the East have had the milk supplied to them made clean and wholesome. The average amount used by each adult has increased rapidly. The use of milk products must increase as the price of beef continues to rise.

Cheese.

Few housekeepers realize that cheese is a heavy food and can take the place of meat; instead, it is served as a dessert. The cream cheeses of the market sometimes contain as much fat as the heaviest of butter cream. They contain often ten to thirty per cent more fat than the ordinary cream sold to the housekeeper. Now if the family put a lot of butter on the bread and then eat it with the cheese they are getting something very rich. Cheese, eaten with bread the same as meat, is rich enough to leave out the butter. When cheese is eaten instead of meat and not added to an already too rich meal it will lose its present reputation of being indigestible—M. E. Sherman.

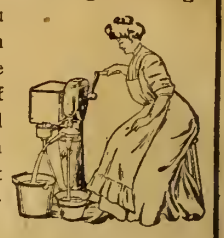
If a farmer is going to make the most money out of cows, he will be a man who follows inflexibly a right policy with his cows because it is right. Most of the time we cannot see the end from the beginning. We have to trust to well established principles. The moment a farmer tries to cheat a cow out of what food she needs in order to do her best, that moment that farmer begins to dig the ground out from under his own feet. It is so everywhere in this dairy business. The real reason for doing the right thing by the creamery, by our separator, by the cow and by everything we touch clear down the line, is because there is no other way to do and come out right. And if we don't come out right, "what shall it profit us?"

For Mehring Foot-Power Milking Machines see O. J. Weber Co., 555-557 S. Los Angeles St., Los Angeles, Cal.

Anthrax Cure, Milk Fever Outfits. See O. J. Weber Co., 555-557 S. Los Angeles street, Los Angeles.

Dairy Hints

To produce that high scoring butter—you must insist on cleanliness; the proper care of your herd; and that the cream be in the best possible condition.



Tubular Separators

will assist you in your enterprise because they are easy to clean, due to their simplicity; and they produce a rich velvety cream in an unwhipped and unchurned condition.

Their simplicity, durability, efficiency and originality of design are recognized everywhere, by everyone.

Catalog 260 describes them fully, sent free upon request.

THE SHARPLES SEPARATOR CO.,
West Chester, Penna.
Toronto, Can. San Francisco, Calif. Chicago, Ill.

CEMENT PIPE

Irrigation lines installed anywhere Skilled mechanics, work guaranteed. Estimates furnished. Main lines for Irrigation Companies a specialty.
Information cheerfully furnished.

Ben. F. Thorpe
Covina, Cal.

Geo. C. Roeding, Fresno, Cal., breeder of
Thoroughbred Holstein Bulls and Heifers
Thoroughbred Berkshire Boars and Sows

Thoroughbred Poland China Swine
Black Minorca and Barred Rock Poultry
High Grade Stock of Best Strains.
Young Stock For Sale
W. Bassett *Hanford, Cal*

PURE BRED BERKSHIRES

Young Stock For Sale
Wm. H. Bird **Box 6, Compton Cal.**

The Whiting Jersey Stock Farm Company
Is making the very best strains of blood fresh from the island of Jersey a specialty.
Whiting Jersey Stock Farm Co. Heber, Imperial Co., Cal

Your Eastern Trip

SOUTHERN PACIFIC

May be arranged so that you may travel by way of

New Orleans and the Sunset Route

San Francisco and the Ogden Route

Portland and the Shasta Route

Enjoying the balmy air of the South or the cool and bracing air of the North.

Personally conducted excursions every day from Los Angeles via all routes without change to principal eastern points.

Southern Pacific

Brawley is now the location of a United States Weather Observing Station.

True Type of the Holstein

CONSIDERABLE public comment appearing in the agricultural papers upon the type of Holstein-Friesian cattle is very properly directing attention to the subject of the true type of the breed.

The breeder, who, for one moment in his pursuit of higher fat percentage in the milk, forgets type, is doing incalculable damage to the future of the breed.

The true type of the breed is very accurately delineated in the scale of points. It is to be regretted that illustrations of typical specimens are not used to illustrate and emphasize this description.

Change of environment of this breed from the lowlands of Holland is doubtless effecting a very slight change in the bony structure of the Holstein, tending toward greater finish or refinement. Aside from this natural process, it is very doubtful whether any improvement can be made or should be attempted. The Holland type is the result of centuries of selection and environment, and it has distinguished these cattle in all parts of the world. With it has come the marvelous and profitable production or yield, the characteristic tendencies of powerful digestion and perfect assimilation of food. These characteristics, derived from the Holstein, have been important factors in the foundation stock of the Shorthorn and Ayrshire breeds, and of many of the Continental off-shoots.

In America it was the Holland type that by its productive power directed the attention of agriculturists toward this breed, and it is safe to assert that an examination of the great majority of remarkable yields will show, to those having means of access to photographs or descriptions, the close adherence to the Holland type in all these wonderful animals. Large size in the Holstein is the first thing to impress the casual observer, and its importance should never be disregarded.

In defining pure bred Holstein cattle, this fact was duly set forth by the founders of the Herd-Book Association, in these words, which should never be forgotten, no matter what may be the yield in milk or its fat percentage, viz.: "Pure bred Holstein-Friesian shall be held to mean and refer to only those large, improved black and white cattle, etc." (Art. 4, Sec. 5, By-Laws of H.-F. A. of A.)

Scientific investigation in this country, particularly in Wisconsin, has confirmed the wisdom of the early breeders in thus defining the type of the breed as "large," for the large cow of any breed is uniformly the more profitable.

With large size as the recognized predominant characteristic of the breed, aside from their beautiful black and white color markings in perfectly defined patches or spots, the next general definition relates to the general conformation of the animal. There are three definite types, described as the milk and beef form, the milk form, and beef and milk form.

The average form of this breed and that toward which conscientious breeders are directing their efforts to maintain and improve, is the milk and beef form.

It may be further emphasized, that the milk and beef form, describes a cow of the wedge form, with shoulders moderately thick, deep and broad, crops well filled, barrel well rounded, loin and hips broad and full, and quarters straight, wide and full.

To this form of these cattle is due their extraordinary constitutional vigor or vital force, and it affects all their relations to their food, care and productions.

The milk and beef form is not accompanied with the angularity of appearance, the light shoulders and chest, and the comparatively light quarters of cattle of the milk form.

The future of the breed will be greatly endangered by those, who, from one consideration or another, the combination of pedigrees to attain large average records or fat percentages, or by neglect of proper feed and care in the early life of the animal, are led to the mating of animals of other than those of large size, and possessing the milk and beef form.—F. L. Houghton, Battleboro, Vt.

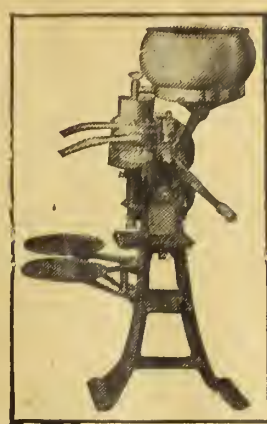
THE OX AS A WORKER.

In the choice of motive power, allow me to suggest the ox. The horse leans forward to pull and even helps himself along by bobbing his head, he jerks a load out of a hard place by plunging bodily against the collar, stopping and lunging again; he strains through a hard place and then starts suddenly forward at his release; he works himself into a lather; and you, if you are the right kind of a person, cannot help feeling for him and assisting him with inward stress and strain

The ox does not bob a horn. He simply journeys, and the load goes along. When he comes to a tough place his pasterns do not bend down; he does not squat to pull; he does not pinch along on the toes of his shoes; he seldom blows, and he does not know how to sweat. He does not exert himself at a patch of woven soil and then hurry up when he is past it. The chain becomes stiffer and the yoke sits solider to his neck, and that is all; there is no sign of effort. The earth may grit its teeth and crunch as it swallows the plow, but the ox stalks on his way. With the share deep or shallow, or lifted entirely and hanging from the axle—whether he is plowing earth or air—it makes no difference to him. His most ponderous task is still himself, and he heeds no incidentals.

He is out for a stroll; he does not allow work to interfere with the even tenor of his way. His tendons are rigged to his outstanding rump bones like so much spar and tackle, and he goes along by interior leverage; inside his old-woman hulk is the necessary engine work, and he will neither go slower for this thing nor faster for that. There is much about him besides his disposition that is self-contained, he is the antithesis of the automobile. To ride on his back is a cure for the indigestion; to ride behind him is a rest for the mind; a course of ox is an antidote for the ills of the times.—Charles D. Stewart in the Atlantic.

Analysis made of sugar beets grown in Imperial Valley has proved satisfactory.



TIME TO BUY CREAM SEPARATORS NOW

There never was a better time to buy the best of Cream Separators than right now.

The advantages derived from the use of the good Cream Separator are greater in the fall and winter than at any other time,—when the cows are old in lactation, the loss of butter-fat is otherwise greatest, and butter prices are highest.

Likewise are the advantages of the superior DE LAVAL separators greatest over imitating separators when the milk is hard to separate and the weather cold and variable,

In every case a DE LAVAL separator, of suitable size, will surely at least save its cost between now and July 1st next, and go on returning 100 per cent. per year on the investment for twenty years to come.

The agricultural and particularly the dairying outlook was never brighter and more promising.

WHY NOT BUY NOW?

Send for Catalogue of 1908 Latest Improved Machines.

DE LAVAL DAIRY SUPPLY CO.

108 So. Los Angeles St. LOS ANGELES
42 E. Madison Street CHICAGO
74 Cortlandt Street NEW YORK

General Offices: 101 Drumm Street, SAN FRANCISCO.

107 First Street PORTLAND, OREG.
1018 Western Ave. SEATTLE
Box 1052 VANCOUVER, B. C.

Save from $1 to $2 per horse

that you now pay for clipping by doing it with this splendid

Stewart No. 1 Horse Clipping Machine

New and improved *1908* Model Ball Bearing and all enclosed gears running in oil. The price at your dealers' all complete, is ONLY $8.50

Every Horse should be Clipped Clipped horses look better, feel better, work better, and are easily cuffed. No machine ever made runs so easily, clips so fast, and lasts so long as this *Stewart No. 1.* It is fully guaranteed and must please or the purchase price will be cheerfully refunded.

All leading dealers have it. Ask to see it!

It is the greatest clipping machine of all time. If your dealer hasn't it, write to us about it.

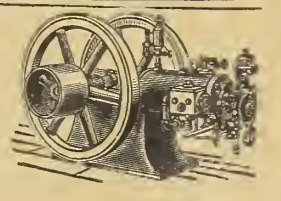
Chicago Flexible Shaft Co. Dept. H, Chicago

Pioneer Rubber Sanded ROOFING

What Rubber Sanded Roofing will do is told of in our Booklet, "Roof Talk," which will be sent free upon request, together with samples of the Roofing itself.

PIONEER ROLL PAPER CO.
Department 11 Los Angeles, Cal.

A Gasoline Engine 35 H.P.



Used short time; in good condition.
For Sale at Half Price. A Bargain.

National Wood Pipe Co., 404 Equitable Bank Building Los Angeles, California

When writing advertisers, mention Cultivator.

Wood Soled Boots and Shoes. Boots, $3.25; Shoes, $2.00. O. J. Weber Co., 555 South Los Angeles St., Los Angeles, Cal.

Cream Separators, all sizes, all prices. O. J. Weber Co., 555-557 S. Los Angeles street, Los Angeles.

California Cultivator

ESTABLISHED 1889

Subscription Price One Dollar per year, payable in advance. Dates of expiration of subscription accounts appear each week on the address label. John Jones 7-08 means July 1, 1908. Notify us by mail if you desire to discontinue.

Thursday, November 5, 1908

Address All Communications to

CULTIVATOR PUBLISHING CO.
115½ No. Broadway, Los Angeles.
733 Merchants Ex. Bldg., San Francisco.

Copy for Change of advertisement must be in office on Saturday preceeding date of issue. New advertising copy should reach the office not later than Tuesday to insure insertion.

CULTIVATOR PUBLISHING COMPANY
H. A. PERKINS, EDITOR AND GEN. MGR.

C. B. MESSENGER - - - - Associate Editor
FRANK H. THOMAS - - Advertising Manager
H. G. HUTCHINS - - Subscription Manager

EDITORIAL CONTRIBUTORS:

J. W. MILLS - - Deciduous and Citrus
JOHN ISAAC - - - Horticulture
J. B. NEFF - Walnut Culture and Irrigation.
Mrs. M. E. SHERMAN - Live Stock and Dairy
Q. A. LOBINGIER - - Vegetable Garden
RALPH E. SMITH - - Plant Pathology
S. A. PEASE - Plant Diseases and Injurious Insects

Entered at the Post Office at Los Angeles, California, as Second-class matter.

Contents

UP IN KINGS COUNTY, Cover.

PEDIGREED VINES AND THE YOUNG VINEYARD, 435.

CITRUS.—Wonderful Possibilities; The Avacado; New In Irrigation, 436, 437.

DECIDUOUS.—Yellows; Lesson in Apple Picking, 438, 439.

VEGETABLE GARDEN.— This Month; Growing Celery; Ashes for Vegetables; Killing Gophers, 440.

ORNAMENTAL GARDEN.—This Month: Landscape of the Farm; Neatness; Beware the Tree Peddler; Front Yard, 441.

LIVE STOCK AND DAIRY.—Milk as Food; True Type of Holstein; The Ox as Worker, 442, 443.

EDITORIAL.—The Election; Arizona Fair; Care in Picking; Green Oranges; Good Roads; True Co-operation; Rain Making, 444.

AGRICULTURAL NOTES OF THE PACIFIC COAST.—Northern, Central, Southern, The Coast, 445.

POULTRY—Poem of Peace; Very Careful; Ailments and Remedies; Pekin Duck; Causes for Sickness; During the Molt; Too Fat to Lay, 446, 447, 448.

GENERAL AGRICULTURE.—Gasoline Engine the Best; Alfalfa Seed Bed, 448.

IRRIGATION AND FORESTRY.—The Need of Forest Preservation; Patrol and Improvement of National Forests, 449.

QUERIES.—Little Peaches; Mule Footed Hog; Tuberculosis Germs; Sorghum; Possibly Abortion; Transplanting Dates; Various questions; Pecans; Replanting Orange Trees; Turkestan Alfalfa; Meningitis, 450.

LEGAL QUERIES.—Filing on Water; Personal Property and Leased Land; Trees Over Line, 451.

HOUSEHOLD.—Country Puppy; Before the War; Receipts; Homely Hints, 452, 453.

PRODUCE MARKETS.—Los Angeles Market; San Francisco Market; Citrus Markets, 454, 455.

THE ELECTION.

Election is over and the "country is saved." The best man has been elected, at least that is what a majorlty of the voters of the country say, and we doubt not that all will join in the sentiment. The administration of William H. Taft will be a success and will be supported not only by his own party, but by a vast majority of all other parties. In other words, he wlll be President of the United States and will not be a partlsan President in any sense.

The vote is emphatic, giving Taft and Sherman 129 votes to spare in the electoral college.

It is most satisfactory that the question is settled. Business will now be resumed with more vigor and the "wait till after election" talk which has throttled all advance is dead.

ARIZONA FAIR.

The territorlal fair of Arizona will be in full swing at Phoenix next week. It begins on Monday and ends on Saturday. Mlning will doubtless be most promlnent, but Arlzona agriculture is becoming more and more of a factor as will be shown at the fair. As usual "Captive balloons" and things and "many other unique contests" are features but it is possible an agricultural fair cannot be held without these fake affairs.

In any case the Arizona people do not prostitute and debase the ceremony of marriage to draw a mob by having a "wedding in a lions den."

CARE IN PICKING.

Tulare county citrus growers are wrestling with the problem of greater care in picking oranges. Owlng to the campaign made in Southern California by G. Harold Powell and hls assistants the growers there have as a rule been converted to a plan of greater care in handling the orange from the time when it leaves the tree until in the car. It was a hard fight because of course there are some growers who are always in open rebellion on any change or plan suggested, especially if that change contemplates a slightly increased expense account.

The same campaign seems now to be necessary in Tulare county. Some growers have rebelled because they feel that to employ labor by the day and insist on extreme care that there shall be no punctures nor abrasions of the skin of the orange will make increased cost not justified by the returns. That this policy is short sighted will in time be realized by those same growers but they must first realize that to ship perfectly sound first grade fruit calls for no greater freight or packing expense and at the same time will command an advantage in the market which will bring to the grower's pocket far more than it takes out.

Mr. Powell has shown so plainly the effect of this careless handling and has drilled it into the growers thoroughly, and still better the growers who nave taken care in picking their fruit have received so much better returns, that the fight is fully won in most citrus sections. For instance, Mr. Rumsey at Riverside carried his experlment to the extreme and picked and packed his fruit so carefully that the extra cost to him was twenty cents per box over the former method. Twenty cents per box means from $70 to $80 per car added cost. No grower wishes to throw this amount of money away. But when Mr. Rumsey receives from one hundred to two or three hundred dollars greater price over other fruit equally as good as his, excepting in that one factor of care in picking and packing, the wayfaring man should not have to be very bright to learn the lesson.

The hard working grower who spends much of his time in the grind of the daily work and reads little, requires a great deal of argument to convince him that these changes are not to the advantage of the large grower and that he is being worked by some scheme wherein he is used to the advantage of others. But in this matter of care in picking and packing the fruit every orange grower in California should join most heartily with their leaders and insist that at every turn the oranges shall be handled as carefully as possible.

GREEN ORANGES.

The papers of Florida are making a campaign against the early shipping of Florida oranges. The Farmer and Fruit Grower of Jacksonville is carry a series of cartoons in its effort to discourage the early shipping. One of these cartoons, entitled "Worse than the White Fly," shows a large insect with the head of a man labeled "The Early Shipper." In one hand is a sack called "The Market," in the other the nippers clipping off the green oranges. Another, entitled "Short Sighted," shows the early shipper reading the newspaper on which is printed "Oranges should not be shipped until thoroughly ripe and sweet as it injures the reputatlon of the Florida oranges and brings low prices." The man is engaged in holding the paper very close to his eyes in the endeavor to read it, but is remarking "I can't see it at all." Behind him on the wall is the advertlsement of the "Common Sense Optical Company," calling attention to its "good judgment" glasses. "Looking for green oranges makes many growers short sighted. We recommend the above glasses to one and all.". The campaign ln Californla has recently not been so strong against the practice of early shipping. In fact, we do not believe the fruit has been shipped so green in color as formerly. Recent plantings have been made in sections which have given earlier ripenlng and more sugar to the frult than did the original orange planting communities of Southern Californla. A few cars will probably be shipped before the holiday season, but those who are shipping these maintain stoutly that these are sweet and well colored and not colored by belng allowed to heat in the car in transit.

GOOD ROADS.

The Department of Agriculture at Washington has just issued Bulletin 338 entitled "Macadam Roads." It is a booklet of only 40 pages but has a fund of information regarding road construction which is timely and should be of value to every rural community.

There has at times prevailed a feelng amongst the farming class that the agitation for good roads is more in the interest of the automobile or pleasure seeker than of the producer. Our method of hauling products to market over roads rutted and filled with chuck holes has been continued so long that we have settled into the method of considering our present style of roadways so fixed that there need be no change. The farmer seldoms stops to figure the difference between the cost of hauling his crops to market over a smooth roadway and the roads as they now exist. The dlfference in cost is because of the heavy pulling over the poor roads and as well breakage and wear on harness and wagon. When we can awake to the fact of this loss we will be glad to tax ourselves for this great lmprovement.

At the same time it is not a question entirely of our lack of understanding of the advantages from these improvements, for it must be confessed that we cannot always claim at once all we know would be best for our own welfare. The means is not at hand to take up a line of road improvements such as should have been in this state. Los Angeles county has taken the greatest step forward of any county of this State in voting bonds to the amount of $3,500,000 for road improvements. It must be confessed that the inspiring cause of this was not so much to benefit the farmer as to please the tourist. Neverless, the farmer will secure the benefit, and we believe the example will be such that other communities of the state will be inspired to similar or perhaps greater efforts along this line.

TRUE CO-OPERATION.

E. F. Adams, in the San Francisco Chronicle, utters a world of truth on co-operation in a recent editorial in the Agricultural page of that paper. He says:

"As our readers well know, it is the judgment of the "Chronicle" that the only way in which the existence of the typical independent American farmer can be permanently maintained is by co-operation in all ways in which it is possible to co-operate. If that is not accomplished nothing, apparently, can prevent the concentration of the land of the country in large estates, owned by corporations, unless the laws are changed so as to prevent that, and cultivated by renters as most of the soil of other parts of the world is cultivated. The economic forces working to that end are very powerful and can be resisted only by co-operative effort. But co-operation to be successful must be businesslike and not emotional, permanent and not fluctuating, and with the same observance of high commercial honor that prevails in the highest commercial and financial circles where, as between man and man, all agreements are faithfully complied with under penalty of total loss of credit, without which it is impossible to carry on modern business. No one is a friend to farmers who does not frankly state to them that in their attempts to co-operate they often come far short of that standard of high commercial honor without which no business enterprise, co-operative or other, can permanently succeed."

RAIN MAKING.

It is announced that "Rain maker" Hatfield is going to supply rain for the western side of San Joaquin valley for a consideration of $3,000 in case he wins. He failed last year but we believe this was caused by "inferior chemicals which were shipped him by mistake." But this year everything is fixed satisfactorily as to chemicals and he has located his "rain factory" at an elevation of 1900 feet instead of 450 feet of last year's experiments.

How much command Mr. Hatfield may have over the clouds and the waters thereof is a problem, but he surely has good command of some of the people of the west side when he can induce them to contract to shower upon him $3000 good hard dollars in case this happens to be a rainy season.

Agricultural Notes of the Pacific Coast

Northern California

Franquette walnuts at Santa Rosa are producing large crops this season.

Lassen county alfalfa growers have about finished the alfalfa seed harvest.

A successful farmers' institute was held at Greenview, Siskiyou county, last week.

Arbuckle, Colusa county, is shipping about 1100 head of cattle to the San Joaquin valley for winter feed.

The Gridley cannery finished the campaign shipping a carload of canned fruit every day for some time.

The manager of the Ukiah Canning Company reports a good sale for the products of that cannery this fall.

Large numbers of cattle are passing through Placerville, El Dorado county, from the reserves to winter pasture.

C. W. Mann of the United States Soil Survey is in charge of a party making tests of soil in Sacramento Valley.

Glenn county claims to be producing as fine table grapes as any section of the state.

The Earl Fruit Company has sold its immense packing house at Oroville, it being rumored the Western Pacific is the buyer.

It is reported that Luther Burbank recently shipped a full carload of spineless cactus plants aggregating in value $60,000.

Several Sacramento valley creamery operators are trying to carry off premiums at a coming California Creamery Operators' Association.

The 300 stockmen who graze their cattle and sheep on the Tahoe National Forest will hold a convention at Nevada City November 10-13.

It is promised that within the next year five big dredgers will be at work on the Feather and Sacramento rivers, putting them in navigable condition.

The barns and corrals of the Sacramento Valley Beet Sugar Company were recently threatened by fire from burning straw stacks on the property.

Gridley grape growers visiting the unfermented grape juice factory at Lodi returned with favorable reports of that method of handling Gridley grapes.

Sacramento is planning for greater beauty in the plans for its streets and parks. An effort is being made to secure the services of Charles Mulford Robinson.

In the fruit district of Winters, Yolo county, there are employed about 800 Japs and 75 white men. It is rumored that the white laborers will soon disappear entirely from that section.

The Gridley Herald calls attention to the fact that Johnson grass pest which is appearing in that section should be dealt with with a strong hand and destroyed while it is possible.

The directors of the Sonoma County Co-operative Poultry Association, a corporation, are as follows: Charles Gillett, F. W. Wilson and M. B. Mac of Santa Rosa, H. R. Rabb and R. O. Gates of Cotati.

Twenty-nine farmers at Old Cow Creek in Shasta county, who brought suit against the Northern Light and Power Company over the right to use water from that stream have won a victory in the courts.

Central California

The Armsby four-cent raisin pool is declared off.

Orange picking is now in full swing in Tulare county.

A large storage warehouse at Tulare burned last week.

Turlock has forwarded 91 cars of sweet potatoes this season.

Tulare county oranges are said to be much sweeter than last year at this date.

Lindsay is preparing to make a big exhibit at the coming citrus fair at Exeter.

There is more snow in the Sierra Nevada mountains than for many years at this date.

Recent rain over the valley caused little damage as most of the raisins and prunes are under cover.

Lindsay has appropriated and collected $500 for a display at the Tulare County Citrus Fair at Exeter.

Owing to small water supply in many streams of the San Joaquin valley fish are dying in great quantities.

The Tulare Packing Company is now seeding raisins and turning out a large number of cartons ready for the trade.

Owing to the death of many of the wild ducks of Tulare lake section the State Board of Fish and Game Commissioners has proclaimed a quarantine.

Farmers near Visalia have had difficulty in collecting claims against a Dinuba creamery and have brought suit to secure about $1000 in back claims.

A long standing suit against the Tulare irrigation district system for valuable land belonging to the irrigation system has been decided in favor of the district.

Raisin growers, headed by John Fairweather of Reedley, recently met at Fresno and discussed plans of organization in the effort for securing better raisin prices.

The early shipping of oranges from some sections which are endeavoring to get out the first shipment is being generally condemned by the Central California press.

Tulare county citrus growers are discussing methods of picking fruit and as a rule the plan of picking "by the box" has been condemned and will be discontinued.

The Tulare Grange is making a strong canvass for the Mutual Fire and Insurance Bill which it is proposed to have enacted if possible at the next session of the state legislature.

Many sections in San Joaquin county are preparing to receive the lecture train of four cars which will be sent by the Southern Pacific through that valley in a short time.

Investigation as to shipping quality of various grapes forwarded from the Lodi section have proved that grapes taken from old vines have proved better shippers than the same variety from young vines.

The movement to have all oranges of the Tulare county citrus section picked by day labor instead of "by the box" is causing some adverse comment by some citrus growers, but is unqualifiedly the best system.

Southern California

It is estimated that five hundred acres of alfalfa will be planted at Thermal, Coachella valley.

Strong winds last week prevented the work of several bean threshing machines in Ventura county.

Work has been begun on the big half million pre-cooling plant of the Santa Fe Railroad Company at Colton.

A 1000 acre tract of land is being developed and planted to orange trees at Riverside by a company of capitalists.

Carelessness with fire which afterwards burned over quite a section of land near San Diego cost the careless party $35.00.

The Chino sugar factory closed the season with a record of 14,000,000 pounds of sugar made from 65,000 tons of beets.

The last Valencias have been shipped from Southern California and the new year with its new crop began November 1.

Escondido is to have a new packing house to take the place of the one recently burned. Raisins and olive oil will be the principal products handled.

The average yield per acre of beans at Mound, Ventura county, on irrigated land was 28 sacks, while the average yield per unirrigated acre was 20 and 4-5 sacks.

The Saticoy Walnut Growers' Association has received a new bleaching apparatus from Dayton, Ohio, which will permit the use of the new electric salt bleach.

The cotton planting of Imperial valley will this season be in charge of one overseer who will give information to the various planters on methods of culture.

Imperial Valley is planning for a big harvest of turkeys for Thanksgiving and Christmas trade. That section is developing into one of the finest turkey producing sections in the state.

A government report gives the condition of the orange crop for this year at 89 per cent as compared with 92 per cent in 1907. The lemon condition is quoted at 90 per cent as compared with 92 per cent last year.

A piece of land of nine acres in the Imperial Valley was recently sold for $9000. Six years ago this same land was a small part of the vast Colorado desert and of absolutely no value. The land is on the outskirts of the town of El Centro.

The suit brought by Tim Carroll of Anaheim against the Alamitos Sugar Company for infringement in the use of the patent dump which Mr. Carroll invented has resulted in favor of the plantiff and the sugar people will have to pay damages.

Sixty thousand eucalyptus trees will be planted by the Riverside Trust Company on the lands along the Santa Ana River above San Bernardino. The idea will be not so much for wood or lumber purposes as for water conservation.

Ventura county bean growers have been giving more attention to the selection of seed for the coming crop this year than ever before. By the advice of Prof. Shaw of Berkeley great care will be observed especially to secure the seed which ripens earliest.

The Coast

Seattle quotes prices on potatoes by the ton, the present quotation running $22 and $23.

The Oregon wool output this year will aggregate 18,500,000 pounds, or a million and a half pounds under last year.

Lewiston, Idaho, is gathering together a fine exhibit of her apples for an exhibition at the National Apple Show.

Farmers who have been experimenting with cranberries at Gervias report exceptionally satisfactory returns.

One feature of the Lewiston, Idaho, Fair which surprised many was the display of corn from the Nez Perce country.

Colville, Washington, is shipping its winter apple crop, receiving at the present time about an average of $1.50 per box.

Western Oregon was recently given a much needed rain of 2½ inches which was needed to start the fall sown grain.

The farming country about Salem, Oregon, is being visited with a pest of jack rabbits, which are doing vast damage to all crops.

The state of Washington will offer a grand commonwealth wheat trophy at the Corn Exhibition to be held in Omaha December 9-19.

The Utah sugar beet crop this season is said to be a record breaker as to quantity, with quality of the beets generally running very high.

Toledo, Oregon, recently closed a three-day fruit and vegetable carnival, which was successful in showing the agricultural advantages of that section.

Owing to heavy frost in the middle of October in the Hood River section apples are dropping badly, which has never been known before at this season of the year.

One day recently on the Portland hop market 4000 bales of hops were sold. The price ranged from 7 to 7¾, and a much better tone prevails in the hop market.

The Northport, Washington, Grange at its recent meeting had an exceptionally good program and election of officers. The Grange is increasing in membership very rapidly.

A contest is on between the Oregon Grangers and the automobile owners over proposed road improvements. The grangers claim that the whole move is in the interest of automobile owners.

The Inland Empire located in Eastern Washington was given drenching rains about the middle of the month, which will be the means of saving crops which had been endangered by the drouth.

A meeting of the Oregon State Board of Horticulture was recently held at Portland in which it was determined to make a more vigorous campaign against all pests affecting the fruit industry of that state.

Walla Walla grain growers have found the season's grain crop greatly injured by vast quantities of smut, which has infested the wheat this season. A persistent campaign will be made next season to wipe out the pest.

PER 2 BUSHEL SACK **$1.90** PER 2 BUSHEL SACK

Buy the World's Famous Egg Food No. 4

MIDLAND

IF YOU WANT EGGS
YOU WILL FEED NO OTHER.

Used by the largest and best breeders in the country. Thousands of poultrymen are using it, and it is the acknowledged standard of the world. Haphazard feeding is no longer profitable. Try Midland Food and be convinced.

Petaluma Incubators and Brooders

The acknowledged standards of perfection. All poultrymen who have used those machines have supreme confidence in their ability to hatch and breed. Hence their ever increasing popularity. Winners of the Gold Medal at the St. Louis World's Fair for the greatest hatch, with 40 different makes of incubators in competition. How's that?

St. Louis, Mo., Dec. 8th, 1904.—Petaluma Incubator Co., Petaluma, Cal.: My Dear Sir—The awards have been held up owing to a controversy between the Exposition officials and the national commission, but today I am able to state the award of a gold medal on your Petaluma Incubators has been confirmed. You are at liberty to make use of this in any way you see fit and in due time the diploma will be issued and the medal obtainable. Congratulating you upon this evidence of the merits of your incubators, in which there was very great competition, I beg to remain, yours very truly, J. A. Filcher, Commissioner.

And Now Comes New Reward for Merit

Read the following telegram received from the Lewis & Clark Exposition at Portland:
"Petaluma Incubators and Brooders just awarded Gold Medal at Lewis & Clark Exposition."

WRITE FOR CATALOGUE 47—A BEAUTY

Petaluma Incubator Co.

Main Office and factory, Petaluma, Cal., Box F.
Los Angeles, 636 South Main Street.
San Francisco Office and Salesroom, 83 Market St.

70c Eggs

Will they sell for that this season? Some say so. Will you get your share of this good money? More reason than ever with feeds so high that you should feed a scientifically balanced ration.

Egg-More

is not a strong tonic and stimulant, but a highly nitrogenous, concentrated Poultry Food, very rich in protein. A little fed daily with good grains will keep hens healthy, make them molt early, feather out quickly and lay lots of eggs. Have you tried it? Many have and are pleased. Here is just one:

F. W. Healy, the well-known banker and fancier of Pasadena, writes: "After hearing others praise Egg-More, I determined that if there was anything to keep hens laying through the fall and winter months, I wanted it. I bought a package of Egg-More and fed it and the improvement was very marked. Keeping on with it I soon proved the truth of your statement that 'you can't put all your eggs in one basket if you feed Egg-More.' I have raised poultry nearly all my life and for twenty years in California, but never did my hens lay so well as since I began to use Egg-More. I consider it the best egg producer on the market, and I do not intend to be without it."

You better try it. For sale by many dealers. If not by yours we will prepay freight on 12½ lbs., $1.00; 25 lbs., $1.90; 50 lbs., $3.60; 100 lbs. $7.00

Are you in the race for any of our

$50 Cash Prizes

$20 first, $10 second, $5 third, fifteen $1 each. Easily earned in an hour or more by any boy or girl, man or woman, but only one in each family, without any cost to you, and no peddling or canvassing. And to each one competing we will also give a useful article. Send postal for particulars, mentioning this paper.

West Coast Mill

707-709 So. Griffin Ave., Los Angeles, Cal.

Mammoth Bronze Turkeys

Unusual success with this years early hatched birds enables us to furnish the finest lot of breeding stock (both hens and toms) ever offered before. If you are a turkey raiser improve your flock with one of our large handsome toms raised on free range and hardened to all kinds of weather. If you are not a turkey raiser start now with one or more hens and a tom, as of all poultry, turkeys are the biggest PROFIT MAKERS. Order early as the first orders take the pick of several hundred birds. Prices on application.

After January 1st. we can furnish hatching eggs from our S. C. White Leghorns, the best laying strain in Southern California. Let us book your order now.

STUHR-WILLIAMSON POULTRY COMPANY
878 Bandini Ave. Home Phone 1490 Riverside, Cal.

Profit in the Poultry Yard

We solicit short articles of a practical nature from the fancier and utility breeder, giving their experience with poultry. All inquiries pertaining to feed, management, disease and its prevention will be answered through these columns.

A POEM OF PEACE.

There were ructions in the ranks of A. P. A.
But it scarcely could be any other way,
For so many men of brains,
have been taking worlds of pains
To evolve a perfect standard, plain as day.

So that amateurs of ordinary mind,
May instructions in its pages always find
As they plod their weary way,
toward the show-room day by day
(This the goal which every breeder has in mind.)

Yet the battles have been waged with many a wound,
Poor old A. P. A. has many troubles found
But we hope they're over now,
and the public must allow,
That the reasons for their acts were good and sound.

Many men of many minds have we in hand
Yet this truth each grumbler needs to understand,
That all bitterness will end and the love of friend for friend,
Triumph over all the chickens in the land.

Now we hope all strife forevermore will cease,
And among the A. P. A. the Dove of Peace,
Will brood o'er each warrior's rest, each one having fought his best
For the various clubs and factions West and East.

Let them differ—so does wheat and oats and corn
Differ also, yet the yokel's ne'er been born
Who'll stop raising ary one, so let Johnny stack his gun,
Leaving, —, —and—good comrades sworn.

Now let good-for-nothing outside kickers yell,
Let each member of the A. P. A. excell,
Each in doing his own part, true to conscience, true in heart,
And at last it shall be written, All is well.

Dedicated to the American Poultry Association by Mrs. Frank Metcalf.

* * *

The above Poem of Peace was written for Commercial Poultry just after the great Pittsburgh meeting of the A. P. A., which the writer attended, and the prophecy was well fulfilled by the peace which prevailed at the following meeting, all factions working harmoniously together.

It was our privilege to discuss the matter of the increased salary for the Secretary of the American Poultry Association with the late T. E. Orr a few days before he left home to attend the last meeting he ever lived to see. We urged him to accept the office again, and reap the benefit of his hard work for the good of the Association, but he said he never would accept it again under any consideration. "Why" I urged. "You took the office when the A. P. A. was deep in debt, you have so financed affairs that now they are able to pay a fair salary, you certainly should be the one to have it." "The Association can never afford to pay such a salary, and I shall go down to this meeting and fight the measure to the drop of the hat" was his quick reply. Anyone who has ever attended a meeting he took part in, can testify that Mr. Orr was a good fighter, but this time he lost, and a salary of $1500 per year was voted for the Secretary, which made the office much sought after. The result has been such as to justify Mr. Orr's fears, and it has been found that a new set of rules governing the distribution of the Association's money must be formulated.

Much was published detrimental to the re-election of the late secretary, Mr. Ross Hallock, and Grant M. Curtis, and Miller Purvis earnestly urged his re-election, in spite of all that had been said. Their wisdom, in this has been proven, whether it was intentional wisdom, or just "luck," for his re-election and requested resignation has given us Fred L. Kimmey, as acting secretary, a man we probably could have gotten in no other way, and one in whom every one of us has full confidence. We believe now, with Messers Bryant and Kimmey as the leaders, and the excellent officers in other departments, that the affairs of the American Poultry Association are in the best of hands, and that great progress will be made in the near future.

Colored Standards we must have. Separate Breed Standards have just got to come and those who love to stay outside and howl, must be brought in and set to work. It is so much easier to find fault with what others do, than to better their efforts, when it comes to the test. —Mrs. Frank Metcalf.

VERY CAREFUL.

Consider now the humble hen,
Whom oft we spurn.
She doesn't act like many men,
As you shall learn.
No pardon does she have to beg
For guesses made.
She never phrophesies an egg
Until it's laid.

The above verse, clipped from an Ohio paper, is not exactly in accordance with fact. Many hens, as well as men, are arrant liars, and often cackle loudly when no egg whatever has been laid.

How often have I found one on the nest, apparently laying, and have waited until her welcome cackle announced the expected egg, sometimes sadly needed to fill out a sitting from that particular pen. How often, O! how often, have I found an empty nest, in spite of all her "prophesies."

I believe in giving the hen full credit for all she really does do, but whether her long association with mankind has demoralized her, or whether the germ of truth is lacking in her make-up, the fact remains that all cackles do not mean eggs.

AILMENTS AND REMEDIES.

A little more elbow-grease used in keeping the premises clean will often prevent disease.

The wide-awake, ever-watchful poultryman is seldom troubled with sickness among his fowls.

A little granulated charcoal mixed in the soft food is excellent in cases of diarrhoea.

A London remedy for roup is about three drops of camphor on a piece of bread.

Dampness and contaminated ground are fruitful causes of disease. The quarters should be as dry as a chip,

High Priced EGGS

Are what all poultrymen like to get during the fall and winter; but without the very best of health in the flock and a good variety of sound, wholesome feed it is hard to get such eggs.

Nature requires that hens have a rest just prior to and during the molting period; the result is a scarcity of eggs, with higher prices, and a larger profit for those who can overcome the difficulty. The one that can get eggs during the fall will be just that much ahead of his neighbors and others who fail to do so, which in the end is the difference between success and failure.

COULSON'S EGG FOOD is the feed that will turn failure into success by enabling you to secure eggs in the fall and winter while prices rule high.

Improvements have been effected in the composition of the **EGG FOOD** during the past year, so that it is now richer in the various nutrients required by the laying hen, and is a better feed than ever before. Coulson's balanced ration poultry foods are guaranteed to contain nothing but wholesome ingredients.

"THE RIGHT WAY," our booklet fully describes **COULSON'S IMPROVED MASH EGG FOOD** and other balanced rations for poultry and gives full particulars of guarantees and directions for feeding and care of poultry from the time they are hatched. If you have no copy of it, you should drop us a line today; a postal card will bring it to you.

We have agents selling our poultry foods in nearly every town in California. If you cannot obtain what you want from your dealer, write to us and we will tell you where to get it.

Coulson Poultry & Stock Food Co.
Petaluma, Cal.

Germain Seed Co., Los Angeles
Distributing Agents for So. Cal.

and the ground in the runs perfectly pure.

Those who have tried it, claim that a teaspoonful of Venetian red in a gallon of drinking water is a good bowel-trouble preventative.

There is a tendency among poultrymen to belittle the old-time advice to whitewash the interior of the poultry houses. Nevertheless, we keep on whitewashing once or twice a year, and find that it prevents dampness, purifies the place, kills vermin, and makes the houses look neat and inviting.

The best cure for a well-developed case of roup is the axe. Better lose the individual bird than endanger the entire flock. If we nip the slight colds in the bud, we need not fear the appearance of roup.

The heavy feeding of corn, especially where there is an absence of good, hard, sharp grit, will bring on bad cases of indigestion which in many ways will resemble cholera. About ninety-nine cases out of a hundred of reported cholera victims are cases of indigestion. The end is the same but the disease is not contagious.

A lousy, dyspeptic fowl is a very good representative of a cholera victim.

Wallace says that enteritis, or inflammation of the bowels, is often taken for cholera, but there is a congestion of blood about the head in cholera which turns the face, comb and wattles purple, and which is unusual in enteritis.—The Feather.

THE PEKIN DUCK

I have spent 12 years in breeding, showing and shipping Pekin ducks, and know wherof I speak when I say that they are growing in favor every day. While they are being given more room and attention in the showroom than ever before, their real value lies in the great and growing demand for them in the markets of the large cities. The Chicago market has been splendid the past two years, and to supply the demand thousands of ducks have been shipped from Long Island to this market. The Pekin will never be replaced by any other duck for market purposes, their dressing off so nicely and their size making them preferable to all others.

Pekin ducks are easily penned, a two-foot wire fence keeping them confined without trouble. They lay about 125 eggs in the Spring, and, if properly fed and cared for, 20 to 30 in the fall. As to the feed, they need a mash twice a day, composed principally of bulky food, such as the following: Bran, two parts; corn meal, one part; beef meal, or scraps, one part; mixed rather soft. This will produce eggs when other foods will not. The same mash can be fed to the young ducks and will cause them to grow very fast and also to become extra large. We have had ducks weighing 11 to 12 pounds at six months of age. For broilers it is easy to make them a good size at eight weeks of age. I feed whole corn, all they will clean up, at night, to my laying ducks. A person can figure about one-half the price secured for green ducks as clean profit.

Pekin ducks are easily raised, take less brooder heat and a far less period of time. It is advisable to raise them in brooders, as they will pay very little attention to the hen. However, they will hatch better under hens than in incubators. They are not subject to disease, like chickens, and are not bothered with cholera, roup or lice. They should have a dry house to sleep in, as they will get rheumatism if compelled to sleep on damp floors.

As to the laying-house, a good, dry shed, with plenty of litter, is good. Have a board, one foot wide, standing on edge about one foot from the wall, so the ducks can get in and out at either end, the space between the board and wall to be partly filled with straw. The ducks will lay in this space and cover the eggs, but by digging into the straw you will find the great, big white eggs, warm and safe.

It seems to me that duck culture should be given more prominence in the poultry press, as it is an important branch of the poultry business in this country.—Oscar Wells in Farm-Star.

CAUSES FOR SICKNESS.

The causes for sickness among fowls can be traced to lice, filth, no grit, over-fat, sour food, leaky roofs, lack of exercise, crowded quarters, cracks in the wall, exposure to hot suns, cold houses in winter, hot houses in summer, irregularity in feeding, damp houses and runs, not enough bulky food, impure drinking water, poorly ventilated houses, exposure to bad weather, and too much heating food in the summer.—Western Poultry Journal.

DURING THE MOLT.

The shedding of the old feathers and the growing of the new coat is probably the severest strain to which all fowls are exposed. A great many die during this process. Molting begins at the end of the breeding season. If everything is favorable they will have finished in eight or ten weeks. They do not lay many eggs during the molting season. This is the time that nature has provided for a rest. We should give them plenty of care and attention during this period, so as to get them through the strain of molting as soon as possible and with as little damage as possible. They should have plenty of green feed, also meat. A mash moistened with milk is very good. Wheat and oats are the best whole grains to feed at this time. The gloss of plumage and intensity of color depend largely upon the quality of the food that is consumed. It is possible to make the fowls molt at the time that suits the breeder best. The molting season is not the same with all hens, nor does a single hen begin at the same period every year, but usually a month earlier or later. The hens that molt early are the ones that begin to fill the egg basket early in the winter and continue throughout the winter. More diseases are contracted during this period than at any other time. The heavy strain upon the constitution of fowls in casting their feathers is much greater than one would suppose. —Commercial Poultry.

Coulson's No. 3 Condition Powder

Is just the thing for molting hens. It acts as a tonic and digestive. Keeps the hens laying longer into the molt and quicker after it. Our FREE Booklet, "THE RIGHT WAY" gives full particulars and special offer. Manufactured only by

Coulson Poultry and Stock Food Company
Petaluma, California

Black Langshans Well, we won again at Los Angeles. Two firsts, one second, one third on five birds shown. Best stock ever in show room in California. Eggs, $2.00 to $5.00 per 13, $10.00 to $20.00 per 100.

White Rocks Large and vigorous. Improve your stock with a setting or get a fine flock with an incubator lot. Eggs, $1.50 to $2.50 per 13, $8.00 to $12.00 per 100.

S. C. White Leghorns Order eggs now, we have plenty of them. Have had all winter, great big white ones. Eggs, $1.00 to $2.00 per 13, $6.00 to $10.00 per 100.

Phone East 915 **Foster's Poultry Yards, 128 W. Avenue 41, Los Angeles**

Trap-Nested White Wyandottes
Eggs for hatching now ready from fall matings.
MISSION VIEW POULTRY RANCH, MRS. C. D. HUBBARD, SAN FERNANDO, CAL.

You Get the Most for Your Money

When buying ***"Quality S. C. White Leghorn Chicks"*** from us at 10c each, because we give you ***FREE*** the "Chick Book," containing full instructions for raising them; with every order for 200 or more.

Rancho Los Encinas
R. F. D. 76, Glen Ellen, Cal.

F. E. Baldwin's WHITE LEGHORNS
THEY LAY
THEY PAY
At Every Pop
THEY SHOW
THEY GO
To the Very Top
First Prizes Everywhere Shown.
Bargains *now* to make room. Send for Prices and Free Booklet.
46 Washington Ave. - San Jose, Cal.

GUTTING'S SUPERIOR WHITE ROCKS
Won 9 firsts out of a possible 10 and all specials and many other prizes at the great L. A. C. P. A. and Pomona Shows last winter. Place your order now for exhibition birds for the winter shows. Eggs now $3 per setting. Send for circular.
E. GUTTING 134 W. SLAUSON Los Angeles, Cal.

Now is the time to hatch **BANTAMS**
Golden Sebright, Buff Cochin, and Light Brahma Eggs, $2 per 15. Prize winners.
M. E. Dillingham Box 67, San Gabriel, Cal.

White Wyandottes Exclusively
Good, White, Typical Birds. Stock and Eggs For Sale.
W. A. SEYMOUR, R. F. D. No. 1, Anaheim, Cal.
Take Santa Ana Electric Line to Harper Station

White Wyandotte Cockerels For Sale
A few choice ones from best strains. Cheap—must be disposed of this month to make room in my yards.
Wm. C. Parker, 111 Pacific Ave., Santa Cruz, Cal.

EUCALYPTUS SEED

Eucalyptus rostrata, the Red Gum
E. corynocalyx, the Sugar Gum
E. tereticornis, the Forest Red Gum
E. globulus, the Blue Gum
E. citriodora, Lemon-Scented Gum
E. cornuta, the Yate Tree
E. polyanthema, the Red Box
E. leucoxylon, Victorian Iron Bark

and Many Other Valuable Sorts

I shall be pleased to correspond with prospective buyers and give particulars as to prices on the seeds I am offering. Trial packets of any variety 15c each, 2 for 25c, or twelve for $1.25. Also young trees of many varieties for sale. Send for circular and cultural directions.

THEODORE PAYNE
NURSERYMAN AND SEEDSMAN
Home Phone A2480
345 S. MAIN ST., LOS ANGELES

Seed

75 varieties of ***Sweet Peas*** Separate Colors, 5c per Pkt. 15 Leading Varieties, post paid, 50c. 4 Varieties, that bloom in 45 days, 25c. This is the best time to plant.

Get Seed Where Seeds Grow

We are headquarters for ***Lettuce, Onion, Melon, Radish, Turnips,*** Etc. Make up a list of your wants and submit to us for prices, also ask for catalogue.

Eucalyptus All the Leading Varieties in seed @ 15c per package. (Six of the leading varieties, E. Rostrata, E. Leucoxylon, E. Rudis, E. Globulus, E. Corynocalyx, and E. Tereticornis for 50c, with cultural directions). 500,000 Plants, all varieties. State your wants and get prices.

Send 10c for large packet each of our new ***Cabbage Head Lettuce, King of May*** and ***Brown Dutch***, earliest and finest flavor.

Cannon Ball Cabbage is finest grown. 5c packet, oz. 25c

Morris & Snow Seed Co.
425 So. Main, Los Angeles, Cal.

AGENTS WANTED

GOPHER DOPE to exterminate gophers, ground squirrels, rats, mice.
KILLS A BUG Moths, Mosquitoes, Bed Bugs Ants, Roaches, Fleas, Lice and Mites on Fowls, Disinfectant and Germicide.
PUROLINE A Powerful Antiseptic and Deodorizer. Odorless, non-poisonous. For use in hospitals, homes, public institutions, boards of health and ranches. ***B. & G. Disinfecting Co.,*** 417 Laughlin Building, Los Angeles, Calif.

TOO FAT TO LAY.

When asked at the Ontario Poultry Institute whether or not a hen was apt to get too fat to lay, Professor James E. Rice, the well-known poultry authority at Cornell, N. Y., stated that he could not answer the question satisfactorily, but related the following experience: "Last fall we killed all the hens in one of our experiments, and we found that the fattest hens were the hens that were in the best laying condition, and since that time we have been making very careful observations along that point. A hen to be in good laying condition must have fat in her body. The production of eggs is based upon the fact that the hen has lots of stored-up energy in her condition; and a hen cannot lay an egg until she has got fat in her body, because the yolk in an egg is about half fat and she has got to have oil there to make the best part of the egg. The fattest hens we killed were in the best laying codition, and the poorest hens we turned out by themselves, and there was not the faintest chance of their laying for two or three months." There is no doubt at all but that a laying hen must have plenty of good, nourishing food in order to keep shelling out eggs. One cannot expect a starved hen to lay eggs. Still, there is a time, especially in early spring, when it seems as if certain hens were too fat to lay. But it may be a combination of too much fat and too little exercise that causes the non-production of eggs. It is almost impossible for a hen to be too fat for laying, if she is lively and takes lots of exercise. Therefore the advice that is so often given to feed the grain among the chaff or straw so as to compel the hens to work for their food. If this is done there will never be any complaint of hens being too fat to lay.—Thomas Owen in Kansas Farmer.

Australian Eucalyptus Seed

Our Mr. R. S. Webb (a native Australian) has just returned from that country with seventeen varieties of Eucalyptus seed, comprising the varieties that have been tried in Australia, and each variety is the best for the particular purpose for which it is used, or for the particular soil and climatic conditions where they grow.

The following are some of the varieties of Eucalyptus trees preferred by the lumbermen and manufacturers of Australia:

1. Iron Bark (Panniculata)
2. Microcorys (Tallow Wood)
3. Black Butt (Pilularis)
4. Turpentine (Syncarpis)
5. Resinefera (Mahogany)
6. Tereticornis (Red Gum)
7. Saligna (Blue Gum)
8. Corynocalyx (Sugar Gum)
10. Spotted Gum (Maculata)
11. Jarrah (Marginata)
12. Sideroxylon (Iron Bark)

We will have trees of the above varieties for sale about February 1st.

AGGELER & MUSSER SEED CO.
Successors to Johnson & Musser Seed Co.
113-115 N. Main St. Los Angeles, Cal.

300,000 Eucalyptus

Fruit Trees
Shade Trees
Roses Shrubs
Palms Ferns

And everything that you need for your ranch or garden. Send for free catalogue

Sycamore Grove Nurseries
SAINT & WARNER
4584 Pasadena Ave. Los Angeles

EUCALYPTUS

Growers of Commercial and Ornamental Eucalypti

EKSTEIN & EKSTEIN
Modesta Euc. Nursery
Modesta, Cal.

EKSTEIN BROS.
Vignolo Euc. Nursery
Anaheim, Cal.

SPECIAL ANNOUNCEMENT

Poultry Department
OF
Aggeler & Musser Seed Company

I wish to announce that I have associated myself with the above firm, they taking over my business, and hereafter I will be in charge of the poultry department and will handle a full and complete line of poultry supplies. Headquarters for Petaluma Incubators and brooders, Drs. Hess & Clark Poultry and Stock remedies, Midland Poultry Food and Steinmesch Chick Feed. Agents for Swift's beef scraps.

I will be pleased to see all of my old customers and friends and can assure them of the same kind and courteous treatment as in the past.

S. H. CHURCH, Mgr. Poultry Supply Dept.

Aggeler & Musser Seed Company
Successors to Johnson & Musser Seed Co.
113-115 N. Main St., Los Angeles, Cal.

The Model Poultry Farm

Irvington, Alameda County, California

Standard Strain of White Leghorns The Best Laying Strain on the Pacific Coast

We can also show you more birds that have actually won first prizes in the show ring than any other breeder on the Pacific Coast. Write for circulars. Eggs, Chicks and Stock for sale. Address

Ours Are the Kind That Lay and the Kind That Pay

Model Poultry Farm, Irvington, Cal.

General Agriculture

GASOLINE ENGINE IS BEST.

The most economical power for running silo-cutters is a gasoline engine.

It is always advisable to have the power a little too large, rather than too small.

The strain is not so great, its usefulness is lengthened, and in time of great hurry and when more power is desired, it is at hand without undue straining, and perhaps breakage.

What has been said of power applies in case of the cutter. A small cutter is continually overtaxed.

More work is required of it than was intended by the manufacturer. The strain is too great and the wear rapid.

A 14-inch cutter works very well, but an 18-inch is better. This is a good practical size for all ordinary power, but if steam power is available a 20 or 24-inch cutter is better. This latter size has great capacity, and if power is ample will cut the bundles of corn as fast as two men can throw them into the self-feeding table.

It is not advisable to buy a cutter smaller than 16 inches. An 18 or 20-inch machine is a good size and adapted to any kind of power.

If a large size is purchased at the outset, the one machine will last a great many years, and the necessity of selling a cutter for what it will bring because it is too small will be obviated.

It is best for each farmer to own a cutter. They are heavy things to move from farm to farm and a company machine usually does not receive the best of attention, as it does not seem to be anyone's business in particular to look after it.

Besides, some silos require longer carriers than others, making it necessary to readjust the machine somewhat, which is apt to cause delay and breakage.

When a good machine is properly located and adjusted for the work required, it should not be used for filling other silos.

STEAM PLOW AND COMBINED HARVESTER WORKING IN MERCED COUNTY.

ALFALFA SEED BED.

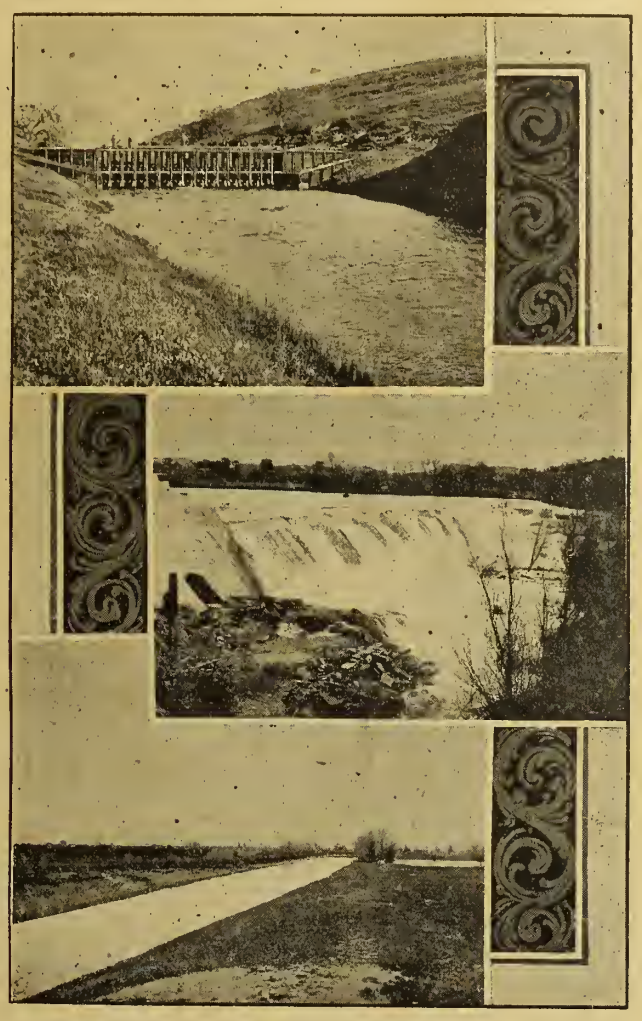
The seed bed for alfalfa should always be well settled before sowing and worked down to a fine condition on the surface. It is, therefore, never wise to plow land late, especially where a large amount of manure or green matter is turned under. If late plowing is necessary, the land should be well rolled to form a compact subsurface soil and harrowed to a fine seed bed on the surface.

Irrigation and Forestry

THE NEED OF FOREST PRESERVATION.

"In the last ten years," says the Yearbook of the Department of Agriculture 1907, "forestry has advanced in this country from an almost unknown science to a useful growing profession. In that time the number of technically trained foresters has increased from less than a dozen to over 400. Ten years ago there was not a single forest school in the country; now there are several professional forest schools which rank with those of Europe, and a score more with courses in elementary forestry whose usefulness is steadily growing. Forest lands under management have grown from one or two tracts to many, aggregating 7,503,000 acres, scattered through 39 States. The National Forests have increased from 39,000,000 acres, practically unused and unprotected, to 165,000,000 acres, used, guarded, and improved both in productiveness and accessibility. The number of States which have State forests have increased from 1 to 10, and of those which employ trained foresters from none to 11. The membership of forest associations has increased from 3600 to 15,800. Ten years ago, except for a few of the foremost botanists, European foresters knew more about American forests than did the people of this country. In Europe they were then using preservatives to prolong the service of beech ties, and so adding from twenty to forty years to their life. Here, on the other land, scarcely a treated tie had been laid, though there are now 60 treating plants, 27 of which treat ties exclusively, and an engineer who recently returned from Europe reports that both in size and mechanical perfection the treating equipment of this country is ahead of any to be found abroad.

"And yet American forestry has only safely passed the experimental stage and got ready to do something. Action, immediate and vigorous, must be taken if the inevitable famine of wood supplies is to be lessened. We are now using as much wood in a single year as grows in three, with only twenty years' supply of virgin growth in sight. Only the application of forest knowledge with wisdom, method, and energy in the next ten years can prevent the starving of national industries for lack of wood.



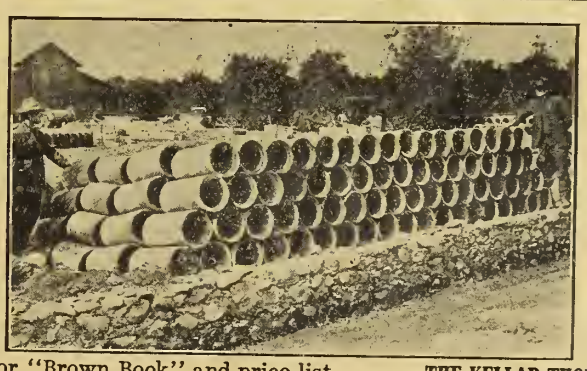
IRRIGATING SCENES IN MERCED COUNTY.
CANAL AND HEADGATE
MERCED FALLS
IRRIGATING DITCH.

"California tanbark oak, hitherto considered of principal value for the tannin in its bark, has been found through timber tests to be suitable for cooperage and wagon manufacture In strength it compares favorably with eastern oaks and hickory. Eucalyptus planting has been given much attention in California. The interior of one of the largest buildings in Los Angeles was finished in eucalyptus imported from Australia at $250 a thousand board feet. This tree grows very rapidly, and is especially adapted to that region. Four companies have been formed which will plant in the aggregate several thousand acres with eucalyptus. It is with this tree that the Santa Fe Railway is planting 8,650 acres near San Diego to test its suitability for the production of ties."

PATROL AND IMPROVEMENT OF NATIONAL FORESTS.

"The National Forests are constantly being used in more ways and by more people. Added experience is making possible the classification of the forests by types, with general instructions concerning the systems of cutting best calculated to secure in each type the production of the most wood of the best quality. In carrying out some of the timber sale contracts utilization is now almost as complete as in a German forest. The lumbermen, though now cutting timber under regulation on the National Forests, are competing in the market with those who cut outside—a direct argument that conservative forestry is thoroughly practicable from the lumberman's point of view.

"The regulation of the range by the Government has proved a decided success. No longer hustled from one place to another in competition for insufficient feed, stock is now brought through to the end of the summer in better flesh and with fewer losses than formerly. During 1907 improvement of the range by protection was supplemented by experimental investigations to determine how the amount of forage can be increased; how plants of little value can be replaced by others more useful; how poisonous plants can be got rid of or their effect upon stock counteracted by treatment; and to plan a system of handling stock that will result in the most economic utilization of the forage crop.



From photograph showing amount of

Ten-Inch Pipe

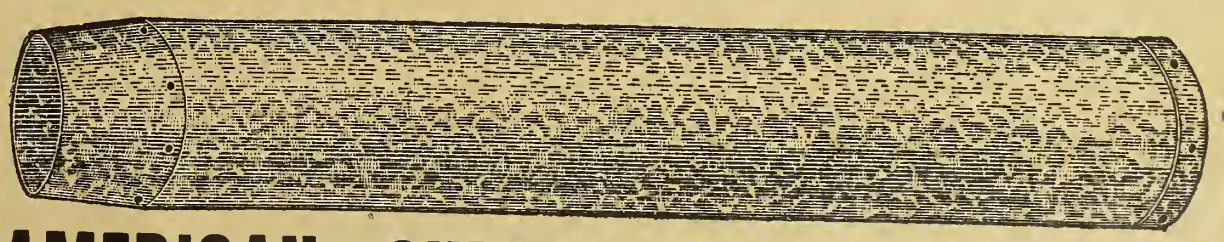
made by four men from 10 bbls. of cement in 9 hours — 280 two-foot joints, or 560 feet. This pipe was made with the

"K T" Moulds

An equal amount can not be made with any other tools in the same period of time. Write for "Brown Book" and price list.

THE KELLAR-THOMASON MFG. CO., Covina, Cal.

DON'T BUY GASOLINE ENGINES UNTIL YOU INVESTIGATE "THE MASTER WORKMAN," a two-cylinder gasoline, kerosene or alcohol engine, superior to any one-cylinder engine; revolutionizing power. Its weight and bulk are half that of single cylinder engines, with greater durability. Costs Less to Buy—Less to Run. Quickly, easily started. Vibration practically overcome. Cheaply mounted on any wagon. It is a combination portable, stationary or traction engine. SEND FOR CATALOGUE. THE TEMPLE PUMP CO., Mfrs., Meagher and 15th Sts., Chicago. THIS IS OUR FIFTY-FIFTH YEAR.



AMERICAN SURFACE IRRIGATION PIPE

SAVES WATER, GRADING AND TIME

The **only** way to **irrigate Alfalfa. Cheaper** than **Flumes.** This is only **one** of our **specialties. We make Riveted Water Pipe** in lengths of **ten feet** from **single sheets.** Let us **prove** to you that we make **Pipe** and **Tanks right.** WRITE FOR CATALOGUE.

AMERICAN STEEL PIPE & TANK COMPANY
FORMERLY TALLERDAY MANUFACTURING COMPANY
636-7 Pacific Electric Building Los Angeles, Cal

Queries and Replies

Questions to be answered in this department should be received at this office one week before reply is expected. Write plainly on one side of the paper and sign full name and address. Unsigned communications receive no attention.—Ed.

Little Peaches.

I send sample of small peaches, the entire tree bearing fruit of this size, while last year it bore a normal crop of good, choice fruit—Subscriber.

This fruit was shown to experts, who were asked if it was a case of "little peaches," a disease which is affecting many eastern orchards. It is claimed that this disease is not known in this State at the present time, for investigation of every case of this kind has shown it to be caused by some other condition. It must be brought on by some abnormal condition of soil or tree.

Mule-Footed Hog.

Some months ago you printed an item regarding the "mule-footed hog," but I have seen nothing further on the subject. Will you please tell me if there is any truth in this report?—J. S., Shively.

There is a mule-foot hog association in Missouri, we believe, but as a commercial proposition the hog has not yet passed the freak stage. It was originally claimed to be cholera proof, but this has been absolutely denied.

Tuberculosis Germs.

I wish to ask if live germs of tuberculosis are to be found in bacon which we buy from groceries or in cured meats? I wish the Cultivator would use its influence to get an act passed to have all sires of cattle and hogs in California pass the tuberculin test.—A. C. E., El Centro.

There is no danger of tuberculin germs in bacon. That is, the fact that the hog may have been affected with tuberculosis would not of itself make the meat a conveyor of the disease. But on general principles we should condemn all meat of diseased animals. There is likewise no danger of young stock inheriting tuberculosis from sires; that is, bear in mind, so far as directly inheriting the disease is concerned. Tuberculosis is not transmitted in that way. The offspring may inherit a weak constitution from a diseased sire and in that way be susceptible and later receive the fatal germs.

Sorghum.

I have three acres of sorghum which is now up about eight inches since last cutting. Would like to pasture same before plowing. People here claim it is very dangerous for cows. Will you kindly inform me what effect it has used as pasture?—J. E. P., Santa Ana.

We pasture sorghum freely. Our 21 cows have been eating second growth sorghum for over a month. We put the cows out for one hour the first day; the next day lengthen the time half an hour, and continue to lengthen it until they are out three hours. Then let them stay all day.—M. E. S.

Possibly Abortion.

About six weeks ago my cow refused to eat the bran and middlings mash that I was in the habit of giving her twice daily. Then she refused the oat and barley hay and finally refused the green alfalfa which I cut for her. For two weeks she ate very sparingly of the hay and absolutely refused to taste the mash. Then for more than two weeks she did not eat a handful of hay a day, some days eating nothing. A load of pumpkins cut up for her did not tempt her, and, of course, she fell away in her milk till all I could get was a spoonful of slightly colored water. For the last week she has been eating a small forkful of the green and dry hay, but still refuses the mash and pumpkins. She does not act sick, but of course has fallen away considerable. She is not due to be fresh till January. Can you tell me what the trouble is and what to do for her? She is too valuable a cow to lose if I can help it. Will she come back to her milk before she comes fresh?

C. L. K., Mountain View.

Are you sure this cow has not aborted and retained the afterbirth? I should have her carefully examined by some one who understands, to see this was not the case. In the meantime see if she will not eat of some of the condimented food. For one cow it will hardly pay to mix it yourself. I would buy four or five pounds and add to her bran half a pound. If her milk returns milk her, but if she has fever it will hardly do so. The symptoms are those of fever and the cause above the most probable one.—M. E. S.

Transplanting Dates.

I have some so-called date palms about 10 inches high, from the seed. Should they be transplanted to pots or set to permanent positions this fall?—J. V. B., Ripon.

We assume you mean the Canariensis, or ornamental palm, and not the one which grows the edible date. If they are in a position where they can remain until next spring we would think it advisable to allow to stand and replant at that time. If they can be taken up with small balls, so as to preserve the roots they might be taken up at once and put in their permanent position.

Various Questions.

Fruit trees planted where a large oak tree formerly stood have done poorly and many died. I am told it is caused by tannic acid. Is there any remedy? Where can I obtain Indian Game chickens? Will pomegranates and persimmons sell at a profit in the East? In buying nursery trees all one year old, should I buy the large ones? Is there any fruit tree that will do well in an old orchard where some have died out?—M. S., Vacaville.

Fruit trees seldom do well where an oak tree has stood for some time. It is caused by a fungus which affects the decaying roots of the oak. This fungus attacks the roots of other trees and sometimes spreads far beyond its original field. The best remedy is perhaps to cultivate the ground with some surface growing crop for some years until the old roots have completely decayed and the soil been brought to a better condition. Indian Games may be had of an advertiser in the Cultivator whose name appears in the Poultry Department. Pomegranates and persimmons are both sold in the East and in limited quantities will probably command fair returns. In buying trees from the same nursery, same age of root, same age of bud, we would prefer the larger to the smaller. That is, one is larger than the other, and for some reason. It may possibly not be because of any greater thrift of root, but certainly favors that belief. If one bud is younger than the other and smaller because of a shorter period of growth that is another question and the smaller bud might make equally as thrifty a tree as the larger. Of course where trees are in an exceedingly rich soil and are given abundance of water in a long growing season they may be so overgrown as to be undesirable from their large size.

It is very difficult to induce any fruit tree to make satisfactory growth when just planted in a vacant place in an old orchard. The roots of the old trees fill practically the entire place with the result that the young plant is starved to death.

Pecans.

Have pecans succeeded in California? Also please give me information regarding inspection in case young trees are introduced from Texas.—H. G., Bloomington.

Pecans are being tested out in this State and have fruited well in some sections. As a commercial proposition, however, the planting is yet very light. If you wish to introduce fruit trees or plants from Texas or any other section it would be well to write your county inspector, which in your case would be Mr. S. A. Pease, San Bernardino. He can give you full information regarding inspection requirements. Should you wish to introduce them generally over the State it perhaps would be wise to get in communication with State Horticultural Commissioner J. W. Jeffrey, Sacramento.

Replanting Orange Trees.

Please tell me, can I replant orange and lemon trees which were planted in orchard form last year and have started to grow, but are not doing well? I now have a better location. They are Eureka lemons and navel oranges.—Subscriber, Arroyo Grande.

We would not replant the orchard at this time of year, but next March or as late as May we should imagine trees of only one year's growth in orchard form could be with proper care transferred to any other section. If the soil is suitable they might be balled, which would prove less shock to the tree. However, with care they could surely be moved in any case. Your other question will be answered later.

Turkestan Alfalfa.

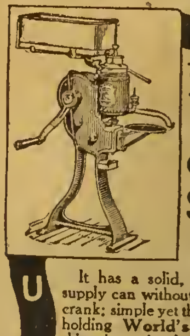
Will Turkestan alfalfa do well on sandy land or alkali land in this valley? Should it be irrigated to start it to growing? Is it as good as common alfalfa for horses?—Subscriber, Kingsburg.

Alfalfa will surely do well on a sandy loam, where it is given irrigation, and we should much prefer it to the Turkestan; or rather we know it has been tested and found entirely satisfactory, while Turkestan alfalfa has not been received with very great favor, although it has grown in the State for many years. How much alkali it will stand is a question, but it surely will not grow on strong alkali. We never have heard of comparison of Turkestan with common alfalfa as horse food.

Meningitis.

I have a colt about five months old. For the first two or three months it seemed to be all well. After that it commenced to walk on its tip toes (front feet) and is getting worse. Hoof seems hard and curved inward. Could you tell me cause and what to do for it?—B. K., Calistoga.

Yes, this trouble may come to any colt. It seems to be a form of meningitis. It often occurs in two year old horses in training and they fail to get the front feet out of the way of the hind feet, often cutting them severely. Cause, impure water and mouldy foods. I had a mare whose colts always went wrong in this way. We had the feet trimmed by a good blacksmith, thinking to cure it; also made leggings or long boots with steels in them. The present treatment we use is to put the dam and colt into a small corral, feed clean alfalfa hay and plenty of bran with a little rolled barley. Give good well water for drinking, putting a small lump of salt handy. These cases are often outgrown.—M. E. S.



The 1908 Improved
U. S. CREAM SEPARATOR
Meets every emergency in the Dairy

It has a solid, low frame; waist low supply can without the back breaking low crank; simple yet thoroughly efficient bowl, holding World's Record for cleanest skimming; is thoroughly lubricated, as gears run in a pool of oil, and has ball bearings at high speed points, making it the easiest running separator made.

Do not delay longer in the purchase of a separator and buy no other until you have seen our catalogue No. 20 sent to any address on receipt of a postal.

Vermont Farm Machine Co., Bellows Falls, Vt.

Prompt deliveries from 16 distributing warehouses in the U. S. and Canada

502

Prompt Delivery Assured

California Customers from San Francisco warehouse. No delays. Address all letters to Bellows Falls, Vt.

PLUMBING

Plumbing Materials

WATER SEWER PIPE

ALL PLUMBING REPAIRS

We contract to furnish all the materials and do the work or furnish the materials only.

GET OUR PRICES

JAMES W. HELLMAN

Hardware, Stoves, Etc.

157-161 NORTH SPRING STREET

LOS ANGELES, CAL.

300,000 Feet Water Pipe Cheap

ALL SIZES

150,000 feet of this shipment is second-hand pipe, practically as good as new, and is now on sale at a big discount by the Adams Pipe Works, 2025 Bay street. Sizes and prices: ¼-inch 2 cents per foot; ⅜-inch, 2 cents per foot; ½-inch, 2¼ cents per foot; ¾-inch, 3 cents per foot; 1-inch, 4¾ cents per foot; 1¼-inch, 6 cents per foot; 1½-inch, 7 cents per foot; 2-inch, 9¾ cents per foot; 2½-inch, 15 cents per foot; 3-inch, 19 cents per foot; 3½-inch, 24½ cents per foot; 4-inch, 30 cents per foot.

Oil well casing prices and sizes: 2-inch, O. D. 7 cents per foot; 2-inch, I. D. 9 cents per foot; 3-inch, 13½ cents per foot; 3¼-inch, 16 cents per foot; 3½-inch, 17 cents per foot; 4-inch, 20 cents per foot. All pipe is carefully inspected, new couplings and new thread are put on every piece, every joint is guaranteed to be first class, serviceable pipe. Mail orders promptly filled. To reach the Adams Pipe Works in Los Angeles, take car marked Pacific Boulevard, starting east on Seventh street from Broadway. Ask conductor to let you off at Bay street and go east half block. Phones, F1917, Broadway 1264.

Warranted to Give Satisfaction.

Gombault's

Caustic Balsam

Has Imitators But No Competitors.

A Safe, Speedy and Positive Cure for Curb, Splint, Sweeny, Capped Hock, Strained Tendons, Founder, Wind Puffs, and all lameness from Spavin, Ringbone and other bony tumors. Cures all skin diseases or Parasites, Thrush, Diphtheria. Removes all Bunches from Horses or Cattle.

As a Human Remedy for Rheumatism, Sprains, Sore Throat, etc., it is invaluable. Every bottle of Caustic Balsam sold is Warranted to give satisfaction. Price $1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. ☞Send for descriptive circulars, testimonials, etc. Address

The Lawrence-Williams Co., Cleveland, O.

Peckham Says:

How to Make $2000 a Year

Don't sell your life away by the week or month. Get busy and do something for yourself and your future You can do it by taking hold with me and building for yourself a self-supporting home on my land at Corcoran.

Where you can raise two crops every year—where you can make $2000 a year or better.

Is this what you are looking for? If so take the few minutes' time necessary and come in and see me, or if you cannot call send your name and address on a postal for my magazine, "Profitable Realty," which tells the whole story. Send for it today.

George C. Peckham & Company

Phones: Main 3221, F5392.
203-4-5 Union Trust Bldg., Corner Fourth and Spring Sts., Los Angeles Cal.

The Monarch

Stump Puller

The Monarch is a Puller constructed on the most correct and scientific principles, and is made of the strongest and best materials obtainable.

The Monarch

Is the most successful and most popular Stump Grubber on the market today.

Write Us for Catalogue of Stump Pullers, Farm Implements, Wagons and Vehicles.

Pacific Implement Co.

133-153 Kansas St. San Francisco

The Queen Colony Fruit Exchange at Corona shipped oranges and lemons during the past year which brought to the members of the organization $556,036.00. Oranges brought two and one-fifth cents per pound while lemons brought two and three-fifth cents. Officers for the coming year are: W. H. Jameson, president; S. B. Hampton, vice-president; F. H. Roberts, secretary and manager; M. Morgan, A. F. Call, Miss Catharine Fraser.

Legal Queries

Edw. L. Payne, attorney 301-304 Douglas Building Los Angeles will answer legal queries in this department.

Immediate mail replies cannot be given except where fee to Mr. Payne is paid. When replies are wished in Cultivator address query to 115½ N. Broadway, Los Angeles.

The following answers show that Mr. Payne will give valuable information to inquirers.

Filing on Water.

What are, briefly, the actions, legal and otherwise, necessary to appropriate running water for irrigation or other similar purposes? Can I enter my neighbor's field or he mine and appropriate such water if not already used below?—Subscriber

The inquirer is referred to sections 1415 to 1421 inclusive, of the Civil Code of the State of California.

Section 1415 prescribes the method of acquiring a right to the use of water, and is as follows:

"A person desiring to appropriate water must post a notice, in writing, in a conspicuous place at the point of intended diversion, stating therein:

1. That he claims water there flowing to the extent of (giving the number) inches, measured under a four-inch pressure;

2. The purpose for which he claims it, and the place of intended use;

3. The means by which he intends to divert it, and the size of the flume, ditch, pipe, or aqueduct in which he intends to divert it.

(Notice must be recorded) A copy of the notice must, within ten days after it is posted, be recorded in the office of the recorder of the county in which it is posted.

After filing such copy for record, the place of intended diversion or the place of intended use or the means by which it is intended to divert the water, may be changed by the person posting said notice or his assigns, if others are not injured by such change. This provision applies to notices already filed as well as to notices hereafter filed."

You cannot lawfully enter your neighbor's field nor can he enter yours and appropriate water, except, of course, by consent.

It has been held by the Supreme Court of the State of California and by the Supreme Court of the United States that the law authorizing the appropriation of water does not confer the right to enter upon lands in the possession of another for the purpose of securing the water thereon or completing an attempted diversion of water, even though the person seeking so to enter had, at some previous time, manifested an intention to secure a water right thereon.

The method of acquiring a right to the use of water, as prescribed by the above mentioned sections of the Code, is not exclusive. One may, by a prior actual and completed appropriation and without proceeding under the Code, acquire a right to the water beneficially used, which will be superior and paramount to the title of one making a subsequent appropriation from the same stream in the manner provided by the statute.—Edward L. Payne.

Personal Property and Leased Land.

"If a renter has a lease on a ranch for several years and he put on temporary buildings for his own use, such as sheds and bunk houses, has he a right to take them away at the expiration of his lease, there being nothing stated in the lease?"—Subscriber, Fresno.

The general rule is, that if the structure is permanently fastened to the soil, or permanently resting upon it, as in the case of buildings, it is a fixture and belongs to the realty; but this rule is so limited in its range and so productive of contradiction that it will not apply with much force, each case being determined upon the particular circumstances of the case. If in connection with the actual annexation to the realty the building is also appropriated to the use or purpose of that part of the realty with which it is connected, and it is the intention of the party making the annexation to make the article a permanent accession to the land (this intention being inferred from the nature of the article affixed, relation and situation of the party making the annexation, the structure and mode of annexation and the purpose and use for which annexation has been made), the building is then a fixture and cannot be removed except with the consent of the owner of the land.

Trees over Line.

Neighbor's walnut trees hang over the partition fence several feet. Has he a right to gather the nuts that fall on my side; if he does so after being forbidden, what course can I take?—Subscriber

If the trunk of the tree is wholly within the boundaries of one man's land, the entire tree belongs to him, even though the branches and roots may find their way into the land of the adjoining owner. The adjoining owner need not endure this trespass, but may cut off such projecting roots and branches. If the tree stands upon the boundary line so that a part of the tree is on either side, the tree is then the joint property of both, and neither can remove or injure it without the consent of the other.

You might refuse the owner of the trees access to your property, and thus prevent him gathering the nuts that fall on your side, and if he persists in trespassing upon your land, you could sue him for such trespass, but your damages would be probably nominal. If he forced his way upon your land in spite of you using reasonable force to keep him off, you could have him arrested for a breach of the peace.

On the other hand, if you gather and use the nuts which fall on your land, he might sue you for conversion. As to how such a lawsuit would be determined, I am not prepared to say, as judges and courts do not always agree with the opinions of attorneys. —Edward L. Payne.

GRAPE CULTURE IN CALIFORNIA.

The California Agricultural Experiment Station has sent out two booklets of value to viticulturists; one, bulletin 197, "Grape Culture in California" treats somewhat at length on the resistant roots and their value, also on diseases of the vine. The other, bulletin 198, the "Grape Leaf Hopper," gives method of procedure to rid vineyards of this pest. Either or both books may be had by applying to the Agricultural Experiment Station at Berkeley.

NURSERY INSPECTION.

The Maryland Experiment Station has issued a valuable report on nurseries and nursery inspection. It gives the method of procedure in that state but the most valuable feature of the book is a chapter on the various state laws. Each state in the Union has requirements which are published in this book so that nurserymen may know method of procedure and the inspectors to secure information from in each state.

Classified Liners

Rates 1½ cents per word per issue. No ad accepted for less than 25 cents. Our classified columns are the clearing house for the readers of the Cultivator. Here you can insert an ad for the small sum of 1½ cents per word per issue, and be sure that it will be read by thousands.

MACHINERY.

WE CARRY A GENERAL LINE OF MAchinery, gas engines, air compressors, boilers, engines and pumps. 40 car loads of screw pipe and casing can be cut to lengths, also all kinds and sizes of fittings. Several hundred iron fence posts. R. KELLY MACHINERY CO., corner of Mission road and Macy street, Los Angeles. Cal.

FOR SALE—MEHRING MILKING MAchine with extra parts and covered pail, all in good order. WM. H. BIRD, Box 6, Compton, Cal.

FOR SALE—RENT OR EXCHANGE, BOILers and engines, gas engines, pipe and oil well casing, pumps, all sizes and makes; get our prices before you buy. A. CANNADY & CO., 631 N. Main st., Los Angeles, Cal.

FOR SALE— 10x10 BELT DRIVEN AIR compressor at a sacrifice. Also Atlas Automatic steam engine. Worth investigating. BAILIE & BRANDT CO., 942 N. MAIN ST., Los Angeles, Cal.

FOR SALE—SECONDHAND 16 H.P. UNION distillate engine at a bargain. Also several other sizes. MACHINERY EXCHANGE, N. W. COR. MAIN AND BRUNO ST., Los Angeles, Cal.

FOR SALE—COMPLETE PUMPING PLANT small gasoline engine and centrifugal pump. All in good order at a snap. 117 Bruno St., Los Angeles, Cal.

FARM LANDS FOR SALE.

FOR SALE—OR EXCHANGE FOR ALFALFA or dairy ranch or residence property. Good 34 acre fruit ranch, cherries, prunes, apricots and peaches; modern seven room, hard finished house, bath, toilet, pantry and basement; good water system; two barns; 3½ miles from San Jose. A. C. Ellis, ROUTE 21, BOX 37, SAN JOSE, Cal.

I make a specialty of orange and alfalfa ranches, and exchanges. 826 MAIN St., ROOM 9, Riverside, Cal., N. R. BELL.

POULTRY

SPECIAL SALE—TO MAKE ROOM FOR my young growing pullets I offer at common stock price all my this year's breeding pens, including many prize winners. This is a rare opportunity to get first class breeders cheap. At the last L.A.C.P.A. show my birds won all specials, all first prizes, and all seconds but one, that were offered on Barred Rocks. CHAS. E. SMITH, Gardena, Cal. San Pedro car via Gardena to Smith's Crossing.

PIT GAMES—THE LEADING AMERICAN strains and grade Japs. Young trios, breeding stock and walked cocks for sale; also breed pure Cornish Indians. O. L. CRANE, Rural No. 3, Santa Rosa, Cal.

FOR SALE—MAMMOTH BRONZE TURkeys, one eighth wild, but very tame. Strong stock having free range. Price reasonable. Mrs. H. E. Guthrie, BUENA PARK, Cal.

50 HEAD WHITE ROCK & WHITE LEGhorn yearling hens and pullets, at your own price; overstocked; must sell. J. W. WHITNEY, R. F. D. No. 2 BOX 162, Long Beach.

FISCHEL'S THOROUGHBRED MAMMOTH Bronze Turkeys—April hatched, Toms $5.00, pullets $3.50. Buff Plymouth Rock cockerels $3.50. C. K. MORSE, Ross, Marin Co., Cal.

TREES.

WALNUT TREES—500 LARGE, STOCKY seedlings. Seed from grafted trees of Placentia Perfection variety. Will sell very cheap if taken before Dec. 1st. as land must be cleared. G. W. SHERWOOD, Fullerton, Cal.

FOR SALE—1500 EUREKA LEMON TREES and 1000 Washington navel orange trees, true to name. Also street and ornamental trees. Clean, healthy stock only offered. GEO. B. WARNER, Santa Ana, Cal.

STRAWBERRIES.

DOLLAR STRAWBERRY PLANTS; HAVE you any cents (sense), then plant the Dollar Berry for profit. Strong healthy runners from young planting of 50,000 plants, grown on new land. Price $2.50 per thousand. A. H. BRYDGES, LOOMIS, PLACER CO., Cal.

SHOPPING BY MAIL.

SAVE MONEY AND GET A BETTER choice by shopping in a large city. We will do your shopping for you. Send for our free book. It tells you how. LOS ANGELES PURCHASING CO., 506 Bradbury Bldg., Los Angeles, Cal.

HOGS.

REGISERED BERKSHIRE AND POLAND China hogs, both sexes. C. A. STOWE, Stockton, Calif.

TREES WANTED.

WANTED—A THOUSAND PEACH SEEDlings one year old, and 3000 to 5000 orange seedlings two years old, and some Ficus australias 2 feet and up. IMPERIAL VALLEY NURSERY, Imperial, Cal.

MACHINERY WANTED.

WANTED—TWO PUMPING PLANTS IN good condition, 8 to 20 H. P. Address BOX 297, Corona, Cal.

The investigation at the Oregon Agricultural College on the scab of prunes, which has been very troublesome this year, has resulted in the conclusion that the scab is a condition caused by weather and not by fungous growth.

The Oldest Savings Bank in California

FOUNDED IN 1857

The Savings and Loan Society

101 Montgomery St., Cor. Sutter St., San Francisco

CAPITAL FULLY PAID $1,000,000.00

Exclusively a Savings Bank whose policy is for ***Conservatism*** and ***Safety,*** the result of ***50 years experience.***

Deposits may be made and withdrawn by mail.

San Francisco Savings Union

Founded June 18, 1862 Northwest Cor. California and Montgomery Sts., San Francisco

Conducts a Savings Bank Business Exclusively

Capital Paid Up, $1,000,000.00 Surplus, $1,183,632.00

Total Assets, $27,508,850.00

E. B. POND, President.

W. C. B. de FREMERY AND C. O. G. MILLER, ... Vice-Presidents

LOVELL WHITE, Cashier. . . . . R. M. WELCH, Asst. Cashier.

Directors: John F. Merrill, Wm. A. Magee, W. C. B. de Fremery, H. C. Breeden, Jacob Barth, Fred H. Beaver, Wakefield Baker, C. O. G. Miller, E. B. Pond.

Every facility afforded for opening accounts and making deposits and withdrawals by mail. Correspondence invited.

LEARN

Plumbing, Electricity, Plastering or Bricklaying

Our graduates make $6 per day after three months instructions
You can enter at any time.—No previous knowledge required.

NO BOOKS—TOOLS TAKE THEIR PLACE

Day and Night Classes. Our Scholars are from 15 to 50 years old

Positions Secured and Experience Given on Outside Work

Write for Free Catalogue

COYNE NATIONAL TRADE SCHOOL Inc.

233 8th Street, San Francisco, Cal.

Angle Lamp

The Light That Never Fails

Thousands in use all over the country. A good light is the greatest pleasure and the first necessity of every home.

The only lamp on the market that is sold under an absolute guarantee.

Remember, the light from Kerosene is the light science has agreed upon as being the purest and best, because it is soft and mellow and restful to the eyes.

Here are a few of The Angle Lamp Merits:

NO UNDER SHADOW. NO SMOKE, NO ODOR, LITTLE HEAT.

GREAT ECONOMY—COST LESS TO BURN than an ordinary lamp. As easy to operate as gas or electricity, and better than either. ABSOLUTELY SAFE under all conditions. Lighted and extinguished like gas. Burned HIGH or LOW like GAS without a trace of odor. And a BRILLIANT, soft, steady, shadowless light—but this you will have to see to appreciate.

The lamp as shown in cut burns 22 hours on 3 quarts of oil.

Send for Illustrated Catalogue with Prices

Boesch Lamp Co., (Est. 1869) 1135 Mission St., San Francisco

When writing advertisers, mention Cultivator.

Cultivator Order Blank

Balance of This Year Free—For New Subscribers Only

_____190

CULTIVATOR PUB. CO.

115 1-2 No. Broadway, Los Angeles

Gentlemen—Enclosed find $1.00 (Canadian and Foreign, $1.50) for which please send the ***Cultivator*** to the following address from date to January 1, 1910.

NAME _____ P. O. ADDRESS _____

Signed _____

Address _____

Household Department

A COUNTRY PUPPY.

His coat is rough and shaggy,
But his tail is very waggy,
For he wasn't educated with a whip.
He never knew a tether
Or a muzzle made of leather;
He's a free and independent little rip.

He thinks it mighty funny
To pursue a frightened bunny
Or to chase an angry squirrel up a trunk.
Though he's hardly finished growing,
He has reached the point of knowing
There's a difference 'twixt a woodchuck and a skunk.

He will cock a saucy ear up
At a whistle or a chirrup;
You should hear the merry music of his bark
When he comes to me careering
Through the meadow or the clearing
Like the infantile tornado on a lark.

Such a friendly little fellow!
Though he's pretty nearly yellow,
But he's coming for a confidential talk,
And his pleading eyes are saying
That today was meant for playing,
So I'd rather guess we're going for a walk.

—New York Times.

BEFORE THE WAR.

THE following account from a personal experience given in an interview in the Jacksonville, Florida, Times-Union is exciting and of considerable interest even after these years have passed.

Actively engaged in the thick of the African slave trade in the year 1857-58, shipping as carpenter on the brigantine Jeehossy, which at that time was among the private vessels owned and operated for the real purpose of carrying saleable blacks from states where they were quietly sold, and brought face to face with conditions as interesting as they were full of sensational detail, is the unique record of F. Klein, one of Pensacola's oldest and most esteemed citizens, who, after having finally settled in this city, has resided for forty-three years in the land of his adoption.

Shipped in 1857.

"After having learned the trade of ship carpenter," began Mr. Klein, "and having served my time in the Prussian navy, I went to Cardiff, England, and shipped on an American ship for Charleston, S. C. I had not been in the city long when I was offered good wages as carpenter on the brigantine Jeehossy, Capt. Vincent, bound for the Southwest coast of Africa. I accepted.

Receives First Order.

"The voyage continued, and we had just hove in sight of land, when I received orders to cut 'tween deck' beams from lumber we had carried aboard for that purpose. I was told to number them, in order that they might be placed in position at an hour's notice, as we went from one native settlement to another.

"It was the captain's plan to pursue the usual course of slave traders, which was to visit towns along the coast, and to confer with the French and Spanish dealers who kept the blacks for sale.

"These negroes, who had been in turn purchased from some tribe who had recently been at war, and who followed the usual custom of selling their prisoners to traders were kept in long stockades along the coast. They were given almost anything to eat, watered like animals, and kept there for the inspection of foreign buyers who would in turn take them on to the United States to be sold into slavery.

"The captain, however, was to experience a slight change in his plans.

Wild Blacks Take Possession.

"At the very first post we dropped anchor we were to get more than we had bargained for.

"As soon as the Jeehossy had been sighted from the land, three large canoes, each manned by fifty or more wild blacks, were seen rapidly approaching us.

"They were nude, excepting for the belt arrangements they wore, in which were thrust knives and other implements of warfare. Fnally they came up alongside, making many peculiar gesticulations. The captain gave them some rum, and they straightway began clamoring over the rail. Orders were quickly given not to allow any more aboard, but they grew fierce and threatening when an attempt was made to prevent them from coming.

"It began to look as if the crew was to be overwhelmed.

"Previous to this, I had sharpened some old cutlasses, which, with some old revolvers, were quickly distributed among our men.

"The cook was ordered to heat as much water as possible, and to scatter broken bottles on deck, preparatory to a hand to hand encounter with the visitors.

"The boiling water was to be thrown on the bare bodies of the negroes should they become more threatening, and during the general fistic encounter and scrambling about which was bound to ensue, according to our calculations, the burly black fellows, who, of course, wore no shoes, would be badly cut by the glass, a process which would retard their progress in any onslaught which they might plan.

"When the danger appeared at its thickest, and the crowd of blacks were becoming more and more unruly, a breeze suddenly sprang up from the land, and the captain saw his chance.

"Quickly setting sail, he caused the three canoes belonging to the negroes to be cut adrift and then put on full speed. The Jeehossy was fairly flying out to sea, and far in the distance we could just discern the three empty canoes of the savages as they bobbed helplessly up and down in the water.

"We had gone perhaps a mile and a half before the natives still on the ship finally saw what had happened, and that in allowing themselves to be thus duped they had lost their boats.

"The sight of home rapidly slipping from view didn't appear to look good to them, and one by one the fierce appearing humans dove into the water like rats, swiming their way to shore.

"This was probably the most exciting day of the entire voyage.

Bargain for Slaves.

"That the good (or bad) ship Jeehossy did finally come into direct communication with real slave traders is further proved by the remainder of the interesting narrative:

"The next day," continued Mr. Klein, "we came to a little town called Acra. It was here that the captain and supercargo went ashore and completed a bargain for a num-

ber of slaves which were to be taken aboard.

"I never knew how much the average trader charged for his slaves, neither could I find out. That generally remained a secret with the captain.

"After the deal was closed, the sea being rough, we decided to await calm before taking the negroes aboard.

"That was to be a disastrous wait for all hands. The next day, to our surprise, an American war vessel came within speaking distance. She exchanged civilities with us, leaving almost immediately.

"Close on her trail came another war vessel. We had begun to be somewhat suspicious. When she proved to be an English man-o'-war, we knew that our fears had not been unfounded. Her officers had probably decided to ascertain the nature of the business in which we were engaged.

"Finally a boat was lowered and an officer came aboard. He shook hands with the captain and supercargo, and without any investigation whatever, returned to his ship.

"A second officer suddenly made it his business to pay us a visit, and succeeded in overhauling and disclosing everything. There were the iron bars with handcuffs attached, iron grating for the hatches, sacks of red bread and rice with which we had intended to feed the negroes, and also the between deck beams, which I had lately made and numbered.

"The captain made numerous excuses, but to no avail. We were taken aboard the man-o'-war, whose name was learned to be The Falcon and kept under strict surveillance for ten days. There was not a man among us, however, who failed to 'keep mum,' and we were finally returned to our own vessel.

"'You have taken us for thieves,' said our captain to the Englishman, 'and we will just wait around in the waters until an American man-o'-war comes by and squares accounts for us.'

"In reality, however, we hoped to outstay the Britishers, who still entertained serious suspicions regarding our movements, and then take on our cargo of slaves. After two months' waiting, however, we were forced to give up, and put for home without so much as a single black aboard.

Received no Money.

Thus it was even before the great civil war cloud had broken, when the slave trade had begun eating its way into the law and rule of a great and glorious country like the rancid growing cancer that it was that the brigantine Jeehossy finally returned to the port of Charleston one day in the spring of 1858, after a very unfortunate financial venture.

She had been besieged at every turn by continued ill fortune. Her crew received the monthly wage, but the extra money which was to have been given in case the trip had been successful, was of course withheld.

TRYING HIM OUT.

"Did you know, Willie, that your big sister had invited me to take dinner with your family next Sunday?" asked Mr. Newbeau.

"Sure!" replied her little brother. "Ma and pa told her they wanted to see what kind of table manners you've got."—Philadelphia Press.

A recent rabbit drive at Lancaster was declared to be a success, many thousand rabbits being killed.

"The habit of wishing everybody well, of feeling like giving everybody a Godspeed, ennobles and beautifies the character wonderfully, magnifies our ability, and multiplies our mental power."—Orison Sweet Marden.

RECEIPES.

Sour kraut can be put into stone jars, kegs or barrels. Take nice solid heads of cabbage and cut them on a slaw cutter. Make a layer of about two inches deep in the bottom of the jar, sprinkle lightly with salt and press as firmly as possible with the palm of the hand, add more cabbage, sprinkle salt and press as before and continue until the jar is filled to within two or three inches of the top with cabbage firmly pressed down. When the juice is overflowing cover with a cloth, take a clean board, cut round to just fit inside the jar and place a heavy weight on top. Have a cover that will fit loosely over it. In a day or two the cabbage will begin to ferment. When the juice begins to go down add salt to the water, a teaspoonful to a pint, and fill up the jar. Do not allow the juice to fall below the board. In about two or three weeks the kraut will be made. Take out the cloth, board and weight every week and scald them.

Holland Soup.

Use two pork hocks or four pounds shoulder, one quart dried green peas, one large onion, one large potato, half celery root or one stalk English celery, a little parsley; soak the peas overnight. Put on to boil in the same water with the meat for about two hours; then add the other vegetables, except the parsley; salt and pepper according to taste, and before serving the chopped parsley is added as a garnish.

Invalids' Dishes.

If in making broth from fowl you will remove the skin you will find that the flavor of the broth will be more delicate and delicious than if the skin is left on the fowl.

Egg-nog is advised for invalids by most doctors because of its nourishing properties, although many sick people become tired of it after a while. If changes are made in the flavor of the egg-nog they will relish it more. For instance, the egg-nog is delicious if only the stiff beaten white is used instead of the entire egg. Changes can be made in the taste if sherry, brandy, vanilla and nutmeg are used as flavors.

HOMELY HINTS.

When a splinter has been driven deep into the hand, it can be extracted without pain by steam. Nearly fill a wide-mouthed bottle with hot water, place the injured part over the mouth of the bottle, and press tightly. The suction will draw the flesh down, and in a minute or two the steam will extricate the splinter and the inflammation will disappear.—November Woman's Home Companion.

Rub cocoa butter, mutton tallow or vaseline on the nails every night if you are troubled with hang nails and gently press the adherent skin away from the roots of the nails and after washing the hands keep the skin loosened from the nail with an orange-wood stick. With this treatment these homely and painful little nuisances will soon be removed and if one is careful they can safely be kept at a distance. If the nails are brittle rub olive oil into them every night.

Children in playing around often get their garments stained with grass, and unless this stain is removed by the proper method it is likely to remain indefinitely. If ammonia and water are applied to the stain at once it will be removed easily, but where the stain has dried soap and warm water should be used. If the garment is such that the color may be affected, molasses should be used. Spread the molasses on the stain and allow it to remain for several hours, after which the garment should be washed.

Heat

Where you want it—
When you want it—
No smoke—no smell—no trouble.

Often you want heat in a hurry in some room in the house the furnace does not reach. It's so easy to pick up and carry a

PERFECTION Oil Heater

(Equipped with Smokeless Device)

to the room you want to heat—suitable for any room in the house. It has a real smokeless device absolutely preventing smoke or smell—turn the wick as high as you can or as low as you like—brass font holds 4 quarts of oil that gives out glowing heat for 9 hours. Finished in japan and nickel—an ornament anywhere. Every heater warranted.

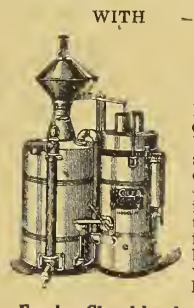
The **Rayo** Lamp

is the lamp for the student or reader. It gives a brilliant, steady light that makes study a pleasure. Made of brass, nickel plated and equipped with the latest improved central draft burner. Every lamp warranted.

If you cannot obtain the Perfection Oil Heater or Rayo Lamp from your dealer write to our nearest agency for descriptive circular.

STANDARD OIL COMPANY
(Incorporated)

Light and Cook with Acetylene — COLT TRADE MARK



Favor us with an inquiry concerning Colt Acetylene. We shall take pleasure in sending you free of charge our excellently compiled 44-Page Catalogue containing complete and instructive matter regarding piping, fixtures, stoves and burner pertaining to this wonderful and inexpensive lighting system.

Fowler Shankland, Pacific Coast Distributor
204 Severance Building
Cor. 6th and Main, Los Angeles
Phones: F7514; Main 4830

Hague Domestic Oil Burner

Showing the Method of Attaching to Cook Stove. A device for using low grade distillate. Saves 40 per cent of cost of coal or city gas—let us prove it. Write for circular.

Hague Domestic Oil Burner Co.
214 Winston St., Los Angeles, Cal.

PIANOS Slightly used Steinways; 1909 Model Lyon & Healys, and other remarkable Bargains. Lyon & Healy, 80 Adams St., Chicago.
World's Largest Music House
Our Great Re-Building Sale is Now in Progress!

4 Per Cent Interest on Term Deposits

Money deposited in this Bank is secure, being protected by resources of nearly $10,000,000.00. It earns the largest interest consistent with safety.

Special facilities are offered out-of-town depositors. Write for information, or call upon us when you are in Los Angeles.

German American Savings Bank
Spring and Fourth Sts., Los Angeles

6% Interest Paid

ASSETS $2,002,111.
No Admission or Withdrawal Fee.
Only 30 Days Withdrawal Notice.
Send For Booklet and Statement
STATE MUTUAL BUILDING & LOAN ASS'N.
225 S. Spring St. Los Angeles Cal.

$1.00 ONE DOLLAR'S WORTH OF MUSIC FREE **FREE**

Send 6c in Stamps for Our New Catalogue of **10c Music** Many new additions, also Catalogue of popular hits. We will send you four pieces of regular sheet music with same. State if songs or instrumental music is wanted.

BRODERSEN & BARBER
113 So. Spring St. - Los Angeles, Ca.

The Produce Markets

Los Angeles Markets

LOS ANGELES, NOV. 4, 1908

Election has absorbed all interest and the produce markets for the past few days have been featureless.

Butter.

Butter is still at 67½ for extras with nothing of importance with dairy supplies.

Creamery ex per roll	67½
Firsts	60
Dairy	25
Eastern Extra	30
Ladles	24
Cooking	24
"Butterine"	16@20

Cheese.

Southern California Anchor	17@18
Northern fresh	14@15
Longhorn	18
Eastern singles	18
Cheddars	17
Swiss	18
Imported Swiss	28
Daisy	17½
Oregon	16
Limburger	17

Eggs and Poultry.

Eggs have not advanced this week and are quoted exactly as last week. Market is firm.

Eggs local candled	45@48
Eggs case count buying price	42
Firsts fresh	37
Storage selected	27@28
Firsts	24@25
Storage short time	36@39

Wholesale prices:

Hens per pound	13½@14
Young roosters per pound	16
Fryers	18
Broilers per lb	20
Old rooster	8
Turkeys	16@18
Geese	12
Ducks	11½
Squabs	1.25@1.75

Live Stock.

The following quotations are f. o. b., Los Angeles, on all stock.

Hogs from 175 to 200 pounds	6¼
Prime steers	4¼
Heifers	3½@3¾
Calves per lb	4½@5
Sheep ewes per head	3.25@3.75
Lambs per head	2.50@3.00
Wethers	4.00@4.50

Potatoes.

Wholesale prices are:

Sweets per ctl	1.25
Sweets red	1.00
Burbanks choice	1.00
Northern Burbanks fy	1.50
Local Burbanks	1.40
Highland fancy	1.00@1.25
Coast	1.00
Salinas	1.75@1.90

Onions.

Wholesale quotations are:

Silverskin new	1.25
Australian Browns	80@90
Danvers	90@1.00
Garlic	8@9

Vegetables.

Asparagus per doz	75
Artichokes per doz Northern	75
Artichokes local per box	40
Beets per doz	30@40
Bell peppers per lb large	3@4
Bell peppers box	25@30
Beans string	6
Beans limas per lb	4
Brussels sprouts per lb	9
Cabbage sack	1.75
Cabbage red per lb	2
Celery per crate	1.50
Celery ex fy	3.00
Chili per lb	30
Corn per lug box	55
Chicory per bunch	10
Cucumbers per box	85@100
Cauliflower per doz	65@85
Carrots per doz	30
Egg plant per lb	2
Green onions per doz bunches	15
Lettuce per crate	75@1.00
Okra	4
Peas sugar per lb	5½
Parsley	25@30
Parsnips	35@40
Rhubarb per box	1.00
Rutabaga per doz	30
Radishes per doz	15@20
Salsify	40
Summer squash per box	40
Spinach per doz	25
Turnips doz bunches	30
Tomatoes lug box	40@75
Tomatoes yellow per box	25@30

Citrus Fruits.

Valencias	2.35@2.55
Grapefruit seedless	3.00
Grapefruit seedlings	1.75@2.00
Lemons fy	2.50
Lemons choice	1.50

Fresh Fruits.

Wholesale prices on the market are:

Astrachans	1.00
Astrachans packed box	1.35@1.50
Bellflowers	90@1.00
Newton Pippins	80
Alexandria 4-tier	1.00@1.10
Gravenstein 4-tier	1.15@1.25
Skinners 4-tier	1.15
California Jonathans	2.00
Red Pearmains	1.00
Crab apples	1.50
Apricots cold storage	50
Cantaloupe locals large crate	1.50@1.75
Casaba doz	1.35
Christmas melons per crate	1.75
Figs per fig box	1.00@1.25
Figs black per fig box	1.00
Guavas per lb	3@4
Muscats per lug box	50@95
Grapes Malaga	50@75
Grapes Concord per lug box	1.00
Grapes Tokay	60@65
Grapes Red Emperors	75
Cornichons	1.00
Rose of Peru	70@75
Grapes Black Hamburgs	50
Isabellas per crate	75
Nectarines	1.25
Pears lug box	1.00
Pears Winter Nellis per box	60
Plums Kelsey	80
Peaches per box	35@75
Peaches clings	50
Pineapples per lb	7
Persimmons per lb	8
Pomegranates per box	1.25
Quinces	85@1.00
Raspberries per box	8
Strawberries per box	5@6
Extra fancy	10
Blackberries per box	6@7
Huckleberries per crate	1.20
Watermelons per crate	1.50

Dried Fruits.

Wholesale prices are:

Apricots	8½
Evap. apples fy per lb	7½@8
Figs loose white	6
Figs blk	5
Peaches	7½@8
Pears	9@10
Nectarines	9@10
Prunes	4@4½

Beans Dried.

Wholesale prices:

Limas per ctl	5.00@5.25
Lima, new crop	4.50@5.00
Pink No 1	3.25
Lady Washington	4.00@4.25
Small white	4.50
Black eyes	3.50
Garvanzas	4.80@5.00
Lentils	9.00
Bayou	3.75@4.00

Nuts.

Almonds IXL per lb	14
Almonds choice	10@12½
Pecans polished	16
Peanuts Virginia	8
Peanuts California	8
Walnuts No 1 SS	12½
Walnuts No 1 HS	12
Walnuts No 2 both hard and SS	8½

Walnuts all less1½ per cent to trade

Honey.

Wholesale quotations:

Extracted Water White	7½@8
Extracted Amber	6@6½
Comb W W	16
Comb white	15
Beeswax	30

Hay.

Prices paid to producers f. o. b. Los Angeles are as follows:

Barley No 1	15.00@17.00
Barley No 2	12.00@14.00
Alfalfa northern per ton	11.00@13.00
Alfalfa local	12.50@14.50
Plain oat No 1	15.00@18.00
Wheat No 1	14.00@16.00
Wheat No 2	12.00@15.00

Grains.

Wholesale selling price f. o. b., Los Angeles.

Wheat new per ctl	1.90
Kaffir corn	1.95
Corn Eastern sacked	2.00
White oats	1.85
Seed Rye	1.75

Feed Stuff.

Wholesale selling price F. O. B. Los Angeles as follows:

Cracked corn	2.45
Shorts	1.80
Bran	1.60
Oil cake meal	2.75
Feed meal	2.10
Rolled barley	1.60

Employees of three canneries in the Santa Clara valley have proclaimed themselves as emphatically against the employment of any Asiatics in any canneries of that section.

San Francisco Markets

SAN FRANCISCO, Nov. 3, 1908.

Election has caused a dullness in all markets for the past few days, practically nothing has been doing and trade is stagnant.

Butter.

Butter is quoted lower than a week ago and there are but few buyers even at the reduced prices.

California extras per lb	30
California firsts	27½
California seconds	23
California thirds	20
Eastern extras	27
Storage Cal ex	26½

Cheese.

California young American fy	15
Firsts	14
California flats fy	12½
Firsts	12
Young America fy	14½
Eastern N. Y. Cheddars fy	17
Eastern fy	16½
Oregon fy	13

Eggs and Poultry.

Eggs are now exactly as last week though on Friday and Saturday they were quoted a cent and a half higher.

Official quotations of the S. F. Wholesale Dairy & Produce Ex. are:

Fresh ranch extras	52
Eggs firsts per doz	47
Eggs second	27½
Eastern selected	27
Eastern firsts	25
Cal Storage	31
Firsts	28
Eastern Storage ex	26½
Eastern firsts	25
Hens per doz	4.00@5.50
Hens extra	7.00@9.00
Young roosters	5.00@6.00
Old roosters	3.50@4.50
Fryers per doz	4.00@5.00
Broilers per doz	3.50@4.00
Geese per pair	2.00@2.50
Goslings per pair	1.75@@2.00
Ducks young	6.00@7.00
Hen turkeys per lb	20@23
Gobblers live	20@23
Pigeons young	2.00@2.50

Live Stock.

San Francisco prices gross weight:

Steers No. 1	3¾
Do second quality	3¼@3½
No 1 cows and heifers	3
Second quality	2¾
Hogs 100 to 150	6
Hogs 150 to 250	6¼
Rough heavy	4¾@5¼
Calves per lb	3½@4½
Lambs spring	4
Wethers No 1	3¾
Ewes No 1	3¼

Potatoes.

Wholesale market quotations:

River whites fy	70@85
River whites poor	50@65
do per box	1.00@1.15
Early Rose new	75@85
Salinas Burbanks	1.40@1.60
Sweets crates	1.50
Sweets sks	1.30
Oregon Burbank	1.15@1.30

Vegetables.

Wholesale quotations:

Bell peppers per box	60@85
Celery per doz	40
Cucumbers per box	75@100
Cucumbers pickle	1.00@1.25
Cucumbers pickle No 2	75
Chili peppers per box	50@60
Corn per sack	1.50@1.75
Egg plant per box	60@85
Green peas per lb	7@8
Lima beans	3@4
Squash per box	1.25@1.50
Onions green per box	70@75
Okra per box	50@75
Rhubarb per box	50@65
Tomato River large box	60@1.00
String beans	6@7½
Wax beans	6@7½
Garlic new	6½@7

Onions.

Onions yellow per sack	65
Brown Australian	50

Citrus Fruits.

Valencias fy	2.50@4.00
Grapefruit seedless	2.50@4.00
Grapefruit seedlings	2.00@3.00
Lemons ch	1.75@2.25
Lemons fy	3.00@3.50
Limes	4.00@5.00

Fresh Fruits.

Apples per 4 tier box	90@1.10
Apples per 4½ tier box	65@75
Apples unwrapped	60@75
Bellflowers	75@85
Belfleurs No 2	40@75
Crabapples	50@60
Blackberries per chest	3.00
Figs per crate one layer	50@1.00
Grapes Muscats	50@65
Grapes Rose of Peru	50@60
Grapes Tokays	50@65
Grapes Isabellas crate	90@1.00
Grapes Cornichon	60@75
Huckleberries per lb	12@15
Loganberries	4.00@6.00
Cantaloupe River nutmegs	25@60
Muskmelons	75@1.00
Nectarines red	75@1.00
Nectarines white	50@60
Pears Bartlett per box fy	1.00@1.75
Winter Nellis	90@1.25
Peaches mountain	40@60
Persimmons	65@75
Pomegranates per box	1.50@2.25
Aligator pears per doz	7.00@9.00
Quinces per box	75@85
Raspberries per chest	7.00@10.00
Strawberries per chest	4.00@7.00
Longworths per chest	6.00@8.00
Watermelons per doz	1.25@2.00

Dried Fruits.

Prunes 4-size basis	3¼@3½
Santa Clara	3½@3¾
1908s contracted for	4@4½

New crop contracts, 25-lb. lots—Apricots per lb.: Choice, 7@8½; fancy 10@10½.

PEACHES—Choice 5@5½; fancy 6@7.

Apples evaporated	5½@6
Pears	5@8

RAISINS—1907 crop f. o. b.; Clusters and layers. 30-lb bxs—Imperial Clusters, 6-crown, $2; Dehesa Clusters, 5-crown, $1.75; Fancy Clusters, 4-crown, $1.40; London Layers, 3-crown, $1.10; do, 2-crown, $1.05. Seeded, 25-lb bxs—Fancy bulk per lb, 6½@7c; Choice bulk, 6½@7c. Loose Muscatels, 50-lb bxs— Standard, 4-crown, 5½c; do, 3-crown. 4¾c; do, 2-crown, 3¾c; Seedless, 4¾c. Seedless Sultanas— Unbleached, 4¾@5c. Thompson Seedless—Unbleached, 5½@6¼c. Dried Grapes, 4c.

New Crop Raisins—Preliminary prices are named as follows: Cluster—Imperial 6-crown, $2@3; Dehesa, 5-crown $2.50; London Layers, 2-crown, $1.25; 3-crown, $1.35; 4-crown, $2. Thompson's Seedless, 5¾c. Loose Muscatels, 5¾c. for 4-crown, 5c for 3-crown, 4½c for 2-crown and 4¾c for seedless.

Nuts.

Walnuts S S No 1 new crop	12½@13
Walnuts No 2	10@10½
Almonds nonp	11½
Almonds IXL	10½@11
Ne Plus Ultra	9½

Beans Dried.

Limas	4.35
Pink	2.65@2.85
Small white	4.40@4.50
Large white	3.65@3.75
Lady Washington	3.45@3.50
Black eyes	3.25
Red kidneys	3.50
Garvanzas	1.75@2.25
Bayo	2.75@2.85
Horse beans	1.75@2.25

Hops.

Hops new crop	9@13
Hops old stock	3@6

Honey.

Clear white comb	15½@16
Amber	12@14
Extracted W W	6@7
Extract light amber	6½@7
Beeswax No 1 per lb	25@27
Beeswax No 2 per lb	24@25

Hay.

Somers & Co., say:

Receipts of hay on the San Francisco market have amounted to 2250 tons during the past week, which is the smallest amount we have received during the present season. As a natural result, prices are higher, especially as trade continues to be about the same here in town and more active throughout the country districts. The difficulty in securing cars for shipments of hay continues and were it not for the fact that considerable hay is stored at water points, thereby being available for the market at any time, we undoubtedly would experience quite a severe hay famine in San Francisco.

Most of the hay which has been arriving is of the better class and although this is higher, yet the most noticeable advance is with the poorer grades which are considerably used, especially in times of high prices.

Alfalfa has been arriving very freely, mostly by water for the season for marketing the river alfalfa is about closed and all holders are anxious to market their hay before it is damaged by rain. In spite of the fact that alfalfa receipts have been heavy the market for this article is firm, the consumption being increased not only for dairy purposes, owing to the high price of feed stuffs, but also for horse feed as there is such a difference in the value of alfalfa and grain hay.

Choice wheat hay	19.00@21.00
Good wheat hay	17.00@18.50
Other grades same	15.00@17.00
Wheat and oat	14.00@17.50
Tame oat	13.50@18.50
Wild oat	13.50@17.50
Stock hay	10.50@12.50
Alfalfa	11.00@15.00
Straw per bale	55@85

Grains.

Wheat No 1	1.67½@1.70
Barley new	1.35@1.40
Corn large yellow	1.80@1.85
Oats white	1.60@1.70
Oats gray	1.65@1.70
Rye new crop	1.45@1.50

Feed [illegible]

Bran per ton	29.00@31.00
Feed cornmeal per [illegible]	37.00@38.00
Cracked corn per [illegible]n.....	38.00@39.00
Rolled barley per ton.....	29.00@30.00
Oil cake meal per ton.....	38.00@39.50
Cocoanut cake per ton.....	25.00@26.00
Middlings	34.00@36.00

Citrus Market

LOS ANGELES, Nov. 4, 1908.

The citrus year closed last Saturday night. The total shipments for the year were 24,540 cars of oranges and 4958 of lemons, from Southern California or a total of 29,498 cars.

From Tulare and Butte counties an additional 2931 cars of citrus fruits were shipped which makes a grand total of 32,429 cars of golden fruit. This is crowding up close to one hundred cars, or four or five train loads of fruit for every day in the year.

It is a wonderful business and will grow and extend to other sections in the state.

Valencias closed the year with the biggest prices of the season.

Shipments for the new year are starting and during the coming week many will go from Tulare and Butte counties. Southern California is doing but little as yet.

NEW YORK, Oct. 30.—Two cars Valencias and two cars lemons sold. The market is very strong on Valencias; active but slightly lower on lemons. Weather cool, clear.

PITTSBURG, Oct. 30.—Two cars sold, nothing on track. The market is firm on good fruit. Weather cool.

VALENCIAS—
Coyote OK Ft Ex..... .....4.10
Blue Jay OK Ft Ex.....2.75

LEMONS—
Las Fuentes Crocker-S Summerld..2.55
Montecito, Croker S Sumld.....2.40

NEW YORK, Nov. 2.—Six cars Valencias, four cars lemons and one car Mexican oranges sold. The market is easier and considerably lower on Valencias. Lemons are also lower, but are in good demand.

VALENCIAS—	Avge.
Pointer ACG Ft Ex.....	$5.45
Floral SB Ft Ex.....	4.85
Old Mission C C Chapman.....	7.70
Old Mission C C Chapman.....	6.50
Golden Eagle C C Chapman.....	5.60
Orchard National Orange Co.....	5.80
Standard National Orange Co.. ..	4.80
Mayflower R J Richardson..	7.10
Fancy R J Richardson	5.75
Buena R J Richardson	5.05
Plain Ends R J Richardson.... ..	4.30
Purity Tustin Packing Co.....	5.05
Old Oak Tustin Packing Co.....	4.65

LEMONS—	Avge.
Young America P & Mckevitt....	$4.45
Exhibit	3.60
Excellent SP Citrus Ft Assn.....	4.80
Sunside SP Citrus Ft Assn.....	4.00
Whittier ST Ft Ex.....	4.75
Pico ST Ft Ex.....	4.30
Homer QC Ft Ex.....	5.00
Camel QC Ft Ex.....	4.45

The Roessler & Hasslacher Chemical Co.

100 William Street, New York
Works: Perth Amboy, N. J.

CYANIDE guaranteed 98-99% for generating HYDROCYANIC ACID GAS

The only positive eradicator of the SAN JOSE SCALE, RED and BLACK SCALE and other insect pests

FOR SALE BY

F. W. BRAUN - Los Angeles and San Francisco
HAAS BARUCH & CO., " "

CLEVELAND, Nov. 2.—Weather cool. Market is steady. One car sold, one car on track.

LEMONS—
Liberty Loveless Ft Co Escondido..3.35
Foxaway Loveless F C Escondido..2.65
Unlabeled Loveless Co Escondido 2.05

NEW IN IRRIGATION.

Continued from Page 437.

day. Soil that is wet on the surface in the morning will show no indication of moisture at midday. Evaporation is arrested by the atmosphere cooling at night and as capillary action continues increasing as long as the moisture holds out, part of it collects on the surface and part of it evaporates even though it is night. During the daytime the evaporation is more rapid than the rise of the moisture by capillary action, consequently there is no moisture visible and no attention is given the matter where the question has not been given serious consideration. It is a fact however, that during a certain period after irrigation, this condition can be plainly seen.

Therefore, it behooves the man who has to pay out money to wet his land, to attend to this detail and get on the land with a cultivator as soon as possible after irrigation.

Sonoma County Pomona Grange officers were recently installed by the Master of the State Grange and the proceedings were followed by a banquet. The officers are: Master, J. M. Talbot; Overseer, W. Church; Lecturer, C. E. Wingate; Steward, H. N. N. Latimer; Assistant Steward, Percy Hansen; Chaplain, Mrs. H. Gregory; Treasurer, N. A. Griffith; Secretary, Minnie Church; Gatekeeper, George Meissner; L. A. Steward, M. V. Griffith; Pianist, M. E. Winans.

The Tulare County Citrus Fair will be held at Exeter, December 1-5.

THE TRAVELING INSTITUTE.

The Southern Pacific Company under the direction of its traffic department has decided to operate free agricultural and horticultural instruction trains throughout the state with the co-operation of the University of Californit, Stanford University, the Department of Agriculture and the State Horticultural Commission.

The University of California through its extension work has accomplished a great deal and the Government through its Bureaus of Soils and Plant Industry and the Horticultural Commission through its campaign in behalf of better quarantine laws and its fight against tree pests, have done a great deal for California in making cultivation more effective.

The Southern Pacific Company in co-operation with the institutions named has therefore decided to create a special train carrying lecture car and living cars so that stops if desired, can be made at the most important stations and so also that meetings of one or two hours duration may be held at several different points during the day, economizing greatly in time. The meetings will of course be held in halls where available and otherwise in the lecture car. It is expected that the discussions will be practical and adapted to the needs of the immediate locality under consideration. People in that section having hard problems to solve will no doubt come loaded with questions. It is believed that a great deal of good can be accomplished in this way with the minimum of effort.

Boards of Trade, Improvement Clubs and similar local organizations are invited to give their recommendations as to the itineraries of the trains through the local District Freight and Passenger agents of the Southern Pacific or to the University people.

LOADING HAY IN SAN JOAQUIN COUNTY.

VALENCIAS—	Avege.
Old Mission fy C C Chapman.....8.25	
Old Mission ch C C Chapman.....7.30	
Golden Eagle std C C Chapman..6.25	
Purity fy Tustin Pk Co.....5.90	
Old Oak ch Tustin Pk Co.....5.35	

LEMONS—	Avge.
Whittier Semi-Tropic Ft Ex.....4.95	
Pico Semi-Tropic Ft Ex.....4.80	
Quail OK Ft Ex..... .....4.40	

PHILADELPHIA, Oct. 30.—One car lemons sold. Weather favorable. Market is unchanged.

LEMONS—
Royal Queen Colony Ft Ex Corona 3.05
O I C QC Ft Ex Corona.....2.77

ST LOUIS, Oct. 30.—Weather cool. Market is steady. Two cars sold, two on track.

Oranges—Mexican, $3.40.

LEMONS—
Whittier Semi-Tropic Ft Ex W....3.15
Pico Semi-Tropic Ft Ex W.....2.95

BOSTON, Oct. 30.—Two cars sold, nothing on track. It is raining. The market is easier.

LEMONS—
Rey Semi-Tropic Ft Ex Fernando..4.75
Tunnel Semi-Tropic Ft Ex Ferndo 4.40
Artillery ex ch Cal Cit Union.....4.25

CINCINNATI, Oct. 30.—Weather cool. Market is steady. One car sold, nothing on track.

ORANGES—Florida, Brights, $2.20 Russets, $2.20.

LEMONS—
Tunnel Semi-Tropic Ft Ex Fernd 3.45

CINCINNATI, Nov. 2.—Weather cool; market is steady. One car sold.

LEMONS—
La Paloma Riv Ft Ex.....3.45
Gavilan Riv Ft Ex.....3.05
Housewife Riv Ft Ex..... ....2.85
Pride of California Riv Ft Ex...2.40

PHILADELPHIA, Nov. 2.—One mixed car of citrus fruit and one car lemons sold. Weather cool. The market is firm on good stock. Three cars on track.

VALENCIAS—
Defender Altland Ft Co..... ....3.05
Buscada Altland Ft Co.....2.50

LEMONS—
Orchid Altland Ft Co.... ....4.30
Defender Altland Ft Co..... .....3.26
Buscada Altland Ft Co..... ....3.02
Artillery Cal Cit Union.....2.72
Amethyst Cal Cit Union..... ....2.59

PITTSBURG, Nov. 2.—One car sold; three cars on track. The market is firm on good stock lemons.
Naralimo 3.90
Circus 3.75

BOSTON, Nov. 2.—Three cars sold, one car on track. Weather cold, market very strong.

VALENCIAS—
Quail OK Ft Ex..... .....5.85
Coyote OK Ft Ex..... .....3.75

LEMONS—
Artillery Cal Cit Union..... ....4.55
Punch ST Ft Ex Colegrove.....4.80
Club ST Ft Ex..... .....4.15

ST LOUIS, Nov. 2.—Weather cool. The market is weak on Valencias on account of the other varieties of fruit being offered. Market is steady on lemons. Three cars sold, five on track. Louisiana oranges, $2.60; Honduras, $2.35; Florida, $2.20.

LEMONS—
Arab SA Ft Ex San Dimas.....3.15
Duck SA Ft Ex San Dimas.....2.35

A BIG ORDER.

The National Wood Pipe Co., continues to receive big orders for its effective and economical pipe. This pipe has been proved by years of use to be durable and satisfactory in every way.

The company has just been awarded a contract for over 40,000 feet of our 4-6-8 and 10 Machine Banded Wood Pipe for installation in the Teague, Texas, municipal water system, John W. Maxcy, Houston, Texas, Consulting Engineer. The city of Teague will install a complete municipal water works system.

Big orders are almost a daily occurence of this company.

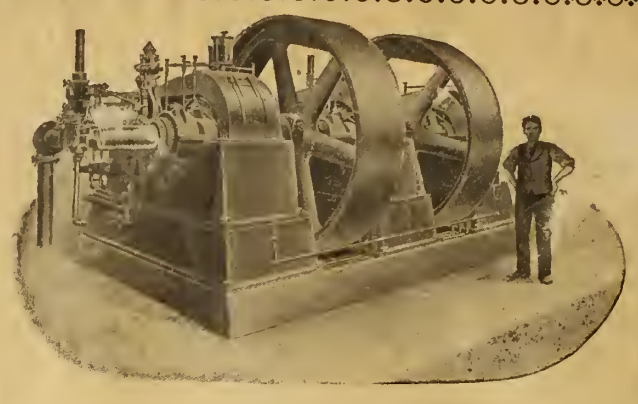
The Popular

Western

Built In the West Best For the West

FACTORY AT YOUR DOOR

LONGEST LIFE LEAST FUEL FEWEST PARTS ALWAYS GOES



7 to 600 Horse Power

...nts Designed Constructed Installed

Note result... tained with a 40 H. P. "WESTE..." at Ontario, Cal.

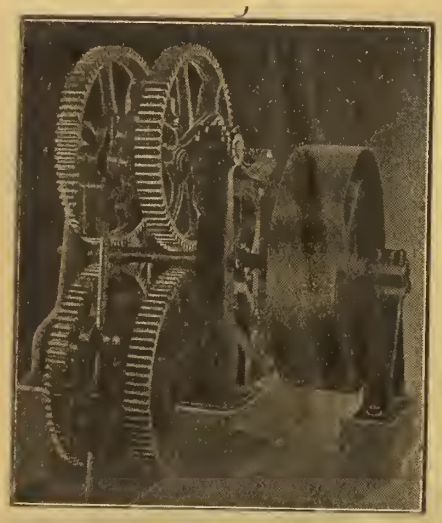
"We are liftin... inches of water against a ead of 46 feet ... e pump; vacuum guage ...ands at 13, wit... ade over 3¾ Gallons No. 2 Distillate per hour."

IOWA MEADOWS COMPANY
(Signed) S. J. Ulrey, Manager

Western Gas Engine Co.

Works and Office:
908-932 No. Main St. - Los Angeles, Cal.
Send for Catalogue

New Pomona Double Plunger Deep Well Pump Head



Most Efficient Deep Well Pump in the State

It Is Made in California

Built in Three Sizes—from Ten to Forty Horse Power

It is the smoothest running deep well pump because there are no dead centers, no jerk or jar, and no danger of breaking the pump rods. Be sure and write for our big catalogue. Watch this space for further information.

Pomona Manufacturing Co.

Pomona, Cal.

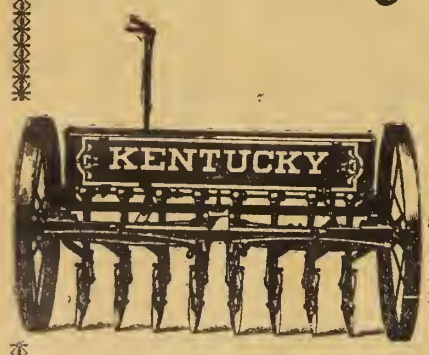
This is the pump with which we delivered 20 per cent more water than promised for a certain head and horsepower. The customer says in a letter that he desires to express to us his great satisfaction upon the result achieved.

Byron Jackson Iron Works

Main Office and Works: West Berkeley, Cal.

Sales Rooms: San Francisco, Cal. Los Angeles, Cal. Portland, Oregon.

Kentucky Disc Drills



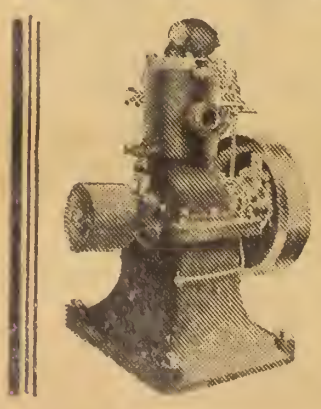
meet every requirement of particular Farmers. Constructed on correct mechanical principles, of the best material obtainable, they are strong and lasting. KENTUCKY Conical Disc Bearings are unique. Of fairly large diameter, they are narrow, giving greatest clearance between discs. Dust proof, oil retaining and adjustable. Over 250,000 in use, giving perfect service, have demonstrated the superiority of the Kentucky Disc Bearing.

Write us for Catalogue of the complete

KENTUCKY LINE

Pacific Implement Co. 135 Kansas St. San Francisco

KEROSENE ENGINES



No Batteries or Spark Plugs Used

Simplest, Most Reliable and Cheapest Power on the Market

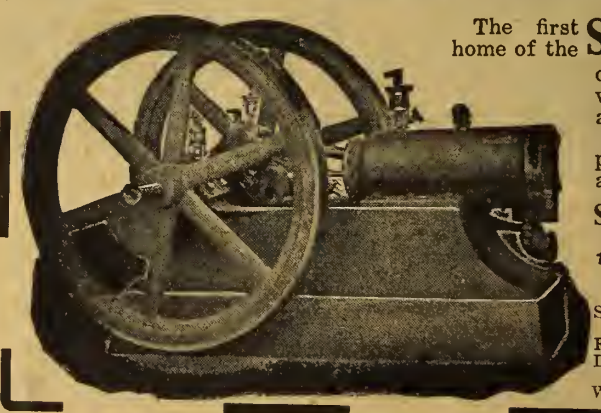
4, 8 and 16 Horse Power

Marshall Brothers

Point Richmond, Cal.

Catalog Free on Application

Samson Gasoline and Distillate **Engines**



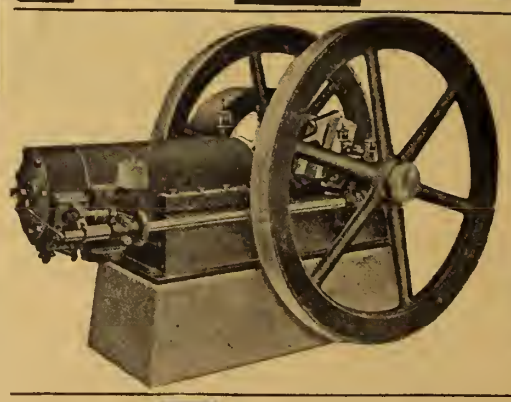
The first home of the SAMSON engine is a large one. Its second home, which is everlasting, is a happy one.

They may be compared with the gas—always ready to roll.

Samson Iron Works

Office and Factory:
1100 to 1198 Aurora St.
Stockton, Cal.

BRANCHES:
San Francisco,
Cor. Market and First Sts.
Fresno, 920 J St.
Los Angeles,
204 N. Los Angeles St.
W. L. Cleveland Co., Agent



HERCULES DISTILLATE ENGINE

Heavy, Strong and Simple in Construction

The Right Engine at the Right Price

Horizontal and Vertical; All Sizes. Buy direct from the manufacturer and save agent's commission. Send for our new Catalogue C.

The Hercules Gas Engine Works

351 Market St., San Francisco
Telephone Douglas 3630

A Handy Little Engine

Just the thing to run the feed cutter, the pump, the churn, the grinder, or anything on the ranch. It's well named

The Little Wonder

Write or call on

Wm. Gregory

602 No. Main St. Los Angeles, Cal.

California Cultivator

Published Weekly — One Dollar a Year

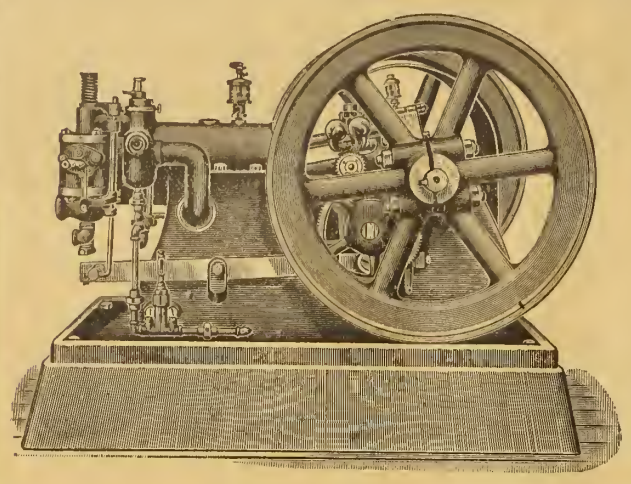
Los Angeles — November 12, 1908 — San Francisco

Some Sources of Arizona's Wealth

First Water Entering Gates at Granite Reef Diversion Dam

Ostriches in the Salt River Valley

Alamo Gas and Oil Hoisting and Stationary Engines



Best in price, appearance and quality. Self-starting and small operating cost. A complete line of repair parts and accessories always on hand.

Complete pumping plants installed and we are prepared to construct all kinds of mining machinery on contract.

Write for catalog and prices

Harrison Machine Works 719-721 N. Main St. Los Angeles, Cal.

WOOD PIPE

Made from California Redwood or Selected Washington Douglas Fir

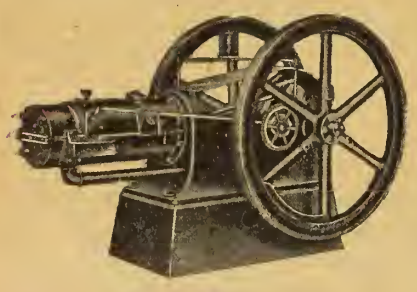
NATIONAL WOOD PIPE CO.

Stave Pipe 2 inches to 10 feet Diameter up to 400 feet Head

SAN FRANCISCO OFFICE 318 MARKET ST.
LOS ANGELES OFFICE, 404 EQUITABLE BANK BUILDING
OLYMPIA, WASH. SALT LAKE CITY, UTAH

Prices, specifications, hydraulic data, and general information furnished upon request.

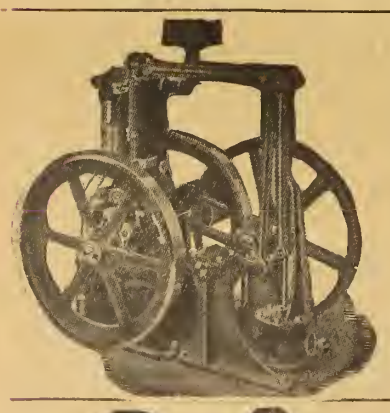
Commercial Gas Engines



Pump More Water

a given height with one gallon of No. 2 distillate than our competitors. Send for Bulletin No. 12 and see how we do it.

Commercial Engine Co.
953-955 No. Main St. Los Angeles, Cal.



A Handy Little Engine

Just the thing to run the feed cutter, the pump, the churn, the grinder, or anything on the ranch. It's well named

The Little Wonder

Write or call on

Wm. Gregory
602 No. Main St. Los Angeles, Cal.

2 TO 50 H. P. HORIZONTAL

STOVER GAS ENGINES

The simplest and the best. We have had long experience installing pumping plants. We know our business. See us before you buy. 2 to 50 H. P.

LIVINGSTON & LEE
352 So. Los Angeles St., Los Angeles, Cal.

When writing advertisers, mention Cultivator.

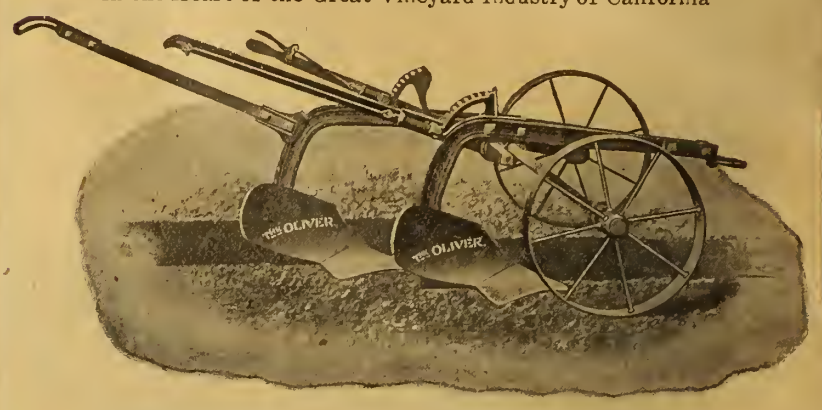
Winner of the First Award

The Nos. 17 and 18

Oliver Orchard and Vineyard Gang Plows

At the Great **Fresno County Fair**

In the Heart of the Great Vineyard Industry of California



The Greatest Improvement of the Age in Plows for Orchard and Vineyard

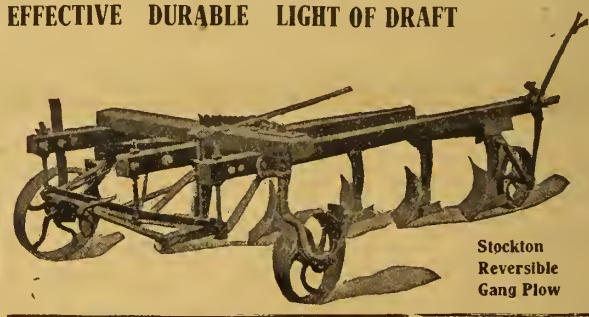
Get particulars from your nearest Oliver agent, or write to

Newell Mathews Company

Southwestern General Agents 200 N. Los Angeles St., Los Angeles, Cal.

The Cheapest Way

EFFECTIVE DURABLE LIGHT OF DRAFT



Stockton Reversible Gang Plow

This is our regular Plow with Land Shifter and Rear Lever. Land Shifter simple and durable. It is in easy reach of operator and there is no danger of wheel running over foot.

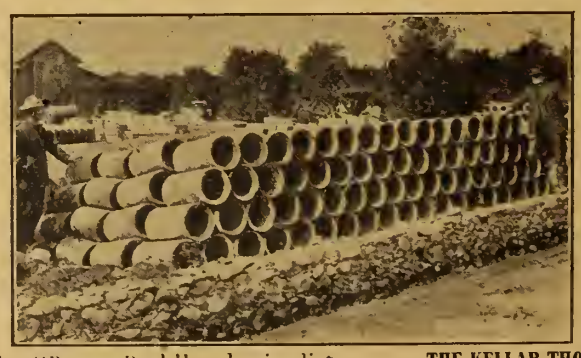
Houser & Haines Mfg. Co
Stockton, Cal.

$16.30 buys this handsome six-hole Nickle-Trimmed Cast Range direct from the Manufacturer

without high shelf. With high shelf, just as shown in the cut, $19.97; large oven, six cooking holes, best quality of iron. Burns coal or wood. Handsome nickle trimmings. OUR TERMS are the most liberal ever made. You can pay after you receive the range. You can take it into your own home and use it 30 days. If you don't find it exactly as represented, the biggest bargain you ever saw you won't have to keep it.

Write today for our beautifully illustrated Stove Catalogue No. 101-C. A postal card will do it. Don't buy until you get it.

P. F. Ross & Co.
268 Market St. San Francisco, Cal.



From photograph showing amount of

Ten-Inch Pipe

made by four men from 10 bbls. of cement in 9 hours — 280 two-foot joints, or 560 feet. This pipe was made with the

"K T" Moulds

An equal amount can not be made with any other tools in the same period of time. Write for "Brown Book" and price list.

THE KELLAR-THOMASON MFG. CO., Covina, Cal.

AGENTS WANTED

GOPHER DOPE to exterminate gophers, ground squirrels, rats, mice.

KILLS A BUG Moths, Mosquitoes, Bed Bugs Ants, Roaches, Fleas, Lice and Mites on Fowls. Disinfectant and Germicide.

PUROLINE A Powerful Antiseptic and Deodorizer. Odorless, non-poisonous. For use in hospitals, homes, public institutions, boards of health and ranches. ***B. & G. Disinfecting Co.,*** 417 Laughlin Building, Los Angeles, Calif.

When writing advertisers, mention Cultivator.

Kill the Gophers and Squirrels

You can rid your ground of hundreds of them in a week with my device; No experiment, a sure thing, the best thing ever invented; Bank guarantee; Send postal for descriptive circular.

Peerless Rodent Destroyer Co.
P. O. Box 307, Santa Cruz, Cal.

When writing advertisers, mention Cultivator.

California Cultivator

Vol XXXI—No. 20 Los Angeles, California, Thursday, November 12, 1908 Subscription $1 a Year

Growing the Eucalyptus Tree for Profit

General Directions as to Planting, Care, and Purposes of Eucalypts

Written for the Cultivator by LEONARD COATES of Morganhill

IN reading the mass of literature published on this subject, the average layman is very apt to become confused, and to wonder more than ever what are the first steps to take, and which plan he should follow out of the many suggested by the host of writers. The object here is to give the necessary information that is needed by those who are investigating eucalyptus culture because of the fact, duly appreciated, of the alarming shortage of hardwood supply in the markets of the United States, and the ability of California to supply this deficiency by the cultivation of certain species belonging to this great family of hardwood trees.

The Seed.

The seed of most species of eucalyptus is very small, almost powder-like, and sells from $4.00 to $20.00 a pound, according to scarcity or difficulty in collecting. It is of no use to describe the methods employed in sowing the seed and raising the seedlings. This is purely the work of the professional propagator. For any other than an expert gardener to attempt to raise the plants successfully, is to court failure, and to purchase the seed is a mere waste of money. Wealthy syndicates, or those who contemplate planting eucalyptus trees by the hundred thousand, can afford to hire gardeners to do this work; those who try it themselves often find the experiment rather costly. Suffice it to say, that the seed is sown from early spring until the autumn, according to climatic conditions, and depending, also, upon the natural vigor of the species, some growing much more rapidly than others.

The Seedling.

The little plants are transplanted from the seed boxes as soon as they can be handled, and so planted, in a good, rather stiff soil, that there will be in each box, or "flat," one hundred, ten in a row. These are ready for permanent planting any time from February to April.

Another method, but not so generally followed, is to transplant from the seed box to small pots, 1¾ or 2-inch diameter. Where the soil is sandy, and weather usually warm and dry at planting time, this is the surer way to handle the plants, but they would cost more.

Soil and Location.

The eucalyptus family is a very extensive one, and therefore some members of it are found that succeed in almost any kind of soil. But it is a great mistake to think that any eucalyptus tree will grow anywhere, or that a soil or location that is good for nothing else will do for "gum" trees. To get good results care must be taken to select those sorts which are known to flourish under certain conditions. For instance:

E. robusta, or swamp mahogany, thrives best in very wet soil, even when undrained and "sour," which would be fatal to almost any other.

E. corynocalyx, or sugar gum, on the other hand, must be planted in well-drained or dry soils, or on hillsides.

E. diversicolor and E. pilularis, and others, thrive best near the coast, not liking the great heat of the interior valleys, while E. rudis and E. polyanthema, while they grow well anywhere, are not injured at all by the hottest weather, and luxuriate under the hot sunshine of the San Joaquin valley.

Preparing the Land.

Heavy land, and especially if inclined to adobe, should be plowed early, left fallow, and, towards spring, or whenever dry enough, worked down with the disc and the harrow. It is even safer to plow such land in the fall, while dry. Lighter soils may be plowed any time during the winter, but it is always necessary to have the surface well pulverized, which much facilitates the work at planting time. Steep hillsides should be left unplowed until the heavy rains are over, or the soil may "wash."

Planting.

The plants will be from 8 to 18 inches high, depending upon the variety, and the method of growing the seedlings. They are generally transplanted into "flats," holding 100 plants, and are cut out with a strong knife so that each plant has attached to its roots a solid block of earth. The most precise and accurate method of planting is to get the square and stake off the rows at two ends of a block, and plant with a twisted wire or clothesline, a piece of rag being fastened at every six feet, following the same plan as in vineyard planting. Or, the land may be marked off with a corn-marker, the plants being set at the intersection of the cross lines. In this case, particularly if the locality be a dry one, with small annual rainfall, it is well to plow a furrow along one of the lines, and plant at the bottom, gradually filling up the furrow with spring cultivating. In this way, the plants become very deeply set in the ground, without the disadvantage of planting too deep at first, while the land is cold and wet, which would retard growth. On steep hillsides, the only way is to mark with the plow, following the contour of the hill. If the plants are grown in pots, the pot is held upside down and tapped lightly on a box, the whole plant slipping out without disturbing the roots. One writer alluded to this as a "vile method," saying that trees so raised would blow over after they had attained size. Such a remark is entirely without reason. The roots are cramped and bunched in either case, and in the pot less disturbed than when cut out of the flat. But they grow well whichever plan is adopted, each making tap or horizontal roots, according to its nature, as soon as it has the soil for them to run in. The pot method is more expensive, but I would give it the preference, otherwise. A garden trowel is the most convenient tool to use in planting, and the earth should be firmly pressed about the roots, loose earth being left at the surface. Plant several inches deeper than the seedlings stand in the flat or pot.

Cultivating.

It is a false economy to stint the cultivation of eucalyptus trees the first year. The young trees, as the roots continue to penetrate into moist earth, will grow very strongly until checked by cold weather, and the hardier kinds will grow all winter. Keep the land loose and free of weeds by frequent deep cultivating. The second year one plowing, and sufficient cultivating to keep down the weeds, will be sufficient. After that, little or no cultivation is needed as the trees will have grown enough to shade the ground, and prevent much weed growth.

Irrigating.

This is not necessary unless the conditions are essentially "arid." Deep rooting is to be encouraged by no surface irrigation after the plants are set, unless absolutely necessary. It is always better to thoroughly soak the ground in the winter, before planting.

Trimming.

During the first season's growth some of the young trees will show an inclination to fork, and others to throw out a strong lateral branch. These should be cut off, close to the main stem. The ordinary laterals need not be cut; they will die and fall off subsequently, and without attaining sufficient size to leave knots in the bole.

Replanting.

If there are only a few occasional vacancies, it is not worth while to replace, and if, for any cause, there should be a large number of missing trees, they could be re-set the same season, for planting may be done in the summer, water being used at the time.

It is often a good plan to arrange with the nurseryman to transplant the second time 5 per cent. or 10 per cent. of the total number into boxes containing 50 plants, which would be very strong by the next season, should it be desired to fill up all vacancies. A stand of 95 per cent. should be had with any ordinarily careful planting, however.

Species.

There are about fifty species of eucalyptus growing at the State University Substation at Santa Monica. On our plantations at Morganhill in Santa Clara county we have thirty species growing, which are being to from time to time. We have planted in forest form 6x6 feet, in level valley land, on dry hillside, and in black adobe.

For cenvenient refernce, I will name certain species which may be relied upon to thrive under specified conditions, particularly in regard to location.

For Sacramento and San Joaquin Valley.

E. rostrata, E. tereticornis, E. viminalis, E. rudis, E. polyanthema, E. crebra, E. leucoxylon, E. corynocalyx, E. siderophloia. Of these, E. corynocalyx is sometimes injured by frost while young, like E. globulus or the blue gum.

E. rostrata will stand a good deal of alkali,

E. rostrata, E. tereticornis, E. rudis thrive in plenty of moisture, even in boggy land.

E. corynocalyx needs a dry or well-drained soil. The others do not like extremes of wet or dry soil.

Uses.

For wind breaks—E. viminalis and E. rudis.

For shade—E. corynocalyx, E. polyanthema, E. rudis.

For fuel—E. corynocalyx, E. polyanthema, E. rostrata, E. viminalis, E. tereticornis.

For posts, railroad ties and other underground work—E. corynocalyx, E. crebra, E. polyanthema, E. rostrata, E. rudis, E. siderophloia, E. tereticornis.

For wagon work, shipbuilding, etc.—E. rostrata, E. tereticornis, E. siderophloia. E. corynocalyx.

For Coast or Bay Counties.

E. globulus, E. rostrata, E. tereticornis, E. viminolis, E. rudis, E. corynocalyx, E. crebra, E. robusta, E. amygdalina, E. diversicolor, E. pilularis, E. polyanthema, E. cornuta, E. saligna, E. coccifera, E. siderophloca, E. urnigera, E. sideroxylon, E. Muellerii, E. leucoxylon, E. Gunnii, E. Stuartiana, E. regnans, E. obliqua, E. Siberiana.

E. robusta grows in swamps.

E. urnigera, E. Muellerii, E. coccifera, E.

Continued on page 473.

Save Time--Save Fruit
With the Brewster Picking Sack

A new method sack—invented and perfected by lifelong growers. Eminent orchardists pronounce it perfect. Those who have tried it say they would not be without it. Actual tests show that a man can pick twenty-five per cent more fruit with it and with greater ease.

Sack forms semi-circle about picker's body—is supported by straps over both shoulders and held tight by belt around body. The picker can thus work with ease either on ground or ladder. When full, it does not extend below the hips.

A great feature of the Brewster Sack is the patent gate (see illustration), WHICH PRACTICALLY ELIMINATES BRUISING. Simply unfasten a hook—the gate drops—and the fruit can be quickly but very gently poured out.

The sack holds as much fruit as the old style sack.

Made of double filled canvas, over strong steel frames; strong sustaining straps; practically indestructible.

Sent express prepaid to any address for $1.50.

Sierra Madre Sack Company - Sierra Madre, Cal.

We want reliable men in every locality to demonstrate this sack and act as our agents.

The Roessler & Hasslacher Chemical Co.

100 William Street, New York
Works: Perth Amboy, N. J.

CYANIDE guaranteed 98-99% for generating HYDROCYANIC ACID GAS

The only positive eradicator of the SAN JOSE SCALE, RED and BLACK SCALE and other insect pests

FOR SALE BY

F. W. BRAUN - Los Angeles and San Francisco
HAAS BARUCH & CO., " "

Third Annual

Tulare County Citrus Fair

TO BE HELD AT **Exeter, California**

December 1st to 5th, 1908

Don't fail to attend this great exhibition of Citrus and Deciduous Fruits—one of the grandest displays of orchard products ever collected under one roof.

Baseball, Football, Basketball, Dancing and many other games of sport. Five days and nights of unalloyed pleasure with music all the time.

For further particulars address

W. R. WOOD, President. **C. F. BALAAM, Secretary.**

Exeter, Tulare County, Cal.

TENTS

Fumigating and Lemon Curing Tents our Specialties

Irrigating Hose, all sizes. Prices and Samples quoted upon application. Write your wants Wagon Covers, Hay Covers, and Canvas Covers of Every Description.

Mellus Bros. & Co Phones—Home, F 4871; S. S., Main 3500 250 East Fifth St., Los Angeles, Cal.

ARNOTT HARNESS $10.00 to $80.00

Everything guaranteed. Money back if not satisfactory. Factory in Los Angeles. California leather for all uses. Send for No. 10, eighty page FREE Catalogue.

ARNOTT & COMPANY 112–118 So. Los Angeles St. Los Angeles, Calif.

When writing advertisers, mention Cultivator.

With the Citrus Growers

PARASITES.

The following was written especially for the Cultivator by Prof. A. J. Cook of Pomona College. Prof. Cook was at one time a regular contributor for the Cultivator and his old friends will be glad to see him back.—Ed.

THE word parasites, as used by entomologists, has a more restricted meaning than that usually understood, when this term is used. Indeed, the word is used in several senses. The pork tape worm and related forms are known as parasites, and they work in the tissues of other animals, often working fearful destruction, and not infrequently man himself is the victim. The various lice, which work on nearly all birds and mammals, and which are so very annoying, are generally called parasites. These belong to two different orders of insects, the common lice, which have beaks and suck as do all bugs, and the bird lice, which are possessed with jaws, and bite. Both groups are very serious pests, as is too well known. Again many use the term parasite for any insects that destroy other insects. Thus the lady-bird beetles that eat up their victims, usually plant lice or aphids, as does the cat the mouse, are often called by this name. It were better if we would always call these predaceous insects and reserve the word parasite for such as we are about to describe in this article.

The True Insect Parasites.

When the entomologist uses the word parasite, he refers to those insects that lay their eggs either in or on or near the insect which is to be victimized, and when the egg hatches, the minute larva bores into its host, if not there already, and proceeds to appropriate its blood for its own nourishment. The parasite grows and thrives, while its victim grows feeble and soon is no more. The more important of these parasites belong to the Hymenoptera, or the same order as does the honey bee. One very important family, the Tachina flies, are Dipterous, or two-winged flies, and so are closely related to the common house fly, which they much resemble.

The Hymenopterous Parasites.

There are four families of these very important parasitic Hymenoptera, many of which are very minute, so that they are not at all known except to the student of insects. Perhaps the most important of these are the Chalcid flies—Chalcididae. These are compact, wasp-like insects, often brilliantly colored, with very simple wings, and usually so very minute that they can only be studied with a good microscope. These little friends often lay scores of eggs in a single caterpillar, or other unfortunate, and so the victim may be truly said to be eaten up alive. Except for bees that do such immense good in pollinating flowers, there is probably no family of insects that do as much for us as do these little Chalcid flies. It has been said that we should be unable to make any success in agriculture were it not for these little friends.

Two other families, the Ichneumonidae and the Braconidae, are much alike, except in wing venation, which is much more complex than is that of the Chalicids; are also much like wasps, though the bodies are usually not so compact, and these are often large, and possessed of long ovipositors. They insert these in caterpillars and other insects as they lay their eggs and often use them to bore into hardwood trees like the beech and maple, and strangely enough they know that the grub or other borer is there to receive the fatal eggs. Another family, the Proctotrypidae, is even more interesting as these insects are so very minute that they can get enough food from a minute egg, and so they are called egg-parasites. When we remember that the insect egg is very minute, we wonder that a form can be so minute that it can get its life's nourishment from a single egg, and yet this little friend has all the organs that its larger brother possesses. To my thinking God's wisdom is nowhere more exemplified, than in these minute creatures of His handiwork. How so minute a form can be so complex, and yet work with absolute perfection, passes comprehension.

Great Value of Parasites.

As I said above, if we except bees in the great role of pollination, there are no insects that compare with these parasites in the value wrought for man. There are a score and more of scale insects that work on our citrus fruits of California. All of these would be most serious pests, except for these parasites. As it is there are four only that are a menace to our fruit grower's interests. All the others are held in check by parasites, or other insect enemies. When I say that thousands of dollars are expended annually to protect against these four, we can well imagine what would be to pay were it not for these little abettors, that are always working for us without pay.

Importing Other Parasites.

There is another bright picture regarding these little friends. We find that often we can import parasites which infest our insect foes, in their native haunts, and which for some reason were not imported when we brought the pests to our shores. Massachusetts spent well nigh a million dollars trying to exterminate those two alarming pests, the brown tail-moth and the Gipsy moth, and was forced to give it up as one of the impossibilities. She now is importing the parasites from Europe, and bids fair to succeed in staying the evil at small cost. In our own region, we are alarmed by an invasion of some of our orchards by the mealy bug. This is worse than the scale insects, even, as it is almost impossible to kill it by use of our best insecticides. We are finding that by importing a little lady beetle, a predaceous species, we are likely to banish the hateful mealy bug at a very slight expense.

It is surely a great satisfaction to the beekeeper that this good work is going on and that his honey bees are close relatives of these parasitic hosts.

ORANGE GROWING AT COACHELLA.

Heretofore the efforts of the farmers of the Coachella valley have been devoted mainly to the growing of crops that would give quick returns—crops that could be planted, grown and harvested in a season. Near Mecca, however, Peters & Evans of Riverside have planted 70 acres of oranges that are growing vigorously and promise a bearing orchard within

a much shorter time than is required to bring trees to a bearing age and size in the older orange growing districts. The navel orange trees on the Peters & Evans ranch have produced fruit of deep, rich color, smooth, thin skin and of fine texture and flavor. These navels are ripe and sweet the first of November. At Coachella there are a few seedling orange trees that have been growing there for several years, uncultivated and uncared for. The oranges produced on these trees are, however, as well matured and ripened the first of December as seedling oranges are in Redlands and Highland the latter part of March. Neither these trees nor their fruit have ever shown the slightest injury from frost. Orange experts who have closely observed the climate and soil conditions of the Coachella valley during the last five years are fully convinced that all of the good land around Coachella is perfectly adapted to successful orange growing. It is confidently predicted by them that within a very few years there will be a very large acreage of thrifty, profitable orange groves tributary to Coachella. A company of Redlands orange growers are preparing to plant a ten-acre tract adjoining Coachella to orange nursery stock and will soon be prepared to supply trees for planting in orchards.

To those who have noted the high prices realized for the ripe sweet navels shipped to the eastern markets from Arizona early in the season, there can be no doubt as to the great profits to be realized from orange growing at Coachella. There is an unlimited demand for sweet, ripe navels for the early markets and these can be produced in perfection in this valley.—Redlands Review.

A farmer near Stockton has established a record for late sown barley. He has just finished harvesting 21,000 pounds grown on ten acres. The seed was not sown until the 23rd day of June. It was grown on land flooded by storm water and thorough preparation and the rich soil did the rest.

Property owners of Fresno county are contemplating a vast drainage project by which 200,000 acres of Fresno county will be drained and made tillable.

A REAL NOVELTY.

A new roof covering which has recently been patented promises a satisfactory solution to the rather serious question of what to use in place of shingles. Shingles, as all prospective builders have found out, are not only scarce and costly, but seem to grow less satisfactory every year, owing to the tendency to use stumps and waste instead of the prime lumber formerly used.

This new material, which is called ZOLIUM, is composed of long tough fibres, solidly matted together with heavy cohesive gums into long sheets. Both sides are then tempered or hardened into an impenetrable skin which the atmosphere will not injure.

The most interesting feature of ZOLIUM is that it has all the appearance on the roof of individual, diamend shaped tiles, each overlapping the one beneath. This effect is secured by laying one saw tooth edged sheet over another, the points of the upper sheet just touching the upper angles of the lower. The color is a warm Indian red, adjoining tiles varying slightly in tone.

Full information regarding this important invention can be obtained of J. A. & W. Bird & Co., Boston, Mass., who are the patentees and makers.

The Telephones That Work

When a man telephones from New York to Chicago, 900 miles, he pays $5.00 for a three-minute conversation. For that sort of service only the very best apparatus and equipment will do—*telephones that work.* It is, therefore, a pretty strong argument for Western Electric Quality when you learn that every telephone message from New York to Chicago, goes over

Western Electric Apparatus and Equipment

Whether you want to telephone 900 feet or 900 miles, if you have a telephone at all, *you want a telephone that will work.* A reliable telephone is of inestimable value—a poor telephone is worse than none.

We make a specialty of rural telephone equipment, furnishing specially designed apparatus of the same high quality standard as that used by the largest operating companies of the world.

Write To-day for Our Booklet '71 "Rural Telephone Equipments," Sent Free

WESTERN ELECTRIC COMPANY

EASTERN: New York, Philadelphia, Boston, Pittsburg, Atlanta
CENTRAL: Chicago, Indianapolis, Cincinnati, Saint Paul
Manufacturers and Suppliers of all Apparatus and Equipment used in the Construction, Operation and Maintenance of Telephone Plants
WESTERN: Saint Louis, Kansas City, Denver, Dallas, Omaha
PACIFIC: San Francisco, Los Angeles, Seattle, Salt Lake City

Northern Electric and Manufacturing Co., Ltd., Montreal and Winnipeg

Write our nearest house

Do Irrigation Work---Quicker and Easier

For Leveling Fields—For Cutting and Clearing Laterals

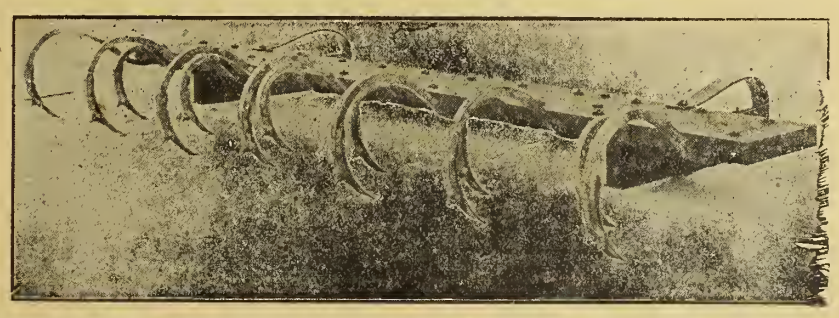
The photo is from an actual field-scene in New Mexico, where a 20th Century Grader is leveling seed-beds on the great truck-farm of Herman Blueher. He says: "Your 20th Century Grader has no equal for land-leveling, seed-bed making, ditching and for all kinds of irrigation work. I have reduced my force one-third since buying this machine." The

20th Century Grader

weighs only 600 lbs—light and handy—and is easily handled by one man and two horses. It is all steel and malleable iron. Price very reasonable. It pays for itself in one season. If your dealer hasn't it ask for name of nearest agent. Write now for new free booklet with large cuts showing every part.

Baker Manufacturing Co.
281 Dearborn St. Chicago, Ill.

WILLIAMS' GOOSE-NECK CULTIVATOR



Especially adapted for citrus orchards. Sizes 8 to 14 feet. Lightest draft. Free trial to responsible parties. No agents. You pay only one profit. Write us.

WILLIAMS & SON, Manufacturers
Orange, California

George B. Warner's Orange County Nurseries

Established 1889

Grower and Dealer in Citrus and Deciduous Trees of all Standard Varieties

Soft Shell Walnut Trees, 1, 2, and 3 years old. Grafted Placentia on Native Black Walnut Root and Soft Shell Root. Street and Ornamental Trees, Palms, Dracænas, Blue, Red and Sugar Gums (large stock.) Write for prices.

Sales Yard—Corner Sixth and Main
Residence—Tenth and Bush Sts
Santa Ana, California
Phone—S. S. Red 92

SECOND HAND PIPE

We will sell you pipe that can be used for any purpose. ***Satisfaction guaranteed*** or money returned. We handle all sizes of standard pipe and casing. Shipments made on same day as order is received. Price of pipe is low now. Write for our prices.

Pacific Pipe Company
S. W. Corner Howard and Main Streets, San Francisco, California

YELLOW MONEY AND YELLOW FRUIT

Are a pair that travel together in good shape in an orange or lemon grove. Especially is this true if you will plant only the robust and true-to-name

Citrus Trees

grown by the San Dimas Citrus Nurseries, the largest growers of choice orange and lemon nursery stock in the world. No branch of horticulture offers better inducements in the way of profits, nor is there one more alluring to the person contemplating commercial fruit culture. For the past twenty years we have supplied the leading growers with their trees, and hope to number many more among our friends and patrons. Orders now being booked, subject to future delivery. Send for book on

"The Citrus Fruits: Historically, Horticulturally, Commercially."

Beautifully illustrated, and some 20,000 words of text. Price 25 cents.

The San Dimas Citrus Nurseries
R. M. Teague, Proprietor
San Dimas, California

Later shipments of Tokays from Lodi are bringing more satisfactory returns.

TREES TRUE TO NAME

AND

Propagated From the Best Specimens of Their Kind

TWO IMPORTANT FACTORS

Placer Nurseries

(Established 1878)

OUR ASSORTMENT

Comprises all the Best Commercial Varieties of

Peaches
Plums
Pears
Apricots
Almonds
Cherries
Apples
Persimmons
Grapes, Etc.

Order Now
Write Us

and our stock is the best that years of experience, care in selection, and care in growing can produce. That is what you want.

Catalogue and Price List Mailed on Application

The Silva-Bergtholdt Co.

Newcastle, California

Agents Wanted

TREE TANGLEFOOT

A Sticky Preparation Applied Directly to the Bark of the Trees

Will not injure trees. A band 5 inches wide and 1-16-inch thick cannot be crossed by any climbing insect pest. Remains sticky five to ten times as long as any other known substance. You can test it at slight expense, as no apparatus is required. Used by the carload in New England against the Gypsy and Brown-Tail Moths. In California it preserves prune orchards from the Canker Worm. Wherever the Gypsy or Brown-tail Moths, Tussock Moths, Fall or Spring Canker Worm or Web Worm appear TREE TANGLEFOOT is of great value, and should be used when the caterpillars begin to crawl while they are very young.

Price 25c per lb. Liberal discount on quantities. The only safe and effective banding preparation. Send for testimonials.

THE O. & W. THUM COMPANY

Manufacturers of Tanglefoot Fly Paper — Grand Rapids, Michigan

Trees Grape Vines

Full Line of Commercial Sorts

Grown on Virgin Soil, True to Name, and Healthy. Nineteen years of fair and square dealing makes us the most popular nursery in the West. ***Wilson's Trees and Grape Vines*** long noted as the very best. Catalog and Price List for the asking. Address

The Fresno Nursery
F. H. Wilson, Proprietor
Box 615a - - Fresno, California

GRAFTED WALNUT TREES

Different varieties on black and soft shell roots, **25c** and up.

Orange and **Lemon Trees, 50c** and up. Special Prices on Large Orders. **Deciduous, Eucalyptus** and **Ornamental, Berry Bushes, Grapes, Roses,** Etc., Etc.

Magnolia Nursery

A. R. Rideout, Proprietor — **Whittier, California**

Deciduous Fruit Culture

By J. W. Mills

PLANTING A VINEYARD.

By Mrs. Minna E. Sherman of Fresno, Before Farmers' Institute at Davis.

When the land is ready the time of planting comes, and the laying off of the rows of the vineyard. Find, first of all, the true north and east lines, measure the length of one planting chain and then measure off another at right angles to the first one. Place the next wire across the end of the first one and stake at the end of each wire; move the first wire to the other one and stake there; keep moving and staking at the end of each planting chain until the entire vineyard is plotted off. Now, sometimes, there are trifling irregularities that take up the length of the chain; by sighting across the rows of stakes these are discovered and corrected.

The best planting chains are made of several strands of wire twisted together; at each end a ring is fastened to slide on the crow-bars to hold it taut. At regular intervals a tin button is soldered at the distances apart the vines are planted. The hardware people make these chains but as they have no way of stretching them, we buy the wire, bring it home and stretch it by horse power. An end of the wire is secured around the snubbing post in the corral and the horse attached at the other end. It is given three steady pulls; this will bring it out to its fullest extension. Then we send it in and have the buttons soldered on.

The large vineyard is planted quicker if five or seven chains are used. The field bosses can move one forward, while the men are planting on the other. By having an extra chain in position one man on a truck can distribute the small stakes at the places where the vines are to stand. These whitewashed stakes are made by sawing the bundles of four foot lathes in three lengths. The young vines are almost impossible to see at any distance, and the stakes keep the teams from running over them. The truck, also, can carry well rotted manure to place under the vines if the soil is very light.

At one time we set the stakes before planting the vines but found it was not the best way. When the stake was already in place the men would slight the planting, so that they did not have to remove the stake. As we are not planting stakes, but vines, the vines should receive the careful handling and not the stakes.

Each man, as he plants the vines, throws the top earth in one spot and the under soil in another. A shovelful of manure goes into the hole, then a few inches of the top soil. The young vine is stood leaning against the button on the wire and the next shovel full of earth is put in and settled with the hands carefully. A little water from the can settles the earth under the roots. Then more top soil, and the man's foot firms it down, then a covering of two or three inches of loose soil on top of it all. All warm top soil is used and the bottom soil is left on the ground. The small whitewashed stake is placed at the right side of the vine and against the wire, so that vines and stakes are both in perfect line.

The proper distance for vines in a vineyard has never been settled. Four by eight, four by ten, four by twelve, are often found in trellised vines. Eight by ten, ten by fourteen and ten by twelve are common in the vineyards around Fresno. The avenues in the vineyards are sometimes every twelveth row, and sometimes as much as sixteen rows are between them.

The importance of having the rows straight cannot be too strongly insisted on. A young vineyard should be as regular as a troop of well drilled soldiers.

No matter how straight the young vineyard is planted, the old vineyard will have received so many bumps from careless plow boys that the vines will be wobbling and far from straight. In looking down the rows of an old vineyard one can imagine them bobbing along, as they sing "We are jolly good fellows." They have a look of enjoyment as they tip out of line in every direction, a rollicking expression that makes them seem very human.

Cuttings or Roots.

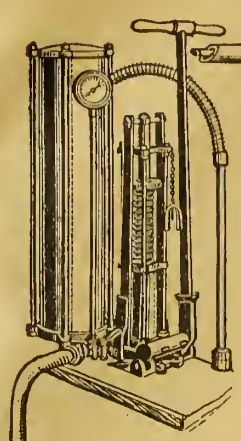
The best vineyards are grown from the cuttings made on the place and rooted in the home nursery. These young vines are taken up from the nursery only a few hours before they are planted. The roots and tops are pruned and they are tied up in bunches of a hundred. Only the best are used for planting. The others are healed in to be sold later in the season. The bunches of young vines are placed in cans of water and are hauled to the vineyard to be planted. As soon as the vines are in the ground a shallow furrow is run along one side and a small stream of irrigation water is turned and let soak down.

The earth is thrown back into the furrow as soon as possible and the entire surface is cultivated to loosen up the tramping of the men in planting.

Twenty-three years ago the first planting of vineyards began. Now, I think though the vineyards were all on two sections of land it may be called the planting of twenty-three vineyards. The twenty-fourth one will be planted next March. Now nineteen of these vineyards have been planted with rootings and four with cuttings. Only twice have we failed to secure a fair stand. Therefore, with proper care a good vineyard may be secured with cuttings. The question always arises, and often discussions follow the advice to plant rootings, rather than cuttings. The first cost of cuttings looks enticingly cheap, but to my mind it is foolish to consider first cost and not last cost.

The cutting vineyard requires to be watered twice as often and cultivated twice as often as the rootings. Should the year be a short one in water the vines suffer, for the last watering must come as late as the last week in August. The work of caring for them is spread over many acres instead of being concentrated into one or two acres at the most.

It seems wicked to waste work, it is taking the margins of time from life that can be used to better advantage. These little margins of time and what we do in them hold our destiny as men and women. If we waste them in foolishness we never accomplish much but the daily routine of work. Eat, sleep and die like the animals around us. The playwork, the hob-



More Money For You

Greater productiveness of trees—larger, cleaner, and finer fruit—more money. Isn't that fruit growers' reasoning? Nothing will contribute to this end more than effective spraying. And **Effective Spraying** can best be attained with

Bean Magic Spray Pumps

Effective spraying means **High Pressure Spraying** and till the advent of the Bean Magics a high pressure could not be maintained with a hand pump for any length of time, on account of the body-racking effort needed to operate it. The Bean patent spring divides the work between the two strokes of the handle and works against only one-half the pressure shown on the gauge and saves exactly one-third the labor.

Our illustrated catalog No. 21 describes ten sizes of hand pumps, and contains much valuable spray information, and formulas. Catalog No. 22 describes Power Sprayers. Both books sent free. Write for our special offer; state number of acres and kind of fruit.

BEAN SPRAY PUMP CO.
212 West Julian Street
San Jose, Cal.

THE "BOSS" Tree Protecter

Made of Yucca Palm

Is cheap, durable and quickly put on the tree. It prevents Rabbits from destroying your trees. A sure protection against frost, sun-burn, grasshoppers or dry winds. Can be easily removed; will last for years.

Send for samples.

Prices

12 inch long,	$ 9.00	per 1000
14 inch long,	10.00	per 1000
16 inch long,	11.50	per 1000
18 inch long,	12.50	per 1000
24 inch long,	15.00	per 1000
30 inch long,	17.50	per 1000

Agents Wanted Everywhere

YUCCA MANUFACTURING COMPANY
1380 Willow Street Los Angeles, Cal.

6% Interest Paid -

ASSETS $2,002,111.
No Admission or Withdrawal Fee, Only 30 Days Withdrawal Notice.
Send For Booklet and Statement

STATE MUTUAL BUILDING & LOAN ASS'N.
223 S. SPRING ST. LOS ANGELES CAL.

Ever Hear of a Billiard Table for $22.50? Here is one, 2½x5 feet, with 16 balls, 4 cues, triangle, pool bottle, ten pins, etc. Simply can not be beat. Smaller and larger tables at corresponding prices. Send for catalog today and see tables down to $7.00.

C. Ridderhof, Laughlin Bldg., Los Angeles

When writing advertisers, mention Cultivator.

bies that we ride in our spare time, make the test of what we are worth. Study yourself by finding out what you do with the time that has no pressing duties.

The rootings for the vineyards have sometimes fallen short and the space prepared has been filled out with cuttings. The cutting portion was a year younger. When the rooted portion gave a crop at four years old the cutting vineyard was three years old and did not have more than a trifling crop. After nineteen years I do not see that the first cutting vineyard has held out any better than the rootings.

The cuttings have the disadvantage of lack of selection when planted directly into vineyard form, while a rooting has two selections. What would a dairyman have if he bought every cow offered to him? Yet the cuttings are commonly made from brush that has laid on the ground for days and is then hauled in to the men that make cuttings. The men making cuttings should stand at the side of the pruners and make the butt cuttings only from vigorous, growing vines; tie the cuttings into bunches of a thousand; and all should be healed at night. Burying them a foot under ground with the butt ends up will help to callous them over healthily.

The piece of ground intended for the nursery has been worked over several times during the winter and is in mellow shape, when, during March the cuttings are placed in nursery rows. The plow runs a deep furrow leaving a straight bank on one side and the cuttings are stood along in the furrow six inches apart with only the top bud above the surface. The earth is thrown back by the plow to cover the cuttings. The man handling the cuttings throws away any that are not well calloused, as the wood of that cutting was probably not well ripened. Now, when these cuttings are rootings, they are again carefully selected and nothing that has failed to make a good growth is put into the vineyards. After the plow has covered the cuttings the earth is settled around them with water, and the cultivator is run over them frequently to hold a good dust mulch. The many acres of ground required to hold the cutting vineyard is raising a crop of winter grain and a summer crop of corn, while in the little nursery the cuttings are receiving the best of care. When the time comes to put them into the vineyard the tree digger is run under them and they are loosened and easily taken out of the ground.

Some people seem to think that in order to spray their orchards they must have a big two-horse outfit and pay out a lot of money to start. Nothing of the kind! An orchard of 100 trees can quickly be sprayed by a barrel sprayer set on a stone sled drawn by a single horse.

One reason why the retail price of fruit is so high is that at least one-third of the entire crop rots either in the hands of the wholesale or retail dealer. And this is due to bad packing or unsuitable conditions in the city storehouses.

The human eye is the great fruit-buyer and we must put our fruit up in neat attractive packages if we obtain the best prices on the markets.

Look in the "classified liners" for a chance to make $7.50.

Special Sale of 1,000 Lbs. of

Australian Brown Onion Seed

Crop 1908. Heavy Seed. The Best Paying Onion on the Coast.

$1.50 per lb.
4 lbs. for $5.00
10 lbs for $10.00

200 lbs. Yellow Danvers

$1.00 per lb.
6 lbs. for $5.00

100,000 Strawberry Plants

200,000 Other Berry Plants and Trees

Send for Catalogue. Free

A. MITTING
17 to 23 Kennan St.
Santa Cruz, Cal.

Seed

75 varieties of ***Sweet Peas*** Separate Colors, 5c per Pkt. 15 Leading Varieties, post paid, 50c. 4 Varieties, that bloom in 45 days, 25c. This is the best time to plant.

Get Seed Where Seeds Grow

We are headquarters for ***Lettuce, Onion, Melon, Radish, Turnips,*** Etc. Make up a list of your wants and submit to us for prices. also ask for catalogue.

Eucalyptus All the Leading Varieties in seed @ 15c per package. (Six of the leading varieties, E. Rostrata, E. Leucoxylon, E. Rudis, E. Globulus, E. Corynocalyx, and E. Tereticornis for 50c, with cultural directions). 500,000 Plants. all varieties. State your wants and get prices.

Send 10c for large packet each of our new ***Cabbage Head Lettuce, King of May*** and ***Brown Dutch***, earliest and finest flavor.

Cannon Ball Cabbage is finest grown, 5c packet, oz. 25c

Morris & Snow Seed Co.
425 So. Main, Los Angeles, Cal.

Notice to Orchardists

Now is the time to plant your cover crops. Plant Vetch, Blue peas and White peas in sandy soils or where there is slight alkali. Plant Burr Clover or Foenugreek on heavy soil. Write us for prices and for any particular information you may wish.

Aggeler & Musser Seed Co.
Successors to Johnson & Musser Seed Co.
113 N. Main St., Los Angeles, Cal.

The McDonald Peach

The entire output for 1908 has been sold. Orders for next year can be addressed to

C. A. McDonald,
Box 662, Colton, Cal.

LAND PLASTER

Gypsum will make available the plant food in your soil and bring good returns through small investment.

Wonderful Moisture Retainer

Write for prices in car lots.

Acme Cement Plaster Co.
750 S. ALAMEDA ST. LOS ANGELES, CAL.

TREES

Season 1908-9

Order Now for Future Delivery

If your trees are purchased from the Fancher Creek Nurseries they will be true to name well developed, with good roots.

FOR 25 YEARS we have been engaged in growing reliable nursery stock. Our thorough knowledge of every branch of the business makes it possible for us to raise and deliver stock that meets the demands of this country, and gives satisfaction to growers.

Last year we did the largest business in our history. This year our stock of

Deciduous, Citrus and Ornamental Trees, Grape Vines and Rose Bushes

is more complete and better than ever.

We are sole propagators and disseminators of

Luther Burbank's New Creations

Valuable Burbank Booklet illustrated in colors mailed for 25c.

SALESMEN WANTED

PAID-UP CAPITAL $ 200,000.00
FANCHER CREEK NURSERIES
INC.
Geo. C. Roeding Pres. & Mgr.
Box 12 Fresno, California, U.S.A.

Six of the Most Valuable New Fruits

Ever Introduced in California

"Improved French" Prune
Originated by Luther Burbank

"Concord" Walnut French Variety
Grafted trees only. Better than Franquette or Mayette

"Paul" Cherry Finest Black Cherry

"Philippi" Grape Handsomer than Tokay; a month earlier. Disinfected cuttings only, to comply with quarantine laws.

All these, like Muir, Lovell, and Phillips Cling Peach, are of California origin.

"Comet" Red Currant Much larger, earlier and sweeter than any other.

"May Duke" Gooseberry
Earliest of all; large; smooth skin.

Write for Further Particulars.

EUCALYPTUS TREES by the 1000 or 100,000. No stronger stock; grown in the open, without lath shade or screen, therefore hardened to all weather.

GENERAL NURSERY STOCK

Leonard Coates Nursery Co., Inc.
EST. 1878. INC. 1905.
Morganhill, Santa Clara County, Cal.

Fruit Growers and Vineyardists

We would advise you to use our P. N. K. This is a Fertilizer well adapted to produce a good, vigorous growth to your trees and vines, and the best quality of fruit in quantities that you desire, consequently paying you large interest on the money expended.

Make a trial of this brand and you will use no other. Write for our pamphlet, ***"The Farmers' Friend,"*** for 1909.

The Pacific Guano and Fertilizer Company
268 S. Market Street - - San Francisco, California

West Coast Seed Co.

115 W. 7th St., Los Angeles

SEEDS THAT GROW JUST SOW

Also the best place to get the best values in

Poultry Supplies

Just try us. Send for Free Catalogue and Price List.

INCUBATOR FACTORY: Cor. Griffith and Alhambra

Plants SEEDS BULBS Trees

We are headquarters for

GARDEN AND FIELD SEEDS

Those who are not yet in receipt of our Fall Catalogue, send for it at once.

Prospective planters of ALFALFA, CLOVER and GRASSES are requested to write us before planting.

Remember, our handsome new 1909 General Catalogue, ready for mailing in December, will also be sent to those who write us now.

C. C. Morse & Co. 41 Jackson St., also Market St. San Francisco

Crimson Winter Rhubarb

$1.50 a Dozen $6.00 per 100 $40.00 per 1000

Now is a good time to plant. Pedigreed Stock.

Fruit Trees and Berry Plants of All Kinds

J. B. Wagner, Pasadena, Cal.

The Rhubarb and Berry Specialist

Dept. F

SEEDS

TREES PLANTS BULBS

If you are interested in the Best Seeds, Etc., write for our 1909 Seed and Plant Annual, which we will mail to you free. Please mention this paper.

Trumbull Seed Company

Successors to Trumbull & Beebe

61 California St., San Francisco

Germain Seed and Plant Co.

Seeds Bulbs Plants

and Poultry Supplies

Write for Catalogue.

326-330 So. Main St., Los Angeles, Cal.

9 CORDS IN 10 HOURS

BY ONE MAN, with the FOLDING SAWING MACHINE. It saws down trees. Folds like a pocket knife. Saws any kind of timber on any kind of ground. One man can saw more timber with it than 2 men in any other way, and do it easier. Send for FREE illustrated catalog, showing latest IMPROVEMENTS and testimonials from thousands. First order secures agency. Address FOLDING SAWING MACHINE CO., 188-184 E. Harrison Street, Chicago, Illinois.

When writing advertisers, mention Cultivator.

Improved Berry Plants

Bred for Big Berries

We are NOT in the berry business but make a speciality of propagating strong healthy plants for the home garden or commercial plantation. We help our customers to succeed. EVERY order receives our special attention. Our catalog tells the rest.

G. H. HOPKINS & SON

Burbank, Cal.

When writing advertisers, mention Cultivator.

The Vegetable Garden

FUTURE OF CELERY INDUSTRY.

From the address on the Future of the Celery Industry of Mr. H. S. Hazeltine before Winterburg Institute.

But some of you may be asking yourselves. "How can I grow a first class product which will meet the requirements of the trade?" If you will permit me the time I will take up a few of the most important subjects which interest the farmers of today. It will not be necessary to go into details relative to growing and packing celery, as I believe we are pretty well versed and united on the matter. I think more attention should be given to preparing the soil for a crop, and to irrigating. Black Heart is also an interesting subject to talk about; crop rotation should be studied more closely than it is; and in order to start a discussion I will give my views on the four subjects:

Properly Preparing Soil for Celery.

Beginning in the winter as soon as the land is available, level it to a grade, as it is necessary to irrigate frequently and this cannot be done successfully without an absolutely perfect grade, so that the water will run from one end of the field to the other without pooling up. This done, plow the soil shallow if it be of a clay nature, or a deep discing will do if the soil is peat or of a sandy sediment nature; then seed to some leguminous plant, the California burr clover preferred, owing to the enormous amount of humus it furnishes in addition to the nitrogen. It is a natural crop for our soil and climate, starts quickly and makes a vigorous growth during the cold weather. If the soil is of a clay nature and insufficiently drained, I would recommend sowing rape, as it sends out a tremendous mass of roots, penetrating the hardest clods, thereby rendering the soil mellow, porous and sun fertilized, ready to produce a crop. The crop thus grown should be turned under about thirty days prior to transplanting the celery, plowing the soil at least ten inches deep. Follow this with a light irrigation to settle the soil, and hasten the decay in the clover. A much better stand is secured by two irrigations, and by so doing the soil is thoroughly settled, clover is decayed and the soil will hold the moisture much longer, giving young plants a good start before the moisture goes down.

Irrigation.

Celery should be irrigated with great care, as I believe more celery is ruined each year by careless irrigating, or for lack of same, than by any other one cause. Taking the crop from the time it is transplanted, an even moist soil should be maintained, allowing the water level to lower as the celery advances; in other words, keep the roots of the celery going downward seeking the moisture. This will have a tendency to make a strong, healthy root that will support the plant a great length of time without irrigation, and this is what we want, as too frequent watering causes the roots to spread out on the surface to be torn up by the cultivator, and dry out if neglected a few days, when in need of water. Under these conditions the main root is very small and nourishment is furnished almost entirely by surface roots. This might be all right if a quick growth was desired; but in California the prime object is to grow a plant that will hold a reasonable length of time after maturity, as market conditions are not always favorable and many other difficulties arise in which it is necessary to hold the crop in a semi-dormant state, so to speak. The tile system of irrigating and drainage has proved to be the best, as absolute control of the moisture is possible under adverse conditions. A main line should be laid around the field with laterals every sixty or seventy feet and connected at each end. Gates should be installed at frequent intervals in the main, so that the water can be held at any depth desired in the summer. Artesian wells should be connected with the main lines at the highest points in the field, and when necessary to raise the moisture it is a matter of only a few minutes time to turn on the wells and close the gates, as desired, and wait for results. By this system any portion of the field can be irrigated independent of the other. This system is, of course, used for drainage during the wet season.

Black Heart.

Black heart in celery is caused either by extremely wet or extremely dry alkali soil. Alkali in the soil is the primary cause and when the soil is allowed to become extremely dry the alkali works upon the roots of the celery to such an extent that the head or heart of the plant becomes diseased and rot follows. The extremely wet condition acts in the same manner, as when the soil has become filled with water the alkali is forced to the surface, and when allowed to stand a few days the roots are naturally killed and black heart takes place. You may enter into any field of celery you like, and if black heart is found at all it will be in the extreme low or the extreme high places. Notwithstanding the condition of the celery in these places, you will find healthy celery in places where the soil has been kept in an even moist condition. This alone is sufficient to prove my assertion.

Relief.

Level the land to a grade, as mentioned in the beginning, so that there will be no high places to dry or low ones to flood. Water will seek its level and you must grade your land to conform with the water level. Then keep the soil medium moist through the growing season and drained as well as possible during the rainy season.

Of course the only perfect and permanent remedy lies in eradicating the alkali, and the only known method of doing this is by tile drainage.

Rotation of Crop.

Now that beets and beans have proven to be good paying crops, the farmers have a rare opportunity to improve soil conditions here, and one dovetails into the other with perfect accord.

Beets cannot be grown successfully after celery for the reason that a celery crop comes off too late. Beets should be planted in January or February and the soil plowed in the early winter, while the usual crop of celery is not harvested until the first of March. However, beans seem to be just the crop we have been looking for; planted at the time they are, during May, gives the farmer ample time to prepare the ground in A 1 condition, and it has been demonstrated that beans yield

Continued on Page 472.

Live Stock and Dairy

By Mrs. Minna E. Sherman

THIS TIME OF THE YEAR.

THE importance of a little shelter for cows during the rain storms is often overlooked. Shelter saves feed. A livery stable man pleaded with me to give him room in the pasture for one or two of his tired horses. I said to him the only pasture available was that of the yearlings; it was bermuda grass and they received a little cheap hay with it. He replied, "The shelter from the high winds and rain storms is more than feed." He had learned by experience the value of a few trees and a shed in the field. The cows do well if they have a covered place to go into, rather than being tied up in the barn. A wide shed closed on the higher side, with closed ends but open in the front; ground covered with clean sand and then the straw bedding, makes a comfortable shelter for them. If this is too expensive, at least build a shed with a brush roof or one covered with leaves. The palm leaves can usually be secured merely by hauling them home.

Colds.

Cows giving milk are more tender than beef animals. If they stand in the wind while wet they are apt to chill. Frequent letters are received about garget, as well as cows off their feed, which are usually caused by allowing them to take cold.

There is a cow on the other ranch that has a caked udder from neglect; she came in fresh and will have to be hauled home today or tomorrow. Alex can hardly wait; he is anxious to have her where he can care for her properly. This cow is one of those blue cows that come from a cross between the short horn and Holstein. They are good cows and could be raised into a strain as they breed nearly true to color, even now. Nearly every breed comes from some one's preferences in breeding at first.

Sorghum.

The prejudice against sorghum continues, yet our horses and cows, pigs and fowls are eating the second growth so fast that they are fairly chewing it out of the ground. We save our own seed and are getting it cleaner each year from mixtures. The heads are cut from a half acre and cured on the large fruit trays. The men cutting the heads take them clean from the piece and the stuff is assorted at threshing time. We have a little seed of brown Dhoura, Broom corn, white and red Egyptian corn and considerable kaffir. These are non-saccharine varieties and have hard woody stalks that are little value as fodders. The grains of dhoura are valuable for the chickens, but not liked by them as well as the Egyptian corn. The Egyptian corn crop seems to be an utter failure in nearby places this year; the chicken men are having to substitute all sorts of things in its place.

Beauty.

The ranch is full of pictures this time of year, the yellow pumpkins with the brown stacks of corn, while the vines and peach trees are brilliantly red. The golden leaves of the poplars and cottonwoods are slowly falling, but only to brighten the ground. The sun seems to gild everything as it touches out the yellow tones. Under the trees and in the shade everywhere the deep blue haze hangs. Nature seems to pause to count up the richness of the harvest. Everything should be golden, for the work has been earnest and truly done. The quail start out of the vines with a whirr as they fly further on from the intruder. They too are in earnest in flying to escape the gunners.

In Fresno county the farmers have much to be thankful for in the long continued warmness of the season. The raisins are still stacked in the vineyards waiting for the election to decide the prices and wake up the market. With raisins unsold and other grapes hardly worth picking, the Thanksgiving day finds us at least thankful that one more installment of the taxes has been paid.

Young Stock.

The young stock on the ranch must be looked after during the next three months or until grass comes again. A little extra feed if they are losing condition will make a great difference in their growth. It should be an axiom to keep everything growing that will grow. It is as bad to stop an animal's growth as it is to stop the growth of a vineyard or orchard. We have brought up heifers that were springing and put them in with the cows. They grow gentle from the association with the older cows. They also learn to be driven in and out twice a day. The friendships that exist between animals are nearly as strong as those formed by people. They will not grow panicky if they know the rest of the herd well.

Feed.

The young heifers should be fed well and come in to the milk string in good condition. They will give back the feed in the increased milk. One reason that people have to count the heifers as giving only half the milk of a cow, is that they have merely given them a maintenance ration. The last months of a heifer's life she should be fed all she will eat of succulent feed. Push them with feed and secure the extra profits that will come from the first year's milking. More than that, however, is the securing of the habit of milk making. The udder is undeveloped and it is really enlarged if the blood supply is sufficient to do it.

Milk Fever.

While this is no longer a fatal disease owing to the discovery of distending the udder with air, it should be prevented rather than cured. The trouble is caused by collapse and chill. These can be prevented by not drawing off all the milk in a cow's udder for twenty-four hours or more after calving. Milk enough to keep down distention. Then after the second day she may be milked out clean. Never let any inflammation arise from too much distention and when the shock of the calving has passed she will be past all danger of milk fever.—M. E. S.

One miners' inch equals nine gallons per minute, or practically 13,000 gallons each 24 hours.

A miners' inch is equal to one-fiftieth part of one cubic foot per second constant flow.

Wood Soled Boots and Shoes. Boots, $3.25; Shoes, $2.00. O. J. Weber Co., 555 South Los Angeles St., Los Angeles, Cal.

Cream Separators, all sizes, all prices. O. J. Weber Co., 555-557 S. Los Angeles street, Los Angeles.

Owners of Live Stock in California Should Insure in Their Own Association,

THE CALIFORNIA MUTUAL LIVE STOCK INSURANCE ASSOCIATION

BECAUSE . . .

It is the only institution of the kind organized under the laws of California with the home office in this State.

We insure live stock against death from disease, fire, lightning, tornado, cyclones and every casualty; also through accident which may necessitate the death of any animal.

Losses are paid promptly without discount and without unnecessary delay.

We have a guaranty deposit under the control of the State Treasurer for the protection of our members and policy holders.

There is $100 of values lost to farmers by death of stock, by disease and accident, where $1 is lost by fire.

We have no dividends or profits paid to idle office holders.

The business of the Association is conducted as economically as is consistent with good management, and the earnings are divided among the policy holders.

This is an age of Mutual Insurance, and it is true the cheapest and strongest companies in the United States to-day are composed of and managed by the policy holders, who are farmers and stockmen, as has been demonstrated in the East.

The directors and officers are elected annually by the policy holders.

WHY PAY LARGE PREMIUMS FOR PROFIT TO EASTERN COMPANIES WHEN YOU CAN CO-OPERATE WITH YOUR FELLOW FARMER AND STOCKMAN AND SECURE YOUR INSURANCE AT COST?

A Few of Our Many Losses Paid Recently:

Great Eastern Tran. Co.	Los Angeles, Cal.	$110.00
E. R. Kellam	Los Angeles, Cal.	85.00
Diamond Coal Co.	Los Angeles, Cal.	70.00
J. N. Osterhoff	Los Angeles, Cal.	200.00
Pioneer Truck Co.	Los Angeles, Cal.	300.00
The Connell Co.	Los Angeles, Cal.	187.50
J. D. Smith	Los Angeles, Cal.	85.00
Chas. W. Herder	Redlands, Cal.	50.00
Garden City Transfer Co.	Los Angeles, Cal.	100.00
Long Beach Milling Co.	Long Beach.	130.00
Chas. H. Eager	Los Angeles, Cal.	135.00
Belle Vernon Farms Co.	Los Angeles, Cal.	270.00
Alpine Dairy Co.	Los Angeles, Cal.	220.00
H. A. Bingham Cre'ry Co.	Los Angeles, Cal.	40.00
Glen Holly Dairy Co.	Los Angeles, Cal.	60.00
J. A. Tisdale	Mentone, Cal.	150.00
S. M. Hill	Santa Ana, Cal.	100.00
Chas. E. Dryden	Los Angeles, Cal.	125.00
Wm. Wilson	San Diego, Cal.	200.00
Fred Larder	Los Gatos, Cal.	350.00
Llewellyn Iron Works	Los Angeles, Cal.	200.00
Eagle Liv. & Car. Co.	Los Angeles, Cal.	100.00
Mrs. Helene Hazell	Arlington, Cal.	100.00
Dolph Barnicott	Newcastle, Cal.	150.00
E. D. Morrison	Modesta, Cal.	100.00
Frank S. Herr	Pasadena, Cal.	300.00
John Compasso	Napa, Cal.	100.00
J. A. Glenn	Mojave, Cal.	71.40
Jesus Saenz	Palms, Cal.	30.00
A. W. Bannister	Bakersfield, Cal.	50.00
P. W. Brooks	Holtville, Cal.	30.00
Frank S. Seiler	Chico, Cal.	37.50
Johnson & Greening	Fresno, Cal.	150.00
J. M. Ahrendes	Stockton, Cal.	30.00
M. T. Machado	Duttons Land'g, Cal.	75.00
H. E. Kinkade	Newman, Cal.	30.00
E. Pendleton	Los Angeles, Cal.	100.00
Carl Nielsen	Salinas, Cal.	150.00
Joe R. Fernandez	Turlock, Cal.	30.00
Peter Mathlesen	Los Banos, Cal.	37.50
Azvedo Bros.	Duttons Land'g, Cal.	50.00
Baciarini & Yolo	Duttons Land'g, Cal.	75.00
M. T. Machado	Duttons Land'g, Cal.	250.00

A Few of the Many Testimonials We Are Receiving Daily:

Fresno, Calif., August, 29, 1908.

California Mutual Live Stock Ins. Ass'n.,
Los Angeles, California.

Gentlemen:—

We are in receipt of your check for $150, indemnity for the loss of one horse.

We had upon investigation found that your application and by-laws were not complicated, were easy to understand and did not contain so many technicalities as some companies we had investigated that are doing business from foreign states. We also found that this was the only company organized under the State laws of California that was writing live stock insurance in this State. We therefore insured our stock and would not under any consideration do without insurance in your company.

We are more than pleased with the promptness with which payment was made for this loss.

Yours respectfully,
JOHNSON & GREENING.

Los Gatos, August 6th, 1908.

To Whom It May Concern:

This is to certify that I sustained a loss in the California Mutual Live Stock Insurance Association, of which I am a member, to the amount of $350, by the death of two horses. Thanks to the promptness of the Association I have this day received payment in full, through their State agent, Mr. F. H. Hilliker, and cheerfully recommend the Association to all.

I consider it safe, prompt and reliable and an association that all farmers and stock men should go into, as it furnishes absolute protection at cost.

Very respectfully,
FRED LARDER.

Cal. Mutual Live Stock Ins. Ass'n., Newcastle, August 20th. 1908.
Los Angeles, Cal.

Gentlemen:—

Your General Agents, Messrs. Allen & Hunter called on me to-day and handed me your check for $150.00, payment in full for the loss of one of my horses. I certainly appreciate the promptness with which you have met this claim, and I consider it a very good plan to insure our stock against loss by death the same as other property.

I will recommend your Company to my friends.

Wishing you success, Yours resp'y,
RALPH BARNICOTT.

REFERENCES

National Bank of California, Los Angeles, Calif.
Security Savings Bank, Los Angeles, California.
Bank of Germany. Oakland, California.
Or any reliable bank in the State.

M. L. Wright, Pres. **J. A. Wright, Secy.**

Home Office: Delta Building, Los Angeles, California
Branch Office: 307 Oakland Bank of Savings Building, Oakland, California. Telephone Oakland 3990.

Creamery Supplies

Cream Separators — Milk Cans
Combined Churns — Milk Bottles
Babcock Testers — Brushes
Butter Moulds — Wrappers
Engines and Boilers — Milk Coolers
PASTEURIZERS
MILKING MACHINES
Creamery and Dairy Supplies and Machinery of all Styles and Sizes

Send List of Goods Wanted and we will Quote Prices

O. J. WEBER CO.
555-57 S. Los Angeles St.
LOS ANGELES, . . CALIFORNIA

The Right Kind

CANTON Scotch Clipper Plows

CAN ALWAYS BE FOUND IN THE CELEBRATED

Canton Clipper Line

Wood and Steel Beam Walking Plows
Sulky and Gang Plows
Subsoil and Road and Grading Plows
Orchard and Vineyard Plows

ALL SIZES AND PATTERNS FOR ALL KINDS OF WORK

Send for Catalogue

Pacific Implement Co.
133-153 Kansas St. San Francisco, Cal.
General Agents
B. HAYMAN, Agent, Los Angeles, Cal.

CUTTER'S
Anthrax and Blackleg
VACCINES

Are given the preference by 80% of California stockmen because they give better results than others do.

Write for prices, testimonials and our NEW booklet on Anthrax and Blackleg

The Cutter Laboratory
Berkeley, California

SECOND HAND PIPE AND CASING

All our pipe and casing has newly cut threads with new couplings attached and dipped in asphaltum. Guaranteed good as new. Prompt delivery on carloads or less. Small orders receive same attention as large ones. All sizes of pipe, also fittings and valves.

WEISSBAUM PIPE WORKS
133 Eleventh St., San Francisco

PASPALUM DILATATUM

King of dairying and fattening grasses. The great Australian drouth resister. Primest heavy seed direct from the grower, 4 lbs. (ample for trial) post free, $2.00. Full information.

C. F. JULIUS
Central Bucca, Coffs Harbor, New South Wales

HOLSTEINS

We Have For Sale a Number of Registered Young Bulls and Heifers **$100**

All our stock comes from the celebrated herd formerly owned by the Pierce Land and Stock Co., the premium herd of Holstein Friesians in California. **Oakwoods Stock Farm Co., Lathrop, Cal**

John Lynch Breeder of Registered **Shorthorns**
MILK STRAIN
Box 321 Petaluma, Cal.

DEHORNING.

Every little while there appears in the Cultivator a paragraph of advice about dehorning, but they hardly seem to be written by those who do it. Permit a few remarks, because "I want to know, you know."

One says you must do it before the calf is three days old; another says "two weeks" is the proper time; another says "three weeks."

These writers recommend caustic potash. Only one of them says "lunar caustic, sometimes called caustic potash." And away flies our budding confidence, for are not these two totally different things?

A fourth doctor tells us to use a sharp knife as well and repeat the operation every second day. He does not say for how long. We had begun to hope that if you only "press the button" with the caustic the job is done.

I have been trying it on a kid three days old. Did it every second day for twelve days. It seemed to bother him more or less, but the sturdy hornlets kept a-coming. The drug store man, when cornered, blushingly owned that his caustic was probably N. G.

The writer in Home and Farm quoted Sept. 17, opines that the sawing off of horns is painless, because the horn "was made to fight with and not at all sensitive." Similarly teeth are made to bite with, and that is why we are "not at all sensitive" about going to the dentist to have one sawed off. I do not know, but I let a man who had dehorned whole bunches of cattle saw the horns off a three months' kid, (they were three inches long,) and besides the terrible outcry she made at the time, her beautiful eyes were dim with pain for ten days after, and she would crawl into dark places and hide all day long. It was a weary while before she was herself again. This man told me if you dehorn an animal very young you make a "bunter" of him. If you do it after the horns are grown you tame him, because he feels he has lost something. If sawed off close to the head they bleed very little; if taken higher up may bleed very badly.

One of my earliest impressions is that of hearing how a muley bull—a "polly bull" they called him in Norfolk, England—had killed his keeper.

Recently a friend had a fine mare gored nearly to death in his own yard by a neighbor's mean bull. The boys ran that bull into the cow barn and made a "polly" of him before they sent him home. Good enough for him. I would certainly prefer the dehorning done as young as possible, and though it probably hurts, old or young, it can't hurt as much as the way they use them when at mischief. May we not have a good working recipe from some one who does things? And tell us how to know when we have done enough.—B. A. R. S.

Of course lunar caustic and caustic potash are two entirely different substances and should not have been given in that way. However, here is a method of procedure given in a former Cultivator and taken from the government report on the Diseases of Cattle:

"The operation is performed as follows, and is uniformly successful, if performed before the calf is three days old: The little animal is caught and gently laid over on its side, in which position it is easily held by one assistant while the operator clips the hair off the trifling prominence on the frontal bone which marks the spot on the uppermost side of the head where the horn would be developed if not interfered with. He then takes his stick of potash, dips it in cold water, and carefully rubs it over the part just clipped for the space of, say, ten seconds. The calf is now turned over, the corresponding portion of the frontal bone on the other side clipped and thoroughly rubbed with the moistened potash the same way as the first. By this time the side first treated is dry and ready for a second application of the caustic, which should conform exactly to the first. Follow the same procedure on the remaining side, where the matrix of the embryo horn has been located, and if the caustic has been properly applied no horns will ever make their appearance."

As to dehorning a kid, that is a new one and we question as to whether it has been practiced.

For Mehring Foot-Power Milking Machines see O. J. Weber Co., 555-557 S. Los Angeles St., Los Angeles, Cal.

INTERNATIONAL LIVE STOCK EXPOSITION.

The organization of the International Live Stock Exposition at Chicago was one of the most important events in the history of the development of the live stock industry.

In December, 1907, there were on exhibition at this great show 7523 of the finest meat and draft animals in the world, contributed by twenty-two states, one territory and four foreign countries.

These animals were entered in competition for more than 2400 premiums, aggregating over $75,000.00, offered in upward of 600 classes of cattle, horses, sheep and swine, besides packing house and other interesting exhibits, all of which were viewed by fully 400,000 visitors from nearly every state in the Union and foreign countries.

No such object lesson in everything which pertains to excellence in the breeding, feeding, marketing, manufacturing and distributing of animals and animal products was ever previously placed before the producers and consumers in this or any other country.

The object of this movement is to secure better animals for breeding, marketing and exporting, thus encouraging greater consumption of American animals and meats at home and abroad.

The next annual exhibition will be held November 28 to December 10, 1908, in the International Amphitheatre and about twenty adjoining buildings at the Union Stock Yards, Chicago.

MILK AND CREAM CONTEST.

The Dairy Division of the United States Department of Agriculture will conduct a Milk and Cream Contest which will be open to all dairymen in the United States. Space has been alloted for the use of the Dairy Division in making the exhibit. The first contest of this kind was held in connection with the National Dairy Show, Chicago, February 15-24, 1906, under the direction of the Dairy Division. Milk and cream was sent from 13 different states and much interest was shown by the dairymen and it proved to be a valuable educational feature. Results were published as Bulletin 87, B. A. I., U. S. Department of Agriculture.

Since the first National contest several states have had similar exhibits, including New Hampshire,

Anthrax Cure, Milk Fever Outfits. See O. J. Weber Co., 555-557 S. Los Angeles street, Los Angeles.

Isn't It More Sensible

to examine an article before buying, than to take for granted the merits claimed for it?

Of course it is.

That's the way we sell the

Tubular Separator

Furthermore, we assist you in the examination by explaining the mechanism thoroughly.

The simplicity of the Tubular is exemplified in its entire construction, its durability is guaranteed by us and vouched for by satisfied every day users; and its efficiency proves itself, immediately, upon using.

To prove these merits try a Tubular and be convinced.

Catalog 260, explaining fully the entire mechanism, sent free for the asking.

THE SHARPLES SEPARATOR COMPANY,
West Chester, Penna.
Toronto, Can. San Francisco, Calif. Chicago, Ill.

Pioneer Rubber Sanded ROOFING

The Roof that "proves," sun-proof and rain-proof; needs no paint or repairs. Following are a few "Wont's" about Rubber Sanded Roofing:

Won't chip. Won't warp.
Won't tear. Won't crack.
Won't rust. Won't decay.
Won't shrink.
Won't crumble.
Won't need repairing.
Won't absorb moisture.
Won't attract electricity.
Won't need any paint to preserve it.
Won't be affected by any climatic changes or conditions.
Won't cost as much, in the long run, as other roofing.

What Rubber Sanded WILL do is told of in our booklet "ROOF TALK," which will be sent free upon request, together with samples of the Roofing itself.

Pioneer Roll Paper Co
Makers of Rubber Sanded Roofing and Refiners of Asphaltum
Department 11, Los Angeles, Cal.

CEMENT PIPE

Irrigation lines installed anywhere
Skilled mechanics, work guaranteed.
Estimates furnished. Main lines for Irrigation Companies a specialty.
Information cheerfully furnished.

Ben. F. Thorpe
Covina, Cal.

Hay For Sale. Buy your hay in car lots. Special attention given to supplying alfalfa to dairies.
E. R. LONG
Bakersfield, California

Geo. C. Roeding, Fresno, Cal., breeder of
Thoroughbred Holstein Bulls and Heifers
Thoroughbred Berkshire Boars and Sows

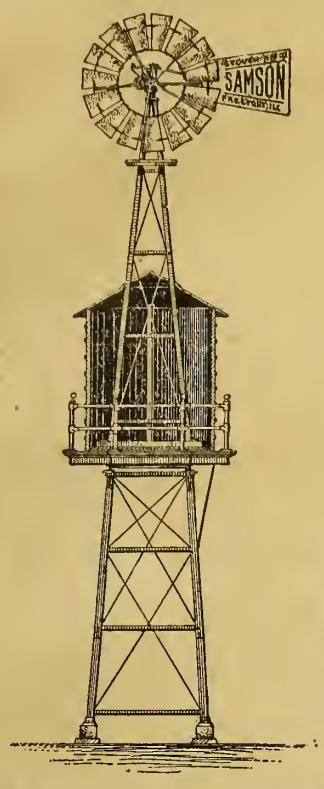
Thoroughbred Poland China Swine
Black Minorca and Barred Rock Poultry
High Grade Stock of Best Strains.
Young Stock For Sale
W. Bassett Hanford, Cal

PURE BRED BERKSHIRES
Young Stock For Sale
Wm. H. Bird Box 6, Compton Cal.

The Whiting Jersey Stock Farm Company
Is making the very best strains of blood from the island of Jersey a specialty.
Whiting Jersey Stock Farm Co. Heber, Imperial Co., Ca

SAMSON WIND MILLS

Have double gears, removable bearings and center lift, which double the life of the mill. They will last longer, pump more water and give better satisfaction than any other WIND MILL.



This is an up-to-date Sub-structure, Tank and Wind Mill outfit complete; substantial, economical and attractive. We build all kinds. Write us or our general agents for full information and prices, description &c., before purchasing.

The STOVER MFG. CO.
FREEPORT - ILLINOIS
California Avenue
CRANE CO., LOS ANGELES and SAN FRANCISCO
General Agents for California

Aermotor Gasoline Engine

Complete with Gearing ready to Attach to Your Pump

$45.00

Will pump all the time, wind or no wind, and deliver as much water as an 8 ft. Aermotor in a good wind.

From 225 to 1600 gallons per hour, depending on height water is to be raised.

Air cooled, uses Gasoline or Distillate.

A reliable, durable engine at a very low price. **Can You Afford** to be without one.

Send for Special Circular.

Tanks Towers Pumps Distillate Engines

Smith-Booth-Usher Co
Machinery and Supplies
Successors to
S. J. Smith Machinery Co. and L. Booth & Sons
212-214 S. Los Angeles St., Los Angeles
Home, Ex. 1090—Sunset, Main 1090

Berkshires--Shorthorns
My Berkshires took 9 First, 6 Second and 4 Third Prizes and both Gold Medals. 50 Head For Sale.
G. A. MURPHY, PERKINS, CAL.

THIRTY THOROUGHBRED
Poland China Hogs and Pigs
FOR SALE
W. R. McCaslin, R.F.D. No. 1, Rosevelt Ave, Sacramento

JAMES R. TOWNSEND
Solicitor of American and Foreign **Patents** Copyrights, Trademarks and Labels Registered. Rooms 428-433 Bradbury Blk. Los Angeles, Cal. Phones: Home, A4619; Sunset, Main 347

Antelope Valley farmers are working for an institute to be held as soon as arrangements can be made.

Ohio, Connecticut, Illinois, Missouri, Massachusetts, Pennsylvania and Michigan. The city of Cleveland, Ohio, has also held two such contests. The object of this contest is educational and entirely for the benefit of the dairymen. The milk and cream will be carefully analyzed and scored by experts from the Department of Agriculture. Forty points will be allowed for flavor, 20 for composition, 20 for bacteria, 5 for acidity, and 10 for appearance of package and cleanliness of milk. Any defects will be pointed out in the score and dairymen will have opportunity to learn whether by the methods they are using they can produce a standard product.

There will be four classes in this contest, as follows:

Class I. Market milk (raw) two prizes (gold and silver medals.)

Class II. Market cream (raw) two prizes (gold and silver medals.)

Class III. Certified Milk (raw) two prizes (gold and silver medals.)

Class IV. Certified Cream (raw) two prizes (gold and silver medals.)

Milk and cream receiving a score of 90 or above will be classed as excellent. After being scored, the product will be placed on exhibition accompanied by the score.

For further particulars relating to the contest, address the Dairy Division, U. S. Department of Agriculture. Washington, D. C.

STOPPAGE OF THE BOWELS IN CATTLE.

This is one of the most common ailments that cattle are subject to; at the same time more cattle die from this cause than any other, for the simple reason that stoppage is due to paralysis of the bowels.

Stoppage of the bowels is to be regarded as a sign of another disease rather than a disease of itself. It occurs in almost all fevers, indigestion and over eating.

In order to overcome stoppage of the bowels a treatment must be applied to overcome the ailment which causes it, such as paralysis of the bowels. Seventy-five per cent of the cases of stoppage of the bowels are due to partial paralysis of the bowels. In this case the bowels require a laxative and tonic and not a physic, for if the bowels are paralyzed a physic will have a tendency to cause irritation, indigestion, inflammation, and death follows. For this reason it is dangerous to give a cow salts or oil.

A cow thus afflicted should be given a laxative and tonic, plenty of drinking water, with the chill taken from it, bran mashes made of flaxseed tea, also inject several quarts of warm water once or twice daily through the rectum by the use of the hose funnel, and give the animal a reasonable amount of exercise.—Dr David Roberts, Wisconsin State Veterinarian.

OF VALUE TO HORSEMEN.

Do you turn your horses out for the winter? If so, we want to call your attention to a very important matter. Horses which have been used steadily at work, either on the farm or road, have quite likely had some strains whereby lameness or enlargements have been caused. Or perhaps new life is needed to be infused into their legs. Gombault's Caustic Balsam applied as per directions, just as you are turning the horse out, will be of great benefit; and this is the time when it can be used very successfully. One great advantage in using this remedy is that after it is applied it needs no care or attention, but does its work well and at a time when the horse is having a rest. Of course it can be used with equal success while horses are in the stable, but many people in turning their horses out would use Caustic Balsam if they were reminded of it, and this article is given as a reminder.

MAKING AND SELLING
A MILLION

CREAM SEPARATORS
AND THE KNOWLEDGE GAINED

Thirty years ago Dr. De Laval invented the first practical centrifugal cream separator. Since that time the De Laval Separator Company has manufactured and sold one million DE LAVAL machines. These separators are today in use in every civilized country in the world. They have been operated and criticized everywhere. Through all these years suggestions for their improvement have come by the thousands from every quarter of the globe. These have been investigated and tried out from time to time. The best have been adopted. The 1908 improved DE LAVAL cream separators represent the thirty years accumulation of such ideas and experiences. They represent the knowledge and experience gained through the manufacture and sale of one million machines. If in your lifetime you had milked one million cows, wouldn't you feel that you knew how to milk a cow just a little bit better than someone who had milked but one thousand? That's the way we feel about the cream separator. Our knowledge of its manufacture and practical use is many times greater than anyone else's. If you are thinking of buying a separator can you afford to ignore the knowledge gained by making and selling a million separators? We don't believe you can. We offer you the 1908 DE LAVAL for your most critical examination. An illustrated catalogue will be mailed for the asking. Write for it today.

DE LAVAL DAIRY SUPPLY CO.

108 So. Los Angeles St. LOS ANGELES
42 E. Madison Street CHICAGO
74 Cortlandt Street NEW YORK

General Offices:
101 DRUMM STREET, SAN FRANCISCO.

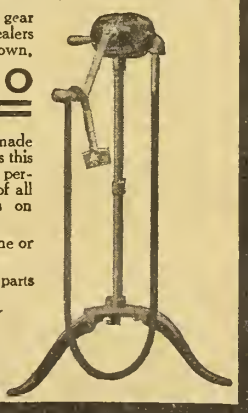
107 First Street PORTLAND, OREG.
1016 Western Ave. SEATTLE
Box 1052 VANCOUVER, B. C.

Clip Your Horses

with this superb **Stewart No. 1 Ball Bearing Clipping Machine**

The great enclosed gear machine at your dealers all complete, as shown,

only **$8.50**



No machine ever made at any price equals this one. It is the most perfect in every way of all clipping machines on the market.

It turns easier, clips faster and lasts longer. If you have but one or two horses it will pay you to have this splendid machine.

The gears are all cut right out of the solid bar, and all wearing parts are file-hard. It will last a lifetime.

If your dealer hasn't it, write us direct. GET ONE NOW

Chicago Flexible Shaft Co. Dept. H, **Chicago**

Red Cross Wind Mill
Is built right, Works right. Runs in light wind. Has ball bearing turntable and outer thrust. Easy mill to set up and take care of. Built upon honor.

Woodin & Little Pump House

33-41 Fremont Street, San Francisco

PUMPS FOR EVERY SERVICE AND USE

Pumps for Irrigation, Road Sprinkling, Electric Motors, Gasoline Engines, Spraying, Whitewashing, Wine Pumping, Wind Mills, Hand and Power Use, Steam, etc.

Gasoline Engines Wind Mills
Tanks Pipe Pipe Fittings

SEND FOR CATALOGUE

When writing advertisers, mention Cultivator.

Live Oaks Farm

Frank A. Meacham, Proprietor.
Importer and breeder of RED POLLED CATTLE, SHROPSHIRE SHEEP, RAMBOUILLET SHEEP, HORNLESS AMERICAN MERINO SHEEP. Both sexes for sale. Take electric car at Petaluma or Santa Rosa for LIVE OAKS STATION. Address all mail to
Petaluma, Sonoma Co., Cal.

VENADERA HERD
OF REGISTERED JERSEYS

I have for sale a number of richly bred young bulls, some of them from cows that have high official yearly records.

GUY H. MILLER,
Route 3, Modesto, Cal.

California Cultivator

ESTABLISHED 1889

Subscription Price One Dollar per year, payable in advance. Dates of expiration of subscription accounts appear each week on the address label. John Jones 7-08 means July 1, 1908. Notify us by mail if you desire to discontinue.

Thursday, November 12, 1908

Address All Communications to

CULTIVATOR PUBLISHING CO.
115½ No. Broadway, Los Angeles.
733 Merchants Ex. Bldg., San Francisco.

Copy for Change of advertisement must be in office on Saturday preceeding date of issue. New advertising copy should reach the office not later than Tuesday to insure insertion.

CULTIVATOR PUBLISHING COMPANY
H. A. PERKINS, EDITOR AND GEN. MGR.

C. B. MESSENGER - - - - Associate Editor
FRANK H. THOMAS - - - Advertising Manager
H. G. HUTCHINS - - Subscription Manager

EDITORIAL CONTRIBUTORS:

J. W. MILLS - - Deciduous and Citrus
JOHN ISAAC - - - - Horticuiture
J. B. NEFF - Walnut Culture and Irrigation.
Mrs. M. E. SHERMAN - Live Stock and Dairy
Q. A. LOBINGIER - - Vegetable Garden
RALPH E. SMITH - - Plant Pathology
S. A. PEASE - Plant Diseases and Injurious Insects

Entered at the Post Office at Los Angeles, California, as Second-class matter.

Contents

SOME SOURCES OF ARIZONA'S WEALTH, Cover.

GROWING EUCALYPTUS FOR PROFIT, 459.

CITRUS.—Parasites; Orange Growing at Coachella, 460, 461.

DECIDUOUS.—Planting A Vineyard, 462, 463.

VEGETABLE GARDEN.—Future of Celery Industry, 464.

LIVE STOCK AND DAIRY.—This Time of Year; Dehorning; International Live Stock Exposition; Milk and Cream Contest; Stoppage of Bowels in Cattle, 465, 466, 467.

EDITORIAL.—Farmers' Institute; Good Material in Cultivator; Co-operation; Farm Conditions; Irrigation Congress Report; State Fruit Growers, Convention, 468.

AGRICULTURAL NOTES OF THE PACIFIC COAST.—Northern, Central, Southern, The Coast,469.

POULTRY.—Chicken Chat; Roup, 470, 471, 472.

QUERIES.—Eucalyptus; Pumpkins for Cows; Fever; Apples; Eucalyptus for Arizona; Peach Tree Borer; Keeping Seed from Weevil; Spineless Cactus; May Beetle Grubs; Fall Plowing, 474, 475.

LEGAL QUERIES.—Agent's Commision, 475.

HOUSEHOLD.—Grandfather and the News; Bennie's Bluff; Homely Hints; Care of the Pantry, 476, 477.

VETERINARY.—Injured Eye; Possibly Lumpy Jaw; 479.

PRODUCE MARKETS.—Los Angeles Market; San Francisco Market; Citrus Markets, 478. 479.

FARMERS' INSTITUTES.

J. B. Neff, Conductor of Farmers' Institutes for Southern California, reports institutes for the following places and dates: Rosedale, Kern county, November 16-17; Panama, Kern county, November 18; Wasco, Kern county, November 19; Lancaster, Los Angeles county, November 21; Hemet, Riverside county, November 30 and December 1; Beaumont, Riverside county, December 2; Banning, Riverside county, December 3; Thermal, Riverside county, December 4-5 Holtville, Imperial county, December 7; El Centro, Imperial county, December 9; Imperial, Imperial county, December 10; and Brawley, Imperial county, December 11.

The institute at El Centro on the afternoon of December 8 will adjourn to attend the dedication of the Heber Collegiate Institute.

GOOD MATERIAL IN THE CULTIVATOR.

Readers who are interested in grape vines found a fund of valuable information in the article written by Mrs. Sherman and printed in last week's Cultivator. Another installment appears in this week's issue and still another on the care of the vineyard will appear next week. These are very valuable articles because they are produced from a fund of information gathered by hard practical experience in the vineyard. Mrs. Sherman is not only a pleasing writer but gives most valuable information as well.

By the way, it may be in order to call attention to the many good things which the Cultivator has recently given. The question department alone seems to be attracting more attention and the great number of questions coming seems to increase every week. The account of the Farmers' Institute at Davis was more extensive than any other paper's and was secured by one of the regular Cultivator staff attending the institute. Prof. Smith's Tomato Blight article was also most valuable. This week Leonard Coates of Morganhill has an article on Eucalypts which contains a fund of information. This will be followed by later articles which will be illustrated by photographs taken especially for the Cultivator by Mr. Coates. Owing to the great interest in the Eucalypts at this time these articles will have exceptional value.

If our readers will speak to their neighbors and pass the word along as to the good work the Cultivator is doing, it is possible that our family may increase so that more and more of these good things may be secured.

CO-OPERATION.

The failure of the old raisin association in its efforts at co-operative marketing has sometimes been pointed out as an example, or proof rather, that co-operation is a failure. We think it is nothing of the kind but do think it is proof that our selfishness sometimes overreaches itself and defeats the very thing that would bring to us profit.

In this case some of the raisin growers had been advanced funds in excess of what their raisins brought, while others secured nothing or only a portion. When the season ended and this was conclusively shown, those growers who were overpaid refused to refund that which was not theirs. Of course no body of fruit growers or other producers will ever succeed in co-operative effort when such a spirit as that is manifest. It simply becomes an effort to secure legal advantage and throws discredit on every future effort along the same line.

Another possible cause of the failure in this case was the fact that the producers were not the only factors engaged in the effort. There were packers and other interests which had ends to accomplish which were not looking to the best advantage of the producers. The California Fruit Exchange is organized as a body of producers only, no outside interests being allowed to have any connection whatever with the movement. It has succeeded but it has not been without some giving way on the part of those whose interests have at times seemed to be atagonized. That is, averages have been struck so as to benefit the greatest number of producers. This has succeeded until this organization is pointed out as the greatest co-operative marketing effort the world has seen. That the raisin growers might have one equally as effective goes without saying if they will follow the principles of business and not allow a disposition on the part of any faction to secure advantage at the expense of another.

FARM CONDITIONS.

"The farmer is, as a rule, better off than his forebears, but his increase in well-being has not kept pace with the country as a whole. While the condition of the farmers in some of our best farming districts leaves little to be desired, we are far from having reached so high a level in all parts of the country. In portions of the South, for example, where the Department of Agriculture, through the Farmers' Co-operative Demonstration Work of Doctor Knapp, is directly instructing thirty thousand farmers in better methods of farming, there is nevertheless much unnecessary suffering and needless loss of efficiency on the farm. A physician, who is a careful student of farm life in the South, writing to me recently about the enormous percentage of preventable deaths of children due to the unsanitary conditions of certain Southern farms said:

"'Personally, from the health point of view, I would prefer to see my daughter, nine years old, at work in a cotton mill, than have her live as a tenant on the average tenant one-horse farm. This apparently extreme statement is based upon actual life among both classes of people.

"'I doubt if any other nation can bear comparison with our own in the amount of attention given by the government, both federal and state, to agricultural matters. But practically the whole effort has hitherto been directed toward increasing the production of crops. Our attention has been concentrated almost exclusively on getting better farming. In the beginning this was unquestionably the right thing to do.'"—President Roosevelt to Professor Bailey.

IRRIGATION CONGRESS REPORT.

Chairman W. A. Beard and his committee at Sacramento have made good by issuing a most creditable report of the 15th National Irrigation Congress. It required nearly a year in the making and for a time caused the feeling that Sacramento hardly came up to the expectations of the remainder of the state in the long delay which it permitted after the Congress adjourned.

We congratulate the committee on the issuance of this valuable report. It has much of value, practically and historically.

STATE FRUIT GROWERS' CONVENTION.

State Commissioner Jeffrey writes us that the program is nearly ready for the coming Fruit Growers' Convention and that things will be doing in Sacramento from Tuesday morning, December 1, until the next Friday night. As soon as the full program is out our subscribers will be informed of the further plans.

President Roosevelt has issued his annual Thanksgiving Proclamation setting apart Thursday, November 26 as a day of thanksgiving. In it he says:—

"The thirteen colonies which struggled along the seacoast of the Atlantic and were hemmed in but a few miles west of tidewater by the Indian-haunted wilderness have been transformed into the mightiest republic which the world has ever seen. Its domains stretch across the continent from one to the other of the greatest oceans, and it exercises dominion alike in the Arctic and tropic realms. The growth in wealth and population has surpassed even the growth in territory. Nowhere else in the world is the average of individual comfort and material well-being as high as in our fortunate land."

The Counties Committee of the California Promotion Committee, holding its meeting in Los Angeles this week, discusses the question of the tourist in California. The farmer may feel that this does not concern him, but we believe the tourists attracted here by California's climate add not a little to the general prosperity of the state. The general prosperity of the state adds not a little to the welfare of the farmer. Therefore, the attractive roadsides and beautified homes aid in drawing this class which means much to us. Let the farmers accept the hint and make rural surroundings attractive to the cultured people whom we wish to come here.

Mr. C. R. Paine, of Crafton, has suggested a novel insurance plan for citrus orchardists which will result in destruction of scale and marketing of clean fruit if carried out. It is to insure against smutty fruit or injury of tree from insect pests. It is to be co-operative and the company carrying the insurance is to stand good for any loss that may occur from the ravages of any insect pest.

Imperial county has settled down to do business in a staid and regular way and develop its great agricultural resources. An effort was made at one time to upset the results of the election making the county seat at El Centro. This suit has been called off and all have agreed to get busy to develop and boost.

The Santa Clara Valley Poultry & Pet Stock Association unite pleasure with business and at their monthly meetings not only talk upon poultry but feed upon it, having refreshments served and a general social time. It is a plan worth following.

Plans are now forming for the next annual meeting of the American Forestry Association, the date of which has been fixed by the Executive Committee. The meeting will be held in Washington on January 13, 14 and 15, 1909.

The census shows in the United States 25,258 flour-mills, with $218,714,000 capital, employing 37,073 workers, paying $1,703,418 a year in wages and $10,325,583 for miscellaneous expenses, spending $475,826,345 a year for materials, and turning out products worth $560,719,000 a year.

Agricultural Notes of the Pacific Coast

Northern California

A creamery is to be erected at Cedarville, Modoc county.

A large hay storage warehouse was recently burned at Woodland.

Gridley, Butte county, is producing some exceptionally fine figs this year.

The California Creamery Operators Association is in session in San Francisco this week.

The Chamber of Commerce, Oroville, has postponed its plans for a Butte county citrus fair.

A feature of California exhibits at the Alaska-Yukon Fair will be a display of almonds from Yuba county.

Professor Roberts,, formerly of Cornell University, delivered several lectures on Plant Food at the University short course at Davis.

The tuberculin test which is being made in the dairies around Santa Rosa has made evident that tuberculous cows are in nearly every herd.

Five hundred tons of raisins have been shipped from College City, Colusa county. This is about a third less than was shipped last year at this date.

Manton, Tehama county, has produced some exceptionally fine prunes this year. The fruit has to be freighted to Red Bluff where it is shipped by rail.

A meeting was recently attended by many farmers at Knights Landing, Yolo county, to discuss a large drainage scheme covering several thousand acres of that county.

The Western Creameries Company of San Francisco and the American Creamery Company of Oakland have consolidated their interests and will be run under one management.

A government expert has harvested a sample of rice grown on the adobe land west of Biggs, Butte county, and has declared that such land will yield 35 to 40 bushels of fine rice per acre.

The Grape Growers Association of California has decided to extend its campaign for the protection of the interests of its growers by securing members in the southern end of the state.

The International Eucalyptus Association of California with headquarters at Sacramento is erecting a lath house and planning to grow at least two million young trees this season.

This has been a record breaking season in the matter of green fruit shipments from the Sacramento valley. The total amount of fruit passing through Sacramento has aggregated to date nearly 11,000 cars.

The sweet wine men have won in their effort to secure a concession from the recent ruling of the Department of Internal Revenue, that the sweet wines should not be used as a medicinal component.

At a recent meeting of the Sonoma County Poultry Association held at Petaluma, the following officers were elected for the coming year: President, Walter Church; vice-president, Jacob Killam; secretary, W. L. Sales; treasurer, A. Lenoir; Enforcement Committee, Messrs. Hofeldt, Robinson, F. Rotthaus and J. Ronsheimer; finance committee, E. Pederson, J. Rosheimer, J. Killam.

Central California

Santa Clara County Poultry and Dog Show is being held in the Auditorium Rink at San Jose.

Inspectors are after the sellers of milk at Watsonville for selling milk of too low a grade.

Lindsay orange growers have agreed to pay at the rate of 25 cents per hour for orange picking.

Poultrymen at Hanford are planning for their annual poultry show to be held at some date to be determined in December.

Horticultural Commissioner Fowler of Tulare county has nearly finished work of fumigation of town lot trees in Visalia.

The Pajaro valley has been shipping some exceptionally fine qualities of Bellflowers this year and has secured good returns.

One of the Watsonville apple packing houses has a box making machine which will manufacture 10,000 boxes in a 10 hour day.

Kings county bee men recently made a sale of 6 car loads of honey to the Guggenheim company. The price reported is 4¾ cents per pound.

The rabbit pest is increasing in San Joaquin valley and a rabbit drive similar to the one recently held at Delano will probably be planned in other sections.

The grape root worm is said to be doing much damage in the vineyard region about Lodi. It is feared this pest may prove a serious enemy to the grape industry.

A Pajaro valley apple packers association recently met at the Chamber of Commerce in Watsonville to discuss the matter of securing lower freight rates on apples.

A breeder of Merino and Rambouillet sheep at Hanford is breeding in such quantities that he has shipped this season several carloads of rams to Texas and Mexican points.

The new pool of raisin growers formed at Fresno which is determined to hold raisins at four cents per pound gives assurance to growers of a better price if they will but stand pat.

Beemen of Kings county recently held a conference at Hanford and discussed the question of securing better prices for the product. Kings county produces about 75 tons annually.

The Consolidated Eucalyptus Company of Fresno has purchased 1000 acres of land between the Santa Fe and Southern Pacific railroads in Madera county and will plant to Eucalyptus.

Five four-horse teams could have been seen recently hauling tomatoes from one ranch near Hollister. On this ranch there are 130 acres of tomatoes. The output was over 1000 boxes per day.

It is now claimed by some that the great number of deaths of ducks in the Tulare lake section was caused by wholesale poisoning. Wheat soaked in Paris Green is claimed to be the cause of the deaths.

Some members of the old raisin association are paying back the excess money which was paid them several years ago. This action is caused by the recent court decision that it is a valid claim against them.

Southern California

Farmers' Institute will be held at Thermal December 4-5.

The Tri-counties Reforestation Committee recently met at Santa Ana.

Southern California is busy shipping its $2,000,000 worth of walnuts.

One bean thresher near Oxnard in 32 days threshed 50,443 sacks of beans

First flower festival at Whittier closed recently and is pronounced a big success.

Southern California will ship very few oranges for Thanksgiving or Christmas trade.

Rialto, San Bernardino county, is erecting a new packing house for the storage of lemons.

An orange grower of the island of Porto Rico is inspecting fruit growing and fruit packing at Redlands.

Land company at San Fernando will put out a large acreage to Valencia oranges the coming season.

Orange county will send about 800 carloads of celery east this year. The first shipment will go forward tomorrow.

Coachella valley people are discussing the advisability of taking steps to make the Salton Sea a perpetual feature.

Imperial valley will plant far less cantaloupes than last season. Some have predicted that the crop will be exceedingly short.

The California Fruit Exchange will handle 60 per cent of the output of oranges and lemons of Southern California for the coming year.

Hemet fruit growers want a cannery and offer to subscribe liberally for stock if a responsible and experienced man can be found to manage the business.

The red scale has secured a better foothold during the last year in Orange county and efforts are being put forth by fumigation towards its more complete eradication.

The forestry service has appropriated $5000 for work in the San Bernardino Forest Reserve which is to become available upon a state appropriation of like amount.

The Horticultural Commission of Orange county reports that Scutellista cyanea is doing excellent work on the black scale and in some sections has almost eradicated it.

Highgrove has a new association in the Sugar Loaf Orange Association. Its officers are: President, F. M. Ryon; vice-president N. H. Twogood; secretary, and manager, E. F. Wolever.

Ventura county output of honey will this year be rather lighter than ordinary, but it is claimed that San Diego, Imperial, Riverside, Orange, San Bernardino and Los Angeles counties will produce up to the usual amount.

Brawley Cantaloupe Growers' Association at its annual meeting endorsed the aims of the Imperial Valley Produce Exchange and decided that all renters of melon land who come in must pay cash in advance or give security for crates and other needful things used in shipping. Directors elected for the coming year are: Peter Hovley, W. H. Best, J. J. Miller, A. W. Applegate and C. M. Stahl.

The Coast

Milton, Oregon, is proving to be a most successful apple producer.

All the fall has been extremely dry in the farming sections east of the Rocky Mountains.

An evaporated milk plant to cost $150,000 is to be built at North Yakima, Washington.

The annual meeting of the Oregon State Dairy Association will be held at Salem December 10-11.

The next Oregon legislature will be asked to make an appropriation for the inspection of dairy products.

Fall spraying for San Jose scale has been more generally engaged in in Oregon this season than ever before.

Some Rogue River Valley pears shipped from Medford, Oregon, recently, netted the neat sum of $6.60 per box.

Government crop reports show the condition of Arizona oranges to be 94 per cent as compared with 100 per cent in 1907.

A $3,000,000 tunnel will conduct water to reclaim 100,000 acres of land in the Henrylyn district, near Denver, Colorado.

The date of the National Apple Show at Spokane is December 7th to 12th. There will be $35,000 offered for premiums for apples.

A mid-winter sheep show is to be held at Pocatello, Idaho, January 14-15, in connection with the National Wool Growers' Association.

Utah is the latest to enter the field with the modern farmers' institute train, railroads there having been asked to supply exhibit cars.

Eggs in Portland, Oregon, are now selling for 40 cents per dozen. The Portland market is stronger and nearly all stock has been cleaned up.

Many newcomers to Arizona are entering into orange growing, and it is claimed rich reward will be given to the citrus people of that section.

Many sections of Klickitat county, Washington, which have heretofore been grazing and grain lands are now coming into prominence as fruit sections.

Denver health inspectors are becoming very active since a recent typhoid fever scare. All dairies about the city have been put on a much cleaner basis.

Business men of Phoenix, Arizona, are considering a plan of reclaiming a vast section of land by irrigation, which will bring many families to that territory.

A dairy experimental train recently made a journey through Western Montana, giving instruction in scientific dairying to farmers. It was proclaimed a complete success.

British Columbia apple growers are having much trouble this fall with a disease which they call "pink rot." It seems to affect all the apples which are infested with apple scab.

There seems to be a contest on between North Yakima, Washington, and Hood River, Oregon, as to which commands the highest price for its fruit lands. Hood River recently made a sale of 10 acres for $16,000, which it is claimed is the highest price ever received in either section.

PER 2 BUSHEL SACK **$1.90** PER 2 BUSHEL SACK

Buy the World's Famous Egg Food No. 4

MIDLAND

IF YOU WANT EGGS
YOU WILL FEED NO OTHER.

Used by the largest and best breeders in the country. Thousands of poultrymen are using it, and it is the acknowledged standard of the world. Haphazard feeding is no longer profitable. Try Midland Food and be convinced.

Petaluma Incubators and Brooders

The acknowledged standards of perfection. All poultrymen who have used these machines have supreme confidence in their ability to hatch and breed. Hence their ever increasing popularity. Winners of the Gold Medal at the St. Louis World's Fair for the greatest hatch, with 40 different makes of incubators in competition. How's that?

St. Louis, Mo., Dec. 8th, 1904.—Petaluma Incubator Co., Petaluma, Cal.: My Dear Sir—The awards have been held up owing to a controversy between the Exposition officials and the national commission, but today I am able to state the award of a gold medal on your Petaluma Incubators has been confirmed. You are at liberty to make use of this in any way you see fit and in due time the diploma will be issued and the medal obtainable. Congratulating you upon this evidence of the merits of your incubators, in which there was very great competition, I beg to remain, yours very truly, J. A. Filcher, Commissioner.

And Now Comes New Reward for Merit

Read the following telegram received from the Lewis & Clark Exposition at Portland:

"Petaluma Incubators and Brooders just awarded Gold Medal at Lewis & Clark Exposition."

WRITE FOR CATALOGUE 47—A BEAUTY

Petaluma Incubator Co.

Main Office and factory, Petaluma, Cal., Box F.
Los Angeles, 113-115 North Main Street.
San Francisco Office and Salesroom, 83 Market St.

Egg-More

is not a strong tonic and stimulant, but a highly nitrogenous, concentrated Poultry Food, very rich in protein. A little fed with good grains will keep hens healthy and make them lay lots of eggs. Have you tried it? Many have and are pleased. Here is just one:

F. W. Healy, the well-known banker and fancier of Pasadena, writes: "After hearing others praise Egg-More, I determined that if there was anything to keep hens laying through the fall and winter months, I wanted it. I bought a package of Egg-More and fed it and the improvement was very marked. Keeping on with it I soon proved the truth of your statement that 'you can't put all your eggs in one basket if you feed Egg-More.' I have raised poultry nearly all my life and for twenty years in California, but never did my hens lay so well as since I began to use Egg-More. I consider it the best egg producer on the market, and I do not intend to be without it."

You better try it. For sale by many dealers at 12½ lbs $1.00; 25 lbs., $1.90; 50 lbs., $3.60. If not by yours we will prepay freight on sack within 400 miles.

West Coast Mill

707-709 So. Griffin Ave., Los Angeles, Cal.

Coulson's No. 3 Condition Powder

Is just the thing for molting hens. It acts as a tonic and digestive. Keeps the hens laying longer into the molt and quicker after it. Our FREE Booklet, "THE RIGHT WAY" gives full particulars and special offer. Manufactured only by

Coulson Poultry and Stock Food Company

Petaluma, California

Trap-Nested White Wyandottes

Eggs for hatching now ready from fall matings.

MISSION VIEW POULTRY RANCH, MRS. C. D. HUBBARD, SAN FERNANDO, CAL.

When writing advertisers, mention Cultivator.

Profit in the Poultry Yard

We solicit short articles of a practical nature from the fancier and utility breeder, giving their experience with poultry. All inquiries pertaining to feed, management, disease and its prevention will be answered through these columns.

CHICKEN CHAT.

THE interesting time of the year has about arrived. We must select our show birds and fit them for exhibition. Many of you have been mating a long time with this end in view, and may not be sure whether your birds will score up well enough to justify your trouble and expense, and to these I want to say a word of encouragement: Select the best you have, after studying the standard of the particular breed you have, carefully, but do not expect to find 100 point birds, and do not be afraid to show birds that fall short in several sections, for the 100 point bird has never been hatched, and the game of the show room is "to beat the other fellow," and your good birds may chance to be the ones which will win the blue.

Selecting.

A Standard of Perfection is a necessary guide, and can be purchased at any store where poultry supplies are kept, or can be had of our own good editor at the regular price, $1.50. It may seem hard to have to buy the standards of all the breeds, just to get the one or two you want, but separate breed standards are among the things of the future, which the good old A. P. A. will give us in time.

In selecting, pay close attention to typical shape, as that is a very important point with most judges. At Niagara Falls iu 1907, at the meeting of the American Poultry Association, we had a very interesting and instructive chalk talk by Franklane Sewall upon the typical shape for a White Wyandotte. Now, all White Wyandottes look pretty much alike to me, and it was surprising to learn that only one perfect shaped White Wyandotte had ever yet been shown.

In selecting a Wyandotte for shape, have in mind a round ball, for this breed is all curves, and the outline resembles a ball more than any other breed..

In selecting a Rock, R. I. Red, Buckeye or Leghorn, have in mind an oblong, as they have longer keels and backs, giving length rather than roundness of outline. A study of the illlustrations in the Standard will make this clearer than any word-picture.

Shape satisfactory, weight must be considered next, and right here let me impress it upon your minds that over-weight will uot win, but the "bird coming nearest the Standard weights wins always." A tie between two birds will give the prize to the lighter weight bird, if that comes nearest the Standard weight.

Shape and weight having been decided, color comes next, and if a pen be selected, the females must be as uniform in color as it is possible to find them. Many times the birds will be imperfectly moulted. In such cases all old, faded, feathers must be carefully removed, so they may present a clean, fresh appearance.(This is legitimate, and does not come under the head of "faking.") Good head points count for a great deal, but I have seen birds that won the blue in "way down East" shows that had combs like nightmares, and enough white in earlobes to condemn them as breeders, yet those same birds "beat the other fellows" when it came to a count of points. So don't be discouraged, I say, but send them in and get them scored, and the lesson thus learned will repay you richly, whether you win a prize or not.

Washing.

In fitting dark plumaged birds no washing is needed, as a rule, excepting the feet and shanks, beak and combs. Two tubs of water will suffice for this, both luke warm. A basin containing a little water in which a few drops of spirits of camphor have been dropped is a good thing to prepare also.

The bird to be washed should be held firmly in the left hand by tucking its head under your arm, while you vigorously scrub its feet and legs with a soft brush, using plenty of soap and elbow grease until perfectly clean, even to the insides of the toenails. Then rinse thoroughly in the second tub, being careful not to wet the feathers, and rinsiug the head points, comb and beak, in the second tub which contains no soap, and giving a final dip into the basin containing the camphor water as a preventive to cold. All this should be done in a warm room. I usually take the birds into the kitchen, and have the coops all ready with clean straw or shavings in front of a warm stove, but watch that they do not get so warm as to pant.

I forgot to say, that the feet should be wiped dry with a soft cloth and rubbed with a drop or two of sweet oil to restore the gloss the soap removes. The feathers may also be wiped with an old silk handkerchief with good results.

White birds require much more of a bath—at least three tubs of water are needed, and a kettle kept boiling to replenish from, so as to keep up the temperature. Cne tub should contain good soapsuds, one clear water, the other water that has been blued as for rinsing clothes. The birds are given a thorough washing in the suds, working it well amoug the feathers, but always rubbing the feathers the way they grow, never backwards.

This is a tedious job for the beginner, but practice soon makes perfect, and the birds really seem to enjoy it, if carefully handled.

After you are sure every bit of dirt has been removed, lift out of the suds and wash just as thoroughly in the second tub, that no particle of soap may remain to smear and "yellow" the plumage. The legs and feet must be washed with a brush, just as for dark birds, and the final rinsing in the blueing water completes the bath. Now set your bird on top of a table or box, covered with a cloth, and with a sponge take up all possible surplus moisture, being careful not to muss the plumage by rubbing the wrong way. Dip feet, legs, comb and beak into basin of water with camphor in, at the last, wipe them dry, and oil slightly, then place your bird where it will dry slowly, free from dust and dirt drafts. Many fan their birds while drying, believing it makes them fluffier, but I think this dangerous, and prefer to have them dry slowly and allow them to preen their own

High Priced EGGS

Are what all poultrymen like to get during the fall and winter; but without the very best of health in the flock and a good variety of sound, wholesome feed it is hard to get such eggs.

Nature requires that hens have a rest just prior to and during the molting period; the result is a scarcity of eggs, with higher prices, and a larger profit for those who can overcome the difficulty. The one that can get eggs during the fall will be just that much ahead of his neighbors and others who fail to do so, which in the end is the difference between success and failure.

COULSON'S EGG FOOD is the feed that will turn failure into success by enabling you to secure eggs in the fall and winter while prices rule high.

Improvements have been effected in the composition of the EGG FOOD during the past year, so that it is now richer in the various nutrients required by the laying hen, and is a better feed than ever before. Coulson's balanced ration poultry foods are guaranteed to contain nothing but wholesome ingredients.

"THE RIGHT WAY," our booklet fully describes COULSON'S IMPROVED MASH EGG FOOD and other balanced rations for poultry and gives full particulars of guarantee and directions for feeding and care of poultry from the time they are hatched. If you have no copy of it, you should drop us a line today; a postal card will bring it to you.

We have agents selling our poultry foods in nearly every town in California. If you cannot obtain what you want from your dealer, write to us and we will tell you where to get it.

Coulson Poultry & Stock Food Co.
Petaluma, Cal.

Germain Seed Co., Los Angeles
Distributing Agents for So. Cal.

plumage, which they usually do better than it can be done for them.

Training.

Showing birds is a great game, and many various methods are used to get the birds to show. The best way is to raise them, of course, and I have known people to mate a pen five years in advance of a particular show, in order to raise a pen fit to exhibit there, and then fail. I have also known people to scout out among farmers and pick up a bird here, another there, at a little better than market prices, take them into the showroom and win out with them. Many buy a pen, ostensibly for breeding purposes, then berate the breeder for not sending prize winners, at breeders' prices. This hurts the business and the breed. If it is show birds you want, be honest and candid when ordering. You may have to pay more, but you will get your money's worth if you buy of a reputable person. You may not like the birds at first sight, and they may disappoint you greatly, but if you bought them to show, show them, and the judge will tell you whether the birds justified the price paid or not.

When I was breeding R. I. Reds, I used to cull out all light colored males and sell to farmers to cross on common stock very cheaply.

A lady bought a cockerel one year at 75 cents which I considered buff, not red. She came back next year and said the bird had improved so greatly, she thought I might exchange and give her a young one in place of it. I wanted to oblige her, so told her to fetch him over. He still looked buff to me, but our home show was short of birds, and wanted me to help out a little, so I sent him in with a string of other Reds, and he happened to be the highest scoring cock in the show, 95½ points, while the balance of my R. I. Reds scored from 92½ to 95½ one pullet being as high scoring as the male, so I sold that pair for a good price on the strength of their score cards, and their purchaser was delighted with them. Evenness of color in a R. I. Red is what counts, and he was one even shade from head to tail, while his undercolor was simply rich.

Undercolor.

Shall I be impertinent if I explain right here what the undercolor is? I did not know for some time when I first began to raise fancy chickens, and R. G. Buffinton, of Fall River, Mass., originator of Buff Rocks and Buff Wyandottes as well as Buff Ducks taught me, so I will pass it on. It is the color of the feather where it don't usually show, the fluffy part, from the skin out, and a Rock nowadays must be barred to the very skin. The undercolor plays an important part in most breeds, as well as what shows on the surface. My own Buckeyes have some slate in undercolor, because I believe when the slate is all bred out, succeeding generations fade into buff, but the R. I. Red Standard calls for clear red undercolor, free from slate, which is one of the points which separates the breeds.

In all the above I have not said one word about condition, but for the love of poultry, don't send a bird to a show that is not in the pink of condition, for sickness is often contracted by the healthiest birds, and the loss of a valuable show bird is something one never ceases to regret.

Our doctor's son at home always wanted chickens, but never attained

Chicks 10c and Up

Send today and get our price list on 19 varieties of thoroughbred chicks and eggs. Prices 10c and up. We can supply chicks in any number. Right now we are hatching several thousand per week. We ship them safely to all points on main lines in Cal., Nevada, and Ariz. Write us; we will be glad to quote prices. We are here to stay, and are the originators of the baby chick business in Southern California. Over 230,000 chicks ducks, geese, and turkeys have been sold by us so far this year. Largest baby chick dealers in the world.

Pioneer Hatchery Co.
108-112 E. 8th St. Los Angeles, Cal.

60c—EGGS—60c
MIDLAND POULTRY FOOD
Makes Hens Lay

400 Sacks will be here next week. Get your orders in early.
Price $2.00 per Sack

Aggeler & Musser Seed Co.
113-115 North Main St. Los Angeles, California
Southern California Agents for Petaluma Incubators and Brooders and Midland Poultry Food

The Model Poultry Farm
Irvington, Alameda County, California

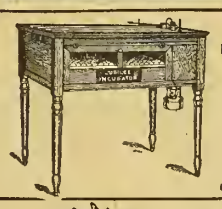
Standard Strain of White Leghorns The Best Laying Strain on the Pacific Coast

We can also show you more birds that have actually won first prizes in the show ring than any other breeder on the Pacific Coast. Write for circulars. Eggs, Chicks and Stock for sale. Address

Ours Are the Kind That Lay and the Kind That Pay

Model Poultry Farm, Irvington, Cal.

Ranch Mirasol
S. C. WHITE LEGHORNS—MITCHELL STRAIN
LARGE, HEALTHY, HEAVY BIRDS BRED TO LAY
Carl C. Curtis, Owner Cor. Lincoln Ave. and Ventura St., Pasadena, Cal.
North Fair Oaks Altadena Cars



WHY?

Do All Prosperous Poultrymen Use
Jubilee Incubators and Brooders
Our Catalogue A Will Tell You. It Is Free.
Jubilee Incubator Company ***Sunnyvale, Cal.***

Starbuck & Son's Heavy Laying Barred Plymouth Rocks

We now unhesitatingly make the proud boast of the best laying strain on the coast, if not in the world. We will publish prices later.

Do you want to hear about our beautiful prize-winning Buff Orpingtons and Silver Wyandottes. We have something to crow about.

Wm. Starbuck & Son, Fullerton, Cal.

You Get the Most for Your Money

When buying ***"Quality S. C. White Leghorn Chicks"*** from us at 10c each, because we give you ***FREE*** the "Chick Book," containing full instructions for raising them; with every order for 200 or more.

Rancho Los Encinas
R. F. D. 76, Glen Ellen, Cal.

F. E. Baldwin's
WHITE LEGHORNS

THEY LAY
THEY PAY
At Every Pop
THEY SHOW
THEY GO
To the Very Top

First Prizes Everywhere Shown.
Bargains *now* to make room. Send for Prices and Free Booklet.

46 Washington Ave. - San Jose, Cal.

GUTTING'S SUPERIOR WHITE ROCKS

Won 9 firsts out of a possible 10 and all specials and many other prizes at the great L. A. C. P. A. and Pomona Shows last winter. Place your order now for exhibition birds for the winter shows. Eggs now $3 per setting. Send for circular.

E. GUTTING 134 W. SLAUSON Los Angeles, Cal.

If about to start in the poultry business, get good birds or keep out of it.

Black Minorcas
Exclusively
"Birds That Lay and Win"

Winnings at Los Angeles, 1908: Cocks, 1, 2, 4, 5; Cockerels, 1, 2, 4, 5; Hens, 1, 2, 3, 5; Pullets, 1, 2, 3, 4, 5, Pens, 1, 2; Cup for highest scoring Minorca male in show. Stock and eggs for sale. Catalogue free.
H.A. Wheeler, Box 123, Lordsburg

Buff Orpingtons

Sullivan's COMMONWEALTH STRAIN is bred for egg production, has won the cream of the prizes at leading shows, from Seattle to the World's Fair. We did not show at the State Fair this year but have better stock than ever, and want you to send for our Prize Record and watch the later shows that we win.

Mr. & Mrs. W. S. Sullivn,
AGNEW, SANTA CLARA CO., CAL.

Now is the time to hatch **BANTAMS**
Golden Sebright, Buff Cochin, and Light Brahma
Eggs, $2 per 15. Prize winners.
M. E. Dillingham Box 67, San Gabriel, Cal.

White Wyandottes Exclusively
Good, White, Typical Birds. Stock and Eggs For Sale.
W. A. SEYMOUR, R. F. D. No. 1, Anaheim, Cal.
Take Santa Ana Electric Line to Harper Station

White Wyandotte Cockerels For Sale
A few choice ones from best strains. Cheap—must be disposed of this month to make room in my yards.
Wm. C. Parker, 111 Pacific Ave., Santa Cruz, Cal.

EDISON PHONOGRAPHS, VICTORS, ZONOPHONES
Records and Supplies, delivered at your nearest railroad station upon receipt of full retail price. Write for particulars and ask for catalogue. **Peter Bacigalupi & Sons, 1113-15 Fillmore St. San Francisco**

his desire until he was married and settled in a home of his own. Then "Gene" bought a sitting of the best eggs he could get from a veteran Barred Rock breeder and raised a pen of beauties. He exhibted them, and won over the veteran himself. A prouder fellow I never saw, and his joy was the delight of all who knew him. Even his skeptical father enjoyed his victory, and the way he hung around that pen was a sight to see. Well, a couple of weeks after the show, his father stopped me on the street to tell me that "Gene's" cockerel had died. I tried to console him by telling him how many I had lost from show room colds, but he testily stopped me, saying, "You are an old soldier and are used to it, but this is poor 'Gene's' first birds." Verily, I thought, the Frenchman Rider Haggard tells about has lots of relatives. You know the Frenchman was dreadfully frightened when the boat shot into the side of the mountain, in the underground river, and in the darkness, amid the roaring waters of that dreadful cavern, he prayed his prayer. "O Lord save me, never mind the rest, let them drown, for they are used to it, but O! Dear Lord, do save me."

One word in parting and I am done. Don't bank too much on winning. Do the best you can, and await the outcome with patience, and remember this motto: "Blessed are they who expect nothing, for they shall not be disappointed."

Like Sparking.

Judge Chas. McClave, the genial and popular ex-President of the A. P. A. says: "Fitting birds for the showroom is like sprucing up to go sparking, and it is no worse to put a bird in the best condition possible than for a pretty girl to curl her hair when she expects a beau." But remember that missing feathers will count against a bird just the same as though they were present and off-colored, perhaps more, and where birds have broken their wing-flights fighting through fences, it detracts from their chances of winning.—Mrs. Metcalf.

Malthoid Roofing

Mr. H. B. Eakins, of the Commercial Warehouse Co., Los Angeles, Cal., U. S. A., writes: "Now that we have had two good rains to test our Malthoid roof, we have desire to express our satisfaction in the knowledge that we have a covering over our head that does not leak. We write you regarding our pleasure in this matter from the fact that we had fully expected more or less trouble, as we did not believe it possible that so large a roof surface could be covered with any material and stand the test of a first rain, but there was not a leak due to defective roofing."

The Paraffine Paint Co. San Francisco California

E. G. Judah, General Representative, Security Bldg, Los Angeles

POULTRY QUESTIONS.

Roup.

I have two game cockerels six months old, and a few weeks ago I noticed a running from their nostrlls. I have tried different remedies but have had no success whatever. Now they can hardly breathe, and I can hear them at a distance of fifty feet. They are lively and active and one looks as healthy as ever, but the other is getting pale around the eyes, and his comb is turning white.—V. D., Covina.

The cockerels have a roupy cold, and it may have run into bronchitis by this time. Wash their heads with warm soapsuds, then give each one half a teaspoonful of kerosene oil, and inject a few drops into each nostril. Also grease each one's back between the wings with camphorated lard as you would your chest if you had a cold on your own lungs. A chicken's lungs are just under the backbone and ribs, between the wings, and can be reached by medicine applied to this part. Almost magical results will sometimes follow an application of the camphorated lard, if well rubbed into the skin; have also used a few drops of kerosene with good results, but it is apt to blister. Examine the throat for canker and continue the half teaspoon doses of kerosene twice a day until it clears off.

If the birds cannot eat, dissolve four grains of bromide of potassium in some warm, sweet milk, and inject into the crop with a syringe every morning and evening until they are able to eat. As the rest of the flock may be affected, put about two grains of the bromide to each fowl into milk enough so all can get a dose, as a preventive.—Mrs. Frank Metcalf.

• • •

1—Would it do to use a fine bird in a breeding pen that has a crooked bill?

2—What is the cause of crooked bill?

3—Is there any way of ripening a white feather in a dark bird so it will drop out in the hope of a perfect one coming in its place?

4—Would there be such a severe cut on an imperfect bill that an extra fine bird would stand little chance of winning in the show room?

5—Is it best to swell alfalfa meal with boiling water or cold?—A Subscriber.

1—A bird with a crooked bill may do good work in the breeding yard.

2—Crooked bill is usually caused by some variation in heat while hatching or delayed incubation, but sometimes comes from in-bred stock.

3—Remove the white feather, and it may come in perfect, if a young bird, especially.

4—A deformed bill is a disqualification, and the bird would be thrown out, no matter how good in other sections, if the judge went by the rules of the American Poultry Association, as he should do.

5—Boiling water is best for the alfalfa meal, then cover closely to hold the steam. Many feed dry with good results.—Mrs. Frank Metcalf.

Excelsior Egg Food

Mr. W. W. Howard, the White Leghorn expert, is feeding Excelsior Egg Food exclusively. Mr. Howard's flock is noted as an egg producing strain. If you are not getting satisfactory results, try Excelsior Egg Food.

ExcelsiorScratchFood

Is just what you have been looking for. Give it a trial and you will never be without it.

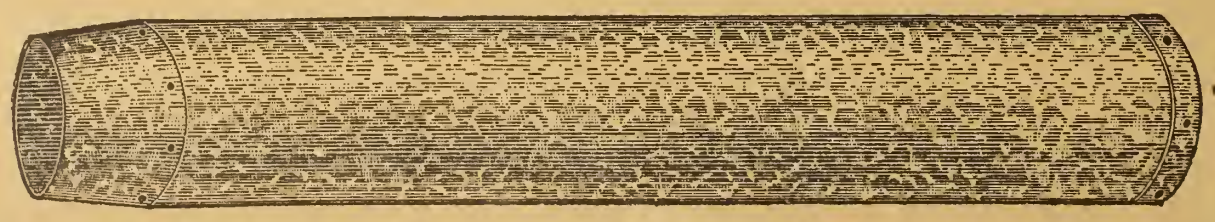
EXCELSIOR

None Others So Good

No others "just the same." Insist on **Excelsior** or write to us direct. Mention Cultivator.

Excelsior Cereal Milling Co.

242 Central Ave.
Los Angeles, Cal.



AMERICAN SURFACE IRRIGATION PIPE

SAVES WATER, GRADING AND TIME

The **only** way to **irrigate Alfalfa. Cheaper** than **Flumes.** This is only **one** of our **specialties. We make Riveted Water Pipe** in lengths of **ten feet** from **single sheets.** Let us **prove** to you that **we make Pipe** and **Tanks right.** WRITE FOR CATALOGUE.

AMERICAN STEEL PIPE & TANK COMPANY

FORMERLY TALLERDAY MANUFACTURING COMPANY

636-7 Pacific Electric Building Los Angeles, Cal

THE FUTURE OF THE CELERY INDUSTRY.

Continued from Page 464.

heavily after celery. They are a leguminous fruit, furnishing more or less nitrogen and requiring no irrigation; for these reasons a bean crop leaves the soil in excellent condition to produce another season. Harvest is usually over by October 1st, or just in time to begin plowing for beets. The land should be plowed deep during October and November, for beets, and allowed to lay open to the weather for a few months; you will then have little trouble in working the soil and getting a stand.

Beets are all harvested by November 1st, in ample time to grow a crop of clover, to plow it under before a celery crop the following summer. While we would not advocate growing beets successively, we do believe they make one of the best crops to plant before celery, as beets root deep, extract more or less alkali from the soil and dry the ground out, which is beneficial to this section. The deep plowing and thorough cultivation of the soil is also a great benefit.

All-the-year-round Income.

Now you have the three crops, celery, beans and beets. I would suggest that every farmer divide up his land so that he could plant about one-third each, to be rotated in the order mentioned. All three crops are good ones, and require different modes of farming, thereby giving the land a change. There is another good feature about this plan, the farmer would have a steady income nearly the year round. Beet returns would begin about August 15th and continue until the beans are sold in November, and as celery dividends begin December 15th and continue until April 15th you can see that there would be only three months in the year without an income.

Five thousand acres will be planted to grain and hay in the Beaumont section.

Irrigation and Forestry

GROWING THE EUCALYPTUS TREE FOR PROFIT.

Continued from Page 457.

Gunnii, E. Siberiana all stand very low temperature, and grow at an elevation of several thousand feet.

E. corynocalyx and E. polyanthema like warmth and moisture, but prefer well drained soils or uplands. The others mentioned grow well under ordinary conditions of soil and climate in this region.

Uses.

For wind-breaks—E. cornuta, E. globulus, E. leucoxylon, E. polyanthema, E. rudis, E. viminalis.

For shade—E. cornuta, E. rudis, E. robusta, E. polyanthema, E. globulus, E. corynocalyx.

For piles—E. globulus, E. rostrata.

For posts, etc.—E. rostrata, E. tereticornis, E. crebra, E. hemipholoia, E. pilularis, E. polyanthema, E. robusta,

Flower, Fruit and Leaf of E. Polyanthema.

E. rudis, E. Stuartiana, E. sideroxyloa.

For wagon work, etc.—E. corynocalyx, E. rostrata, E. cornuta, E. diversicolor, E. globulus, E. hemiphloia, E. tereticornis, E. leucoxylon.

For poles—E. pilularis, E. rostrata, E. tereticornis, E. corynocalyx.

For street paving—E. rostrata, E. diversicolor, E. pilularis.

The uses of these various eucalypts are almost endless, of which wagon work and agricultural implements generally seem to be most universal. Well seasoned lumber of E. rostrata and E. globulus has for years been used for furniture, cabinet making and interior finishing. It is becoming a staple just as fast as the material can be supplied in sufficient quantity. The price is from $100 to $150 per thousand. There is no more difficulty in seasoning the lumber than is experienced with other hardwoods.

The State Board of Forestry, the U. S. Department of Agriculture and the University Experiment Stations will furnish bulletins on the subject on application. But this will be done by expert lumbermen; all we have to do is plant and grow the trees.

Under ordinarily good cultivation in good soil these trees will average 1 to 2 feet a month for several years. In three years a diameter of seven inches has been reached, and from reports just in, this will soon be exceeded. In the warmer portions of the state, in deep soil, with good subirrigation, the growth is, naturally, greater than elsewhere. Poles, from 20 feet upwards, are produced in seven years, having a diameter of nine inches at base and seven inches at top. For smaller work, such as insulator pins, tool handles, wagon work, agricultural implements, etc., cuttings may be made much sooner.

The cost of preparing the ground, planting and properly cultivating and maintaining for two years should not exceed $40 per acre, and 1000 trees on an acre would not have to make the maximum growth to be worth 25 cents each for stakes at one year.

Leonard Coates.

Morganhill, Oct., 1908.

What's the use of a roof you have to keep tinkering?

Genasco Ready Roofing

puts an end to your roof troubles.

It is made of Trinidad Lake Asphalt, the natural waterproofer. It gives you absolute weather-protection years after ordinary roofing has "passed away." Guaranteed in writing, and backed by a thirty-two-million-dollar organization.

Ask your dealer for Genasco; and don't be humbugged with a "just as good" kind. Mineral or smooth surface. Look for the hemisphere trade-mark. Write us for Book 35 and samples.

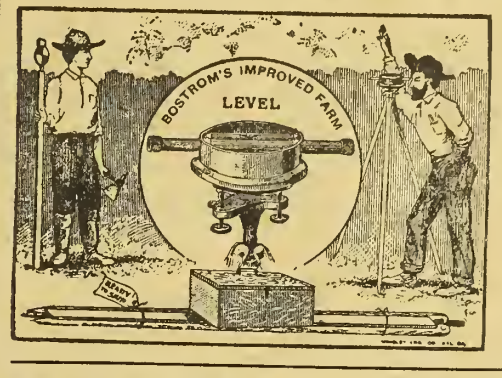
GENASCO — THE STANDARD OF EXCELLENCE — TRADE MARK

THE BARBER ASPHALT PAVING COMPANY

Largest producers of asphalt, and largest manufacturers of ready roofing in the world.

PHILADELPHIA

New York San Francisco Chicago



BOSTROM'S IMPROVED FARM LEVEL

Used for irrigation and drainage work. Cheapest and best level yet invented for farm use. Has the latest patented improvements in simplicity and usefulness. Can be operated by any one. Price including telescope tripod and target rod $15.00.

PALACE HARDWARE COMPANY
581 Market Street, San Francisco.
Coast Agents. Send for Circular.

SEEDS and TREES

All Leading Varieties **EUCALYPTUS** Send for Special Price List

New Onion Sets, White Bermuda, any quantity.
Peas, Beans, Tomato Seed for late planting.
Tomato and ***Pepper Plants, Rhubarb Roots.*** Send for Catalogue.

Chas. Winsel, Seedsman
251 So. Main St. ***Los Angeles, Cal.***

EUCALYPTUS

Growers of Commercial and Ornamental Eucalypti
EKSTEIN & EKSTEIN, Modesta Euc. Nursery, Modesta, Cal.
EKSTEIN BROS., Vignolo Euc. Nursery, Anaheim, Cal.

When writing advertisers, mention Cultivator.

Australian Eucalyptus Seed

Our Mr. R. S. Webb (a native Australian) has just returned from that country with seventeen varieties of Eucalyptus seed, comprising the varieties that have been tried in Australia, and each variety is the best for the particular purpose for which it is used, or for the particular soil and climatic conditions where they grow.

The following are some of the varieties of Eucalyptus trees preferred by the lumbermen and manufacturers of Australia:

1. Iron Bark (Panniculata)
2. Microcorys (Tallow Wood)
3. Black Butt (Pilularis)
4. Turpentine (Syncarpis)
5. Resinefera (Mahogany)
6. Tereticornis (Red Gum)
7. Saligna (Blue Gum)
8. Corynocalyx (Sugar Gum)
10. Spotted Gum (Maculata)
11. Jarrah (Marginata)
12. Sideroxylon (Iron Bark)

We will have trees of the above varieties for sale about February 1st.

AGGELER & MUSSER SEED CO.
Successors to Johnson & Musser Seed Co.
113-115 N. Main St. Los Angeles, Cal.

EUCALYPTUS SEED

Eucalyptus rostrata, the Red Gum
E. corynocalyx, the Sugar Gum
E. tereticornis, the Forest Red Gum
E. globulus, the Blue Gum
E. citriodora, Lemon-Scented Gum
E. cornuta, the Yate Tree
E. polyanthema, the Red Box
E. leucoxylon, Victorian Iron Bark
and Many Other Valuable Sorts

I shall be pleased to correspond with prospective buyers and give particulars as to prices on the seeds I am offering. Trial packets of any variety 15c each, 2 for 25c, or twelve for $1.25. Also young trees of many varieties for sale. Send for circular and cultural directions.

THEODORE PAYNE
NURSERYMAN AND SEEDSMAN
Home Phone A2480
345 S. MAIN ST., LOS ANGELES

300,000 Eucalyptus

Fruit Trees
Shade Trees
Roses Shrubs
Palms Ferns

And everything that you need for your ranch or garden. Send for free catalogue

Sycamore Grove Nurseries
SAINT & WARNER
4584 Pasadena Ave. Los Angeles

BANK DEPOSITS Guaranteed

by State of Oklahoma Guaranty Fund. Your money absolutely safe. We pay 4% on deposits. Draw your money any time. Largest State Bank in Oklahoma. Capital $200,000. Write for booklet A. E. We sell 6% School, County, and City Bonds.

OKLAHOMA TRUST CO., Muskogee, Okla.

When writing advertisers, mention Cultivator.

Well Roofed— Well Housed

A building is only as good as its roof. If you would have your buildings storm-tight—protected against wind and rain, and protected to stay, put on a roofing that will give complete and lasting protection.

REX
FLINTKOTE
ROOFING

will not rust or rot; it is durable and permanent.

Everything needed to lay REX Flintkote Roofing comes in the roll. One man and one hammer is all that you have to furnish to put it on.

FREE SAMPLES

Let us send you free samples to test; also valuable roofing booklet.

J. A. & W. BIRD & CO.
89 India Street, Boston, Mass.
Pacific Coast Agents: W. P. FULLER & Co., San Francisco, Sacramento, Oakland, Stockton, Los Angeles, San Diego, Portland, Seattle, Tacoma, Spokane.

FARMERS' BOOKS

Order Through the Cultivator

FEEDS AND FEEDING.—By Prof. W A. Henry. Is a thorough, accurate and reliable handbook for students and stockman, giving most practical and useful knowledge on plant growth and animal nutrition, feeding stuffs, feeding animals and every detail pertaining to this important subject, indispensable to every owner of live stock. 658 pages 6x9 inches.
Cloth $2.00

AMERICAN GRAPE GROWING AND WINE MAKING.—By George Hussmann of California. With contributions from well known grape growers, giving wide range of experience. The author of this book is a recognized authority on the subject. Illustrated. 269 pages. 5x7 inches.
Cloth $1.50

STANDARD OF PERFECTION.—By the American Poultry Association and used as the standard for judging all shows. The thing for dealers in fancy stock.
Cloth $1.50

PERFECTED POULTRY OF AMERICA.—This is the most recent publication, and is one of the finest poultry books ever issued. It contains full page illustrations of all breeds and varieties of poultry, turkeys and water-fowl. On many of its pages are represented the feathers from each section of the fowl. Gives the information necessary for the selecting of the best specimen in your flock.
Cloth $2.50

A. B. C. AND X. Y. Z. OF BEE CULTURE.—By A. J. and E. R. Root, the leading authority on Bee Culture Its reputation is known to all Beekeepers 536 pages.
Cloth $1.50

CAMPBELL'S SOIL CULTURE MANUAL.—By H. W. Campbell. The originator of the "Campbell System of Dry Farming." A complete guide to scientific agriculture as adapted to the semi-arid regions. Of great value to all Western ranches. 320 pages.
..... $2.50

THE NEW AGRICULTURE.—By F. Byard Collins. A new and authoritative work dealing with the changing agricultural conditions. Why "Back to the Soil" is calling millions from the cities to the farm. The debt which agriculture owes to science. Irrigation, fertilization, machinery, etc.
Illustrated, 374 pages, cloth.....$2.00

Cultivator Publishing Company

Queries and Replies

Questions to be answered in this department should be received at this office one week before reply is expected. Write plainly on one side of the paper and sign full name and address. Unsigned communications receive no attention.—Ed.

The Eucalyptus.

D. F. Savage, of Hopkinsville, Ky., asks about the Eucalypts. It is not safe to speak of trees in an untried locality. The Eucalypts are a decided success here. Our climate and conditions are much the same as those of Australia where we got these trees. Here they are very beautiful, grow with astonishing rapidity, and are very valuable for honey and all uses to which timber is put. They grow with very little water, and here need no attention after they are once started. They will not endure very great cold. The varieties that we like here very much are Eucalyptus globulus, blue gum, E. rostrata, red gum, E. rudis, which with the red gum stands cold well, E. viminalis, manna gum, E. corynocalyx, sugar-gum,and E. terticornis, forest-gray gum. Two species, E. ficifolia and E. sideroxylon have very handsome, showy blossoms, while E. citriodora is sweet scented but tender of cold. Unless it is known that these will stand the climate of Kentucky or any other locality, they should be planted very sparingly and as an experiment at first.—Prof. A. J. Cook.

The eucalyptus will not stand Kentucky conditions. Fifteen degrees is the extreme limit on Rudis, Rostrata and Tereticornis, the most hardy, and Kentucky sees weather a whole lot colder than 15 degrees.—Ed.

Pumpkins to Cows.

Kindly give me your opinion regarding the effects of feeding squashes with the seeds in them to milk cows. Do the seeds either dry cows or reduce their flesh? Are they injurious also to laying hens?—O. U. P.

The seeds of pumpkins are sometimes given as a diuretic but the effect is slight. We chop up the pumpkins for the cows and pigs and pay no attention to the seeds. The chickens receive some but as we keep no accounts with the chicken yard, I can not answer the last part of this question.—M. E. S.

The question as to effect on poultry will be answered by Mrs. Metcalf later.

Fever.

My Jersey cow seven years old has always been well until she calved in May when she had milk fever but recovered rapidly after being treated with the air treatment. About two months ago she failed in her appetite, also milk for several days but seemed to get all right again.

Oct. 19 she again refused to eat, her milk immediately ceased to flow, to any extent, the left back quarter of her udder began swelling and has gotten in bad condition but it doesn't seem very tender.—J. M. H., Upland.

These attacks of fever may come from several different causes. I should blanket this cow at night and shelter her from winds in day time. Try giving her some of the prepared stock foods, or give her chopped pumpkin and green grass. If she will take it rolled oats and bran half and half are excellent to bring her up. Anti-Phlogiston is a fine application for the cow's udder when the congestion has been of long standing.— M. E. S.

Apples—Eucalyptus.

I have taken up a claim of government land in the northeast corner of San Bernardino county, joining the Nevada line in Parumpt valley. The soil is recommended for apples. What varieties are best, sell best and would do best in that section? How about pears? Temperature varies from 15 to 115 degrees. What varieties of eucalyptus would be best? Would the pepper tree flourish there as here? What ornamental trees, shrubs and vines would you recommend and when should they be started? Would it be too cold for the palm?—C. M. H., Whittier.

The soil may be right for apples, but it is doubtful if the climate is right for winter apples. We judge from your description that the climate is similar to that of the Imperial Valley. No doubt red and white Astrachan and Duchess de Oldenburg will be profitable as they are early summer varieties and come in when apples command a good price. Do not try more of fall or winter varieties than will suffice as an experiment. You may get a late or second crop that will be of good quality, but you can't count on it.

Bartlett pears should do well with you and the climate may help them to be blight proof.

Plant Eucalyptus Rostrata, Tereticornis and Rudis.

Pepper trees will no doubt be killed when young by 15 deg. temperature.

We have found that in the Imperial Valley, oleanders and altheas are very vigorous and make a splendid show. Many varieties of roses do well and are remarkably free from mildew.

The cannas that have blooms of firm and rather stiff texture do exceedingly well but the fine varieties with delicate blooms soon wither, in fact fail entirely to mature blooms. Madam Crozy and Alphone Bourier are yellow and bright red varieties that are suited to the climate. Petunias, geranuims, phlox and cosmos do well. The latter will grow well in the spring but when hot weather comes will check in growth and make some bloom for several weeks, when it will shut up and make its usual growth and bloom in the fall.

The fig makes a good yard tree as does also umbrella and Arizona ash. The pepper tree does well in the Imperial valley but blows over after irrigations, in soft soils.

We have given these notes relating to the Imperial Valley, because they relate actual experiences there and the similarity in climate between these and your section may render them useful to you.—J. W. M.

Eucalyptus in Arizona.

We have an altitude of 3490 feet. Sometimes we have hard frosts in winter and the summers are very warm. Our rainy season is in July. We have some Eucalyptus corynocalyx one year old which were raised from seed. Two nights ago the frost killed the leaves. Will these trees die? And will Rostrata or red gum stand the frost better? What shade tree would you recommend for this climate? What is the proper time to plant castor beans?—Subscriber, Douglas.

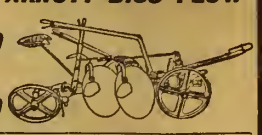
We fear your corynocalyx are all dead. If not, they doubtless will not be able to stand the winter. It is one of the most tender of the eucalyptus family. Rostrata, Rudis and Tereticornis are more hardy but we question whether any of the eucalyptus family now tested will stand your climate. You do not say how low the temper-

EVERYTHING FOR THE FARMER

ARNOTT ORCHARD CULTIVATOR

Acknowledged the BEST
Five feet wide.
Spring teeth if wanted.
Horizontal lift.
No neck weight.
Steel and Malleable Iron.
Dust proof wheels..... **$45.00**

SANDERS-ARNOTT DISC PLOW



SINGLE **$60.00**
DOUBLE **$80.00**

COLUMBUS WAGONS

Three inch Skein.
Four inch Tire. Brake and Pole.
$80.00

PACIFIC ORCHARD TRUCK

3¼x10 Skeins. 28x30 in. wheels..**$32.50**

LEATHER TRIMMED

Guaranteed Twelve Months
$65.00

MONITOR WINDMILL

8 ft.....$30.00
10 ft..... $45.00
The New 8 and 10 Foot MONITOR

MONITOR ENGINE
Simple Economical
2 H. P....$130
4 H. P. $250
6 H. P. $350

Catalogue No. 9 Sent Free on Application
Address Department G.
ARNOTT & COMPANY Inc.
112-118 South Los Angeles Street
ARNOTT QUALITY GUARANTEED
Los Angeles California.

AUCTION

18 DAIRY COWS HOLSTEIN BULL
2 HORSES
MONDAY, NOV. 16

At 10 o'clock a. m. On the Gordon Ranch, 3rd house south of Florence ave. on
CENTRAL AVE.
1 mile south of Slauson ave., Los Angeles. Take Watts local cars to Florence ave. or Central ave. cars to end of line, or Moneta ave. cars to Ascot Park.

18 head first-class dairy cows, Jerseys, Holsteins and Durhams, young and in good condition, fresh and coming fresh, big milkers, in fact all good dairy and family cows.

1 Holstein bull. 2 driving horses.

Implements: 1 good milk wagon, double harness, single harness farm wagon, bottles, milk cans, 200 ft. three-fourths in. water pipe, stanchions for 20 cows and shed roof, milk house, Etc., Etc.

On account of poor health I am quitting the dairy business, closing out my entire herd and everything positively goes to the highest bidders. No limit or reserve.

Terms: 4 months time will be given with note and approved security and 7 per cent interest. 3 per cent discount for cash. Frank N. Towne, owner
Rhoades & Rhoades, Aucrs.
Office 830-832 South Main St., Los Angeles. Phones: F 1259-Main 1259.

Warranted to give satisfaction.

GOMBAULT'S
CAUSTIC BALSAM

A safe, speedy and positive cure for

Curb, Splint, Sweeny, Capped Hock, Strained Tendons, Founder, Wind Puffs, and all lameness from Spavin, Ringbone and other bony tumors. Cures all skin diseases or Parasites, Thrush, Diphtheria. Removes all Bunches from Horses or Cattle.

As a **HUMAN REMEDY** for **Rheumatism, Sprains, Sore Throat,** etc., it is invaluable.

Every bottle of **Caustic Balsam** sold is Warranted to give satisfaction. Price **$1.50** per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars, testimonials, etc. Address

THE LAWRENCE-WILLIAMS COMPANY, Cleveland, Ohio.

The Monarch
Stump Puller

The Monarch is a Puller constructed on the most correct and scientific principles, and is made of the strongest and best materials obtainable.

The Monarch

Is the most successful and most popular Stump Grubber on the market today.

Write Us for Catalogue of Stump Pullers, Farm Implements, Wagons and Vehicles.

Pacific Implement Co.
133-153 Kansas St. San Francisco

Peckham Says:

Buy Sugar Beet Land

for profits—buy our Corcoran land, the best sugar beet land in the State of California. Every acre of our land will net you from $70 to $90 an acre—clear profit and we will farm it for you if you wish. Call, write or phone

George C. Peckham & Company

Phones: Main 3221, F5392.
203-4-5 Union Trust Bldg., Corner Fourth and Spring Sts., Los Angeles Cal.

SEED GRAIN
Black and Red Oats, Wheat, Barley, Bean Screenings, Etc.
constantly on hand and for sale at lowest market rates
Bray Brothers Buyers of Grain and Beans Members Merchants Exc.
220 Clay St., San Francisco, Cal.
Established in 1855. Correspondence Invited.

The Altland Fruit Company at McPherson, Orange county, made the first shipment of oranges from Southern California this season.

ature goes but if it falls for any length of time to fifteen degrees, trees other than the eucalyptus will probably give you better service. We imagine the umbrella tree would be desirable. Chestnuts are excellent and a beautiful shade tree. If you have sufficient water it is probable the elms or maples of the east would grow satisfactorily to you. In your climate we imagine the castor bean should be planted in the spring time, February or March.

Peach Tree Borer.

I have peach trees affected with borers. What is the remedy and how can their attacks be prevented? What is the name of the insect?—Subscriber.

I suppose you refer to the root borer. They should be dug out of the borings. Very often a small wire can be run down into the channels which will kill them if the wire reaches them.

Remove the earth to a depth of six inches around the base of the tree and fill into the surface with air slaked lime. Pure sand will prevent their attacks to a certain extent as the insect restricts its work almost entirely to heavy land. In addition to the lime preventive, wrapping the trunks with paper or sacks or whitewashing them is an advantage.

Sannina Pacifica is the name of the borer.

Keeping Seed from Weevil.

How can I keep cow pea seed from the weevil until ready to plant.—T. Kiyono, League City, Texas.

Place in an air tight bin or box; then in a dish or on absorbent cotton place bisulphide of carbon, so that its fumes will penetrate all of the interior of the box. Use this at the rate of 1 pound of bisulphide to every 100 bushels of the beans or grain. Close tightly and leave a few hours or over night. Then store where the insects may not get at the grain. Be carful not to keep fire or lighted cigar near the gas of the bisulphide as it is explosive.

Spineless Cactus.

Is anyone in a position to state from actual experience the good and bad features of spineless cactus?—B. J., Anderson.

We do not think there is any one with experience which would be of value to you on the cactus question. We doubt not it will be several years before very valuable information may be had on that subject. We know that recently a car load of the young plants was shipped from Santa Rosa to be replanted in the San Joaquin valley. In time these will make a showing of their worth or otherwise. If any subscriber of the Cultivator has any information to be given along this line it will be appreciated by many who are interested.

May Beetle Grubs.

I send grubs from manure pile. They eat the roots of my blue grass lawn so that I have had to dig my lawn up. I cannot find a description of them in my book of "Injurious Insects." I wish to ask for a description of them and of their life habits. I put cow manure on my lawn two years ago and I think they got in my lawn at that time.—B., Pasadena.

They were decided to be the grub or larvae of May beetles, but to be sure to have the latest information regarding them, the query was referred to Prof. H. J. Quayle, entomologist at the Pathological Laboratory at Whittier. And he replies as follows: "You are correct in judging that these are the larvae of the May beetle and are commonly known as white grubs. As for remedy, I know of nothing that is quite satisfactory. Tho liberal application of kainit or of nitrate of soda is said to be fairly satisfactory, but I cannot vouch for this from my own personal experience. In case they are abundant enough in the lawn so as to destroy much of the grass, plowing or spading up and leaving in this condition without water for a few weeks is a firstrate method here in California. Chickens and turkeys also destroy great numbers of these if they can be at hand when the plowing or digging is done. These larvae cannot withstand any drying of the soil, and hence during the dry season a couple or three weeks will be sufficient to kill those that are left in the soil. The lawn may then be re-seeded and further trouble from this insect avoided."

The May beetles sometimes called June bugs, belong to the genus Lachnosterna and during May and July are flying about, and when a lamp is on the porch or in the open the big mahogany brown bettles are blundering around into everything. The beetles are sometimes plentiful enough to do great injury by eating leaves of trees.

Fall Plowing.

Woud you advise fall plowing between fruit trees for mulching purposes?—O. A. D., Phoenix.

We hardly know what our inquirer wishes to know in asking his question. But we believe the best treatment of orchards at this time of the year is to irrigate the ground heavily; drill in a good crop of Canadian field peas or of vetch seed. Leave the ground in condition so it may be irrigated in case of light rains. Then plow under in February or March. This adds some needed elements to the soil and at the same time puts it in a much better mechanical condition.

Legal Queries

Edw. L. Payne, attorney, 301-304 Douglas Building, Los Angeles, will answer legal queries in this department.

Immediate mail replies cannot be given except where fee to Mr. Payne is paid. When replies are wished in Cultivator address query to 115½ N. Broadway, Los Angeles.

Agent's Commission.

Can a land agent collect fees when the customer refuses to buy at the time, but eventually turns up after a few months and buys it, especially if out of agent's hands when bought?—E. J., Fresno.

1st: An agent cannot collect fees under the ordinary agent's agreement unless he produces a customer, within the time limited in the contract, ready, willing and able to buy.

2nd: If the agent can establish bad faith or fraud on the part of the owner, he would be entitled to recover his commissions, although the purchase was made after the time limited in the contract, or an extension thereof by the owner.

The foregoing answer is based upon the presumption that the agent's commission was to be paid by the owner, as such is the customary transaction, and the answer might be different if all of the circumstances, which gave rise to the question, were known, as there are seldom two cases alike.—Edw. L. Payne.

MACHINERY WANTED.

WANTED—TWO PUMPING PLANTS IN good condition, 8 to 20 H. P. Address BOX 297, Corona, Cal.

HOGS.

REGISERED BERKSHIRE AND POLAND China hogs, both sexes. C. A. STOWE, Stockton, Calif.

Classified Liners

Rates 1½ cents per word per issue. No ad accepted for less than 25 cents. Our classified columns are the clearing house for the readers of the Cultivator. Here you can insert an ad for the small sum of 1½ cents per word per issue, and be sure that it will be read by thousands.

MACHINERY.

WE CARRY A GENERAL LINE OF MAchinery, gas engines, air compressors, boilers, engines and pumps. 40 car loads of screw pipe and casing can be cut to lengths, also all kinds and sizes of fittings. Several hundred iron fence posts. R. KELLY MACHINERY CO., corner of Mission road and Macy street, Los Angeles, Cal.

FOR SALE—MEHRING MILKING MAchine with extra parts and covered pail, all in good order. WM. H. BIRD, Box 6, Compton, Cal.

FOR SALE—RENT OR EXCHANGE, BOILers and engines, gas engines, pipe and oil well casing, pumps, all sizes and makes; get our prices before you buy. A. CANNADY & CO., 691 N. Main st., Los Angeles, Cal.

FOR SALE—11 H. P. WHITE &MIDDLETON distillate engine in good running order at a snap. Also pump. MACHINERY EXCHANGE, N. W. COR. MAIN AND BRUNO Sts. Los Angeles.

FOR SALE—UNION GASOLINE ENGINES all sizes, both new and secondhand. Snaps in several secondhand engines in fine condition. BAILIE & BRANDT CO., 943 N. MAIN St., Los Angeles.

FOR SALE—10x10 BELT DRIVEN AIR COMpressor the equal of new at an exceptionally low price. Worth investigating. BAILIE & BRANDT CO., 943 N. MAIN St., Los Angeles.

FOR SALE—15 H.P. 220 VOLT A. C. MOTOR nearly new. Will be sold cheap. 117 BRUNO St., Los Angeles.

FARM LANDS FOR SALE.

$7.50 FOR THIS AD.—WE WILL MAKE A special offer to the readers of the Cultivator. Bring this advertisement and we will refund $7.50 if you engage us to locate you on the finest Government land in the Southwest. Come and see us, you will learn something. LORS LAND COMPANY, 204 Bradbury BLDG., Los Angeles.

AN 80 ACRE FRUIT, VEGETABLE, AND Poultry Farm. A good home, well equipped, $6000 takes everything $3000 Cash, bal. easy terms. WM. MANTZ, Santa Maria, Cal.

I make a specialty of orange and alfalfa ranches, and exchanges. 826 MAIN St., ROOM 9, Riverside, Cal., N. R. BELL.

POULTRY

SPECIAL SALE—TO MAKE ROOM FOR my young growing pullets I offer at common stock price all my this year's breeding pens, including many prize winners. This is a rare opportunity to get first class breeders cheap. At the last L.A.C.P.A. show my birds won all specials, all first prizes, and all seconds but one, that were offered on Barred Rocks. CHAS. E. SMITH, Gardena, Cal. San Pedro car via Gardena to Smith's Crossing.

BLUE ANDALUSIANS—MRS. GRIFFITH'S Blue Andalusians are still in the lead; noted for their utility and show records, layers of large white eggs weighing from 26 to 28 ounces per dozen. Eggs for hatching $2.50 per 15 guaranteed; also few trios $7.50 to $10. MRS. GRIFFITH, 2957 HALLDALE AVE., Los Angeles, Cal. TEL WEST 841.

PARTRIDGE WYANDOTTES—C. Andrews, 823 W. Franklin Ave., Hollywood, Cal.—1st cock, hen, cockerel and pullet; 2 cups, Poultry Breeders' Show, 1908.

FOR SALE—BLACK MINORCA COCKERels, srong healthy birds raised on ranch. $1.50 if sold within thirty days. GEO. W. STERLING, R. F. D. 4, Kern Station, Cal.

FOR SALE—MAMMOTH BRONZE TURkeys, one eighth wild, but very tame. Strong stock having free range. Price reasonable. Mrs. H. E. Guthrie, BUENA PARK, Cal.

50 HEAD WHITE ROCK & WHITE LEGhorn yearling hens and pullets, at your own price; overstocked; must sell. J. W. WHITNEY, R. F. D. No. 2 BOX 162, Long Beach.

FISCHEL'S THOROUGHBRED MAMMOTH Bronze Turkeys—April hatched, Toms $5.00, pullets $3.50. Buff Plymouth Rock cockerels $3.50. C. K. MORSE, Ross, Marin Co., Cal.

WHITE MINORCAS—SETTING EGGS $2 for 15; $3 for 30. Incubator lots, $6 per 100. C. S. LANE, Santa Barbara, Cal.

TREES.

A LARGE STOCK SEEDLINGS AND GRAFTed Walnuts, Elberta, Muir, Lovell, Phillips cling and all other peach, Apple, Pear, Plum, Apricot trees. All varieties trees, grapes and roses. A thrifty well rooted stock and will please you.—A. R. MARSHALL, BOX 64, Santa Ana, Cal.

FOR SALE—1500 EUREKA LEMON TREES and 1000 Washington navel orange trees, true to name. Also street and ornamental trees. Clean, healthy stock only offered. GEO. B. WARNER, Santa Ana, Cal.

WANTED A THOUSAND PEACH SEEDlings one year old and 3000 to 5000 orange seedlings two years old, and some Ficus australias 2 feet and up. IMPERIAL VALLEY NURSERY, El Centro, Cal.

SHOPPING BY MAIL.

SAVE MONEY AND GET A BETTER choice by shopping in a large city. We will do your shopping for you. Send for our free book. It tells you how. LOS ANGELES PURCHASING CO., 506 Bradbury Bldg., Los Angeles, Cal.

TREES WANTED.

NOTICE TO NURSERYMEN, (NO AGENTS) I am going to set out this winter a 15 acre fruit orchard, different varieties as follows: 4 acres apples, 4 of plums, 4 of peaches and 3 of figs. The purchase of trees will be made under a strict guarantee. ADDRESS J. D. EVANS, Downey, Cal.

WANTED—A THOUSAND PEACH SEEDlings one year old, and 3000 to 5000 orange seedlings two years old, and some Ficus australias 2 feet and up. IMPERIAL VALLEY NURSERY, Imperial, Cal.

The Oldest Savings Bank in California

FOUNDED IN 1857. CAPITAL FULLY PAID $1,000,000.00

The Savings and Loan Society

101 Montgomery St., Cor. Sutter St., San Francisco

Exclusively a Savings Bank whose policy is for ***Conservatism*** and ***Safety,*** the result of ***Fifty-One Years' Experience.***

Deposits may be made and withdrawn by mail.

San Francisco Savings Union

Founded June 18, 1862 **Northwest Cor. California and Montgomery Sts., San Francisco**

Conducts a Savings Bank Business Exclusively

Capital Paid Up, $1,000,000.00 Surplus, $1,183,632.00

Total Assets, $27,508,850.00

E. B. POND, President.

W. C. B. de FREMERY AND C. O. G. MILLER, ... Vice-Presidents

LOVELL WHITE, Cashier. . . . . R. M. WELCH, Asst. Cashier.

Directors: John F. Merrill, Wm. A. Magee, W. C. B. de Fremery, H. C. Breeden, Jacob Barth, Fred H. Beaver, Wakefield Baker, C. O. G. Miller, E. B. Pond.

Every facility afforded for opening accounts and making deposits and withdrawals by mail. Correspondence invited.

LEARN

Plumbing, Electricity, Plastering or Bricklaying

Our graduates make $6 per day after three months instructions
You can enter at any time.—No previous knowledge required.

NO BOOKS—TOOLS TAKE THEIR PLACE

Day and Night Classes. Our Scholars are from 15 to 50 years old

Positions Secured and Experience Given on Outside Work **Write for Free Catalogue**

COYNE NATIONAL TRADE SCHOOL Inc.

233 8th Street, San Francisco, Cal.

Angle Lamp

The Light That Never Fails

Thousands in use all over the country. A good light is the greatest pleasure and the first necessity of every home.

The only lamp on the market that is sold under an absolute guarantee.

Remember, the light from Kerosene is the light science has agreed upon as being the purest and best, because it is soft and mellow and restful to the eyes.

Here are a few of The Angle Lamp Merits:

NO UNDER SHADOW. NO SMOKE, NO ODOR, LITTLE HEAT.

GREAT ECONOMY—COST LESS TO BURN than an ordinary lamp. As easy to operate as gas or electricity, and better than either. ABSOLUTELY SAFE under all conditions. Lighted and extinguished like gas. Burned HIGH or LOW like GAS without a trace of odor. And a BRILLIANT, soft, steady, shadowless light—but this you will have to see to appreciate.

The lamp as shown in cut burns 22 hours on 3 quarts of oil.

Send for Illustrated Catalogue with Prices

Boesch Lamp Co., (Est. 1869) 1135 Mission St., San Francisco

When writing advertisers, mention Cultivator.

Cultivator Order Blank

Balance of This Year Free—For New Subscribers Only

_____190

CULTIVATOR PUB. CO.

115 1-2 No. Broadway, Los Angeles

Gentlemen—Enclosed find $1.00 (Canadian and Foreign, $1.50) for which please send the ***Cultivator*** to the following address from date to January 1, 1910.

NAME _____ P. O. ADDRESS _____

Signed _____

Address _____

Household Department

GRANDFATHER AND THE NEWS.

Grandpa was reading his paper,
Grandmother knitting by,
The gentle purr of the kettle
Stirred the silence pleasantly.
"Found any news yet, Father?"
Softly Grandmother said.
At that moment, excited, he found it
"Abe Sawyer is shingling his shed."

Knitting-work was forgotten;
Grandmother's face was aglow.
"Land, you don't tell me, Father!
"Abe Sawyer! I want to know!"
Grandfather's tremulous finger
Pointed, "Right there!" he said,
Both old heads bent above it,
"Abe Sawyer is shingling his shed."

Tumults of man and of nature,
Crashing of nations at war,
Weighty political issues,
Perils in wait at our door—
Grandfather passes them over
Hunting for *news*, instead,
Yes, sir, right here we have it!
"Abe Sawyer's shingling his shed."

Talk about fraud and corruption!
Tell us that newspapers lie!
Grandfather's faith is implicit,
Grandmother smiles trustingly.
This age is an age of progress,
The Golden Age, when all's said.
We're marching upward, I tell you,
"Abe Sawyer is shingling his shed."

BENNIE'S BLUFF.

"HOW many times do you want me to say it?" demanded Miss Callonby. "I thought we had that all settled finally and forever."

"I didn't understand it was 'finally,'" said Bennie Purvis. "I hoped—"

"I told you there was no use hoping," snapped the young woman. "You asked me if you mightn't hope and I distinctly told you no. That's what I said, and now you drag the whole thing up again."

"Was that the last time?" asked Bennie, doubtfully.

"You know perfectly well it was. It was in this very room. I'll have witnesses the next time, or a phonograph."

"There isn't going to be any next time." Bennie said this quite determinedly.

"You said something to that effect before. There oughtn't to have been any this time. There wouldn't have been if you had any regard for my feelings."

"Oh, I say!" remonstrated Bennie, in his best English manner.

"Well, you haven't. You know it's a painful thing for me to have to refuse you."

"Why do you do it, then?" asked the young man, not unnaturally. "Why not have some consideration for my feelings and say 'Yes?'"

"Because I don't want you. I'm not going to marry you just to spare your feelings."

"I haven't any idea of asking you to marry me to spare my feelings. If you were willing to do it I shouldn't let you."

Miss Callonby pouted. "I don't see how you could help it," she said. "But you needn't feel alarmed. I'm not going to. You're the last man on the face of the earth that I would dream of marrying. My refusal—I should like you to understand that it is positive. I want this to be the very last time. I shall be angry with you, Bennie, if you ever approach the subject again."

"I shan't. Don't worry about that."

"I wish I could believe you."

"You may believe me, all right. I can promise you safely that you won't be pestered any more so far as I'm concerned."

"Bennie," said Miss Callonby, "you aren't angry with me, are you?"

"No." answered Bennie.

"Truly?"

"Truly."

"Because, you know. I would if I could possibly., I wouldn't have you really angry with me for anything in the world. You know that, don't you? What makes you say I can believe you in that way?"

"Because I mean it."

The young woman looked at him long and seriously. "Bennie, you don't seem natural at all this evening," she said. "There's something hard about you that I don't like. I believe you are angry with me, and you never were before in your whole life."

"And I never will be. I shall always have the very kindest thoughts of you."

"I don't want 'the very kindest thoughts.' You talk as if you were going to China and didn't ever intend to come back."

Bennie smiled sadly. "That is a mighty near guess," he said. "The Philippines."

Miss Callonby gasped a little "You're joking." she said.

"Never a joke," declared Bennie. "I've a good chance at a good thing out there, and I made up my mind that if you said 'No' tonight I'd take it. And when I really do make up my mind—"

"Change it," said Miss Callonby. "Change it to please me. I don't want you to go to that wretched place. You'll have fever and all sorts of horrible things."

Bennie shook his head. "I guess I might as well say good-by now," he said.

He held out his hand. Miss Callonby took it and stood with her forehead wrinkled thoughtfully.

"I'll miss you horribly," she said at last.

"Just a little at first," said Bennie.

"No, all the time. You won't change your mind?"

"No."

The thoughtful frown on the young woman's face deepened as the clock ticked on.

"Good-by," said Bennie.

She raised her eyes to his and found them sad but inflexible in expression.

"Bennie," she said, hesitatingly, "if I asked you to ask me again—what you asked me before, would you? You promised me not to but would you? Wait a moment. I said 'No' this evening and you said if I said 'No' you'd go to the Philippines, and you wouldn't change your mind. Would it make any difference if I said 'yes?'"

"Are you asking out of curiosity?" demanded Bennie, sternly. But he saw that she was not.

"It was a blamed mean trick," Bennie said to himself as he left the house. "Still, I'm mighty sorry I didn't think of it before. If she ever finds out I was bluffing—." [Chicago Daily News.

THE WRONG BOY.

Mother (viciously scrubbing her small boy's face with soap and water) —"Johnny, didn't I tell you never to blacken your face with burnt cork again? Here I have been scrubing half an hour and it won't come off."

Boy (between gulps)—"I—uch!—ain't your little boy—uch! I'se Mose, de colored lady's boy."—Judge.

HOMELY HINTS.

Pieces of soap should be saved and not left to waste by the kitchen sink. Put them in a jar and when there are several pieces shred them and put into a saucepan, allowing a teacup of soap to a quart of water. Add a dessert-spoonful of borax and boil until dissolved. Pour into jam pots and keep the jelly for washing flannels and light things. The soap jelly is easily dissolved in hot water and in a lather made in this way the finest woolen goods can be washed.

Old wooden floors are improved this way: Dissolve one pound of glue in two gallons of water. Stir into this enough fine sawdust to make a thick paste and fill the cracks with it. The paste may be colored to match the wood. Or you can try this: Fill the cracks with putty. One can make the putty by mixing whiting and linseed oil together and kneading it until the paste is smooth. The putty may also be colored to match the wood.

Disease often lurks in the sink or the bath-tub pipes. Hot water and lye, carbolic acid or ammonia, will keep them clean.

Muriatic acid will remove dark stains on the porcelain sink or bath-tub.

Washing Table Linen.

Table linen should be washed alone and should not be put in the tub with bed or body linen. The linen should first be examined for stains and as there are always tea, coffee and fruit stains apt to be on the linen these should be removed by boiling water. It will not require much rubbing after the stains have been removed. The clothes wringer should be screwed loosely, for the material in table linen is soft and easily creased. If the linen is worn so that using it once renders it creased and soiled, it may be put in a little thin starch.

Piece bags, which are decidedly convenient and which save time and bother in the sewing room, are made so that one glance at the bag discloses what its contents are. For white scraps and pieces make a bag of white cotton or muslin. Also make a bag of outing flannel for the woolen scraps. Colored wash goods should be kept in a gingham bag, and a bag of silk will contain the silk pieces. If this plan is adopted the different kinds of scraps will be kept separate and one will know which bag to go to by a glance at it without having to rummage in each one before the article wanted is found.

CARE OF THE PANTRY.

If there is any room in the house where order and cleanliness should reign supreme it is the pantry. Here it is that most all our foods are kept, and so many articles of food become unfit for use when exposed to foul odors or those from other articles of food equally as pure. For example, the odor of onions will ruin milk or flour, as will also the odor of coal oil. Salt is a disinfectant and very susceptible to foul odors. Thus it is seen that one cannot be too careful. All pantries in modern homes are arranged with closed shelving. This saves much of the labor generally required to keep the pantry clean. But many pantries have open shelving extending from the floor to the ceiling. And what woman is there who does not know the constant effort it takes to keep it clean? The top shelves just seem to fill up of their own accord, but never arrange themselves in order. One must climb up and down dozens of times for one cleaning. The best thing to do is to place only such articles upon the high shelves as may be inclosed in tin cans and boxes or earthenware, and let these be articles not often needed. Have all the shelving painted some light shade and do not use paper or oilcloth upon them. The floor should be covered with linoleum, unless the cracks have been filled and the floor painted. Have bins made below the shelving to contain flour, meal, sugar and potatoes, (if potatoes must be kept in the pantry.) These bins should either be hinged to the floor or the revolving sort, so they will not require lifting and will always be closely covered when in position. The closed closet for containing the cooking utensils is indispensable. It should contain shelves for pans and hooks for hanging up skillets and articles containing rings for hanging them up.

BREAKING IT GENTLY.

"George," said she, "you have held a good many high positions at one time and another."

"Yes," said George, who had been married long enough to know that non-committalism is the best home policy.

"And I have heard it said that your success was due to the magnetism that drew men toward you."

"Um—I—"

"Don't pretend to be bashful, now. And I was just wondering if you were magnetic enough to draw the tacks from the drawing-room carpet tomorrow morning before breakfast."—Tid-Bits.

NOT WIDOW ALONE.

Tomdix—In speaking of Mrs. Weeds why do you persist in calling her a "widow woman?" Why not say "widow" alone?

Hojax—But Mrs. Weeds is quite good-looking—and a good looking widow is seldom alone.—Chicago News.

THE LIMIT.

Mrs. A.—I understand your husband is fond of an argument.

Mrs. Z.—Yes, indeed! Why he even refuses to eat anything that agrees with him.—Pick-Me-Up.

Mayer HONORBILT

SHOES FOR MEN

These splendid men's shoes represent the best there is in shoe leather. Every piece of material is of the choicest tannage. The workmanship is perfect; the styles are up-to-date. When it comes to service, there is nothing that equals them in lasting qualities.

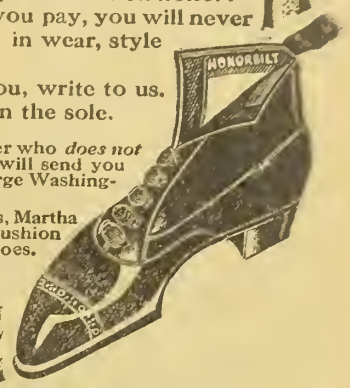
"HONORBILT" SHOES

are everything the name implies. They are *"built on honor."* No matter where you look, or what you pay, you will never find anything that will outclass them in wear, style or comfort.

If your dealer will not supply you, write to us. Look for the *Mayer Trade Mark* on the sole.

FREE—Send us the name of a dealer who *does not* handle Mayer Honorbilt Shoes, and we will send you free, postpaid, a beautiful picture of George Washington, size 15x20.

We also make Leading Lady Shoes, Martha Washington Comfort Shoes, Yerma Cushion Shoes and Special Merit School Shoes.



MILWAUKEE Mayer CUSTOM MADE

F. Mayer Boot & Shoe Co.
MILWAUKEE, WISCONSIN

WESTERN BRANCH: Washington Shoe Mfg. Co.—Seattle.

4 Per Cent
Interest on Term Deposits

Money deposited in this Bank is secure, being protected by resources of nearly $10,000,000.00. It earns the largest interest consistent with safety.

Special facilities are offered out-of-town depositors. Write for information, or call upon us when you are in Los Angeles.

German American Savings Bank
Spring and Fourth Sts., Los Angeles

Oldest and Largest in the Southwest
SECURITY SAVINGS BANK
Los Angeles, California
CAPITAL AND RESERVE $1,200,000.00
TOTAL RESOURCES OVER $20,000,000.00
We Pay Interest
4% on Term Savings and on Six Months Certificates of Deposit
3% on Ordinary Deposits
By special arrangement 'Ordinary' accounts may be checked against without presentation of a pass book, and 3 per cent. interest will be paid on the minimum monthly balances.

$1.00 ONE DOLLAR'S WORTH OF MUSIC FREE FREE
Send 6c in Stamps for Our New Catalogue of 10c Music
Many new additions, also Catalogue of popular hits. We will send you four pieces of regular sheet music with same. State if songs or instrumental music is wanted.
BRODERSEN & BARBER
113 So. Spring St. - Los Angeles, Cal.

PIANOS
Slightly used Steinways; 1909 Model Lyon & Healys, and other remarkable Bargains. Lyon & Healy, 80 Adams St., Chicago.
World's Largest Music House
Our Great Re-Building Sale is Now in Progress!

Light and Cook
BY
COLT TRADE MARK Acetylene Gas

See the issue of this paper, October 15, page 381, also of October 29, page 429, containing illustrations of gas lighting apparatus for homes. You may install brackets and chandeliers, plain or ornamental, and be equipped with artificial light by "turning on the gas," in the same convenient manner as in city homes.

Colt Acetylene gas, made on the premises by an individual generator, simple of construction, and easy of operation, more resembles sunlight than any other known artificial illuminant. The light is clean, cool, clear, always of the same brilliancy.

The cost is less than the same amount of kerosene light, less than city rates for gas or electricity.

The Generator is here exhibited from which acetylene gas is distributed through pipes to the various parts of a dwelling. It is an article capable of being understood by a boy of average sense. After the machine is set in place, it needs no attention, except about once a month, depending on the consumption of gas, to fill a hopper with carbide, the substance from which acetylene gas is made.

Mailed request for particulars will be answered by a catalogue explaining the superiority of this method over kerosene lamp-light, over frequent refilling, cleaning and breaking.

Fowler Shankland
Pacific Coast Distributor
204 Severance Bldg., Los Angeles

The Produce Markets

Los Angeles Markets

LOS ANGELES, Nov. 11, 1908.

Butter.

Butter seems inclined to break the record for standing still. Quotations on Extra is still at 67½ and the market is featureless.

Produce Exchange wholesale quotations are:

Creamery ex per roll....67½
Firsts....60
Dairy....25
Eastern Extra....30
Ladles....24
Cooking....24
"Butterine"....16@20

Cheese.

Southern California Anchor....17@19
Northern fresh....15@16
Longhorn....17¼@18¼
Eastern singles....16@17
Cheddars....17
Swiss....17½@18
Imported Swiss....28@30
Daisy....17½@18
Oregon....16
Limburger....16@17

Eggs and Poultry.

Eggs were marked up 2 cents Tuesday, the top notch for extras now being 50 cents.

Eggs local candled....48@50
Eggs case count buying price....43½
Firsts fresh....37@39
Storage selected....33@34
Firsts....24@25
Storage short time....36@39

Poultry begins to feel the impetus of approaching Thanksgiving. It is predicted the turkeys will be exceptionally high. But little storage stock is in hand and imports are promised to be light. Besides a much heavier demand than last year is anticipated, and will surely be realized unless the present "returning prosperity" talk proves to be untrue. We do not think it will.

Wholesale prices:

Hens per pound....14
Young roosters per pound....16
Fryers....16@18
Broilers per lb....20
Old rooster....7
Turkeys....16@20
Geese....12
Ducks....12@13
Squabs....1.25@1.75

Live Stock.

The following quotations are f. o. b., Los Angeles, on all stock.

Hogs from 175 to 200 pounds....6¼
Prime steers....4¼
Heifers....3½@3¾
Calves per lb....4½@5
Sheep ewes per head....3.25@3.75
Lambs per head....2.50@3.00
Wethers....4.00@4.50

Potatoes.

Wholesale prices are:

Sweets per ctl....1.10@1.25
Sweets red....1.00
Burbanks choice....1.00
Northern Burbanks fy....1.50
Local Burbanks....1.50
Highland fancy....1.00@1.25
Coast....1.60@1.60
Salinas....1.75@1.90
Oregons....1.40@1.50

Onions.

Wholesale quotations are:

Silverskin new....1.00@1.25
Australian Browns....1.00@1.25
Danvers....1.00@1.25
Garlic....9@10
Lompocs....1.25

Vegetables.

Asparagus per doz....75
Artichokes per doz Northern....1.00
Artichokes local per box....40
Beets per doz....33@40
Bell peppers per lb large....5
Bell peppers box....25@30
Beans string....4@5
Beans limas per lb....4@5
Brussels sprouts per lb....9@10
Cabbage sack....1.00@1.25
Cabbage red per lb....2
Celery per crate....2.25
Chili per lb....2
Chili dried....10
Corn per lug box....40@55
Chicory per bunch....10
Cucumbers per box....75@85
Cauliflower per doz....25@40
Carrots per doz....35@40
Egg plant per lb....3
Green onions per doz bunches....10@20
Lettuce per crate....75@85
Okra....4
Peas sugar per lb....5½@6½
Parsley....30
Parsnips....35@40
Rhubarb per box....1.50
Rutabaga per doz....40
Radishes per doz....15@20
Salsify....40
Summer squash per box....40@50
Spinach per doz....15@20
Turnips doz bunches....25@35
Tomatoes lug box....35@40

Citrus Fruits.

New Crop Navels....3.00@4.50
Tangerines....2.00
Valencias....4.00
Grapefruit seedless....3.00@3.50
Grapefruit seedlings....1.50@2.00
Lemons fy....2.50@3.00
Lemons choice....1.00

Fresh Fruits.

Wholesale prices on the market are:

Astrachans....1.00
Astrachans packed box....1.35@1.50
Bellflowers....75@1.30
Newton Pippins....1.50
Alexandria 4-tier....1.00@1.10
Gravenstein 4-tier....1.15@1.25
Skinners 4-tier....1.15
California Jonathans....1.50
Red Pearmains....65@1.00
Crab apples....1.50
Apricots cold storage....50
Cantaloupe locals large crate....1.50@1.75
Casaba doz....1.15
Christmas melons per crate....2.00
Figs per fig box....75@1.00
Figs black per fig box....1.00
Guavas per lb....3@4
Muscats per lug box....75@80
Grapes Malaga....75@1.00
Grapes Tokay....1.00@1.25
Grapes Red Emperors....1.00
Cornichons....1.85
Nectarines....1.25
Pears lug box....75@1.00
Pears Winter Nellis per box....60
Plums Kelsey....80
Peaches per box....60
Pineapples per lb....7
Persimmons per lb....5@7
Pomegranates per box....1.50
Quinces....1.00
Raspberries per box....8@12
Strawberries per box....5
Extra fancy....10
Blackberries per box....7@8
Huckleberries per lb....4
Watermelon per lb....1

Dried Fruits.

Wholesale prices are:

Apricots....8
Evap. apples fy per lb....6¼@8
Figs loose white....5
Figs blk....5
Peaches....7½@8
Pears....9@10
Nectarines....9@10
Prunes....4@4½

Beans Dried.

Wholesale prices:

Limas per ctl....4.75@5.00
Lima, new crop....4.50@5.00
Pink No. 1....3.00@3.25
Lady Washington....4.40@4.60
Small white....4.75@5.00
Black eyes....3.50
Garvanzas....4.80@5.00
Lentils....9.00
Bayou....3.50

Nuts.

Almonds IXL per lb....14
Almonds choice....10@12½
Pecans polished....16
Peanuts Virginia....8
Peanuts California....8
Walnuts No 1 SS....12½
Walnuts No 1 HS....12
Walnuts No 2 both hard and SS....8½
Walnuts all less 1½ per cent to trade

Honey.

Wholesale quotations:

Extracted Water White....7½@8
Extracted Amber....6@6½
Comb W W....15
Comb white....14
Beeswax....30

Hay.

Prices paid to producers f. o. b. Los Angeles are as follows:

Barley No 1....15.00@17.00
Barley No 2....12.00@14.00
Alfalfa northern per ton....11.00@13.00
Alfalfa local....12.50@14.50
Plain oat No 1....15.00@18.00
Wheat No 1....14.00@16.00
Wheat No 2....12.00@15.00

Grains.

Wholesale selling price f. o. b., Los Angeles.

Wheat new per ctl....1.90
Kaffir corn....1.80
Corn Eastern sacked....2.00
White oats....1.85
Seed Rye....1.75

Feed Stuff.

Wholesale selling price F. O. B. Los Angeles as follows:

Cracked corn....2.05
Shorts....1.80
Bran....1.65
Oil cake meal....2.50
Feed meal....2.10
Rolled barley....1.60

Walla Walla, Washington, Poultry Association holds its annual show December 30th to January 4th.

San Francisco Markets

SAN FRANCISCO, Nov. 10, 1908

Butter.

Extra butter raised to 32 last Thursday, to 33 on Friday and dropped back to 32 on Monday where it now stands being 2 cents in advance of last week. Good stock meets with steady demand and market is firm.

The official quotations of the San Francisco Wholesale Dairy Produce Exchange for yesterday are as follows:

California extras per lb....32
California firsts....27½
California seconds....23
California thirds....20
Eastern extras....27
Ladles extra....22
Firsts....21
Storage Cal ex....26½

Cheese.

California young American fy....15
Firsts....14
California flats fy....12½
Firsts....12
Young America fy....14½
Eastern N. Y. Cheddars fy....17
Eastern fy....16½
Oregon fy....13

Eggs and Poultry.

High prices have reduced demand and eggs at present are not as strong in tone as formerly.

Official quotations of the S. F. Wholesale Dairy & Produce Ex. are:

Fresh ranch extras....53½
Eggs firsts per doz....47
Eggs second....30
Eastern selected....28
Eastern firsts....25
Cal Storage....33½
Firsts....30
Eastern Storage ex....26½
Eastern firsts....26

Thanksgiving is as yet having but little effect on poultry market. Turkeys are altogether too light in receipt to form a basis for future quotations. Hens are arriving from middle west, 4 cars in last two days.

Hens per doz....3.50@6.00
Hens extra....7.00@9.00
Young roosters....5.50@6.50
Old roosters....3.50@4.50
Fryers per doz....5.00@5.50
Broilers per doz....4.00@4.50
Geese per pair....2.00@2.50
Goslings per pair....1.75@@2.00
Ducks young....6.00@7.00
Live Turkeys large....19@22
Live Turkeys small....16@18
Dressed Turkeys....24@27
Pigeons young....2.00@2.50

Live Stock.

San Francisco prices gross weight:

Steers No. 1....3¾
Do second quality....3¼@3½
No 1 cows and heifers....3
Second quality....2¾
Hogs 100 to 150....5¾
Hogs 150 to 250....6¼
Rough heavy....4½@5
Calves per lb....3½@4¾
Lambs spring....4
Wethers No 1....3¾
Ewes No 1....3¼

Potatoes.

Wholesale market quotations:

River whites fy....70@85
River whites poor....50@65
do per box....1.00@1.15
Early Rose new....75@85
Salinas Burbanks....1.40@1.60
Sweets crates....1.40
Sweets sks....1.15
Oregon Burbank....1.15@1.30

Vegetables.

Wholesale quotations:

Bell peppers per box....60@1.00
Celery per doz....30@40
Cucumbers per box....75@100
Cucumbers pickle No 2....75
Chili peppers per box....40@60
Corn per sack....1.50@1.75
Egg plant per box....75@1.00
Green peas per lb....6@10
Lima beans....4@5
Squash per box....1.50@1.75
Onions green per box....70@75
Okra per box....50@75
Rhubarb per box....50@65
Tomato River large box....25@50
String beans....6@10
Wax beans....6@10
Garlic new....6½@7

Onions.

Onions yellow per sack....60
Brown Australian....50

Citrus Fruits.

New Navels....2.50@3.50
Valencias fy....2.50@4.00
Grapefruit seedless....2.50@4.00
Grapefruit seedlings....2.00@3.00
Lemons ch....1.75@2.25
Lemons fy....3.00@3.50
Limes....4.00@5.00

Fresh Fruits.

Apples per 4 tier box....90@1.25
Apples per 4½ tier box....65@75
Apples unwrapped....60@75
Bellflowers....75
Bellflowers No 2....25@65
Crabapples....50@60
Blackberries per chest....3.00
Figs per crate one layer....50@1.00
Grapes Muscats....60@85
Grapes Tokay....60@85
Grapes Isabellas crate....1.00@1.25
Grapes Cornichon....65@85
Huckleberries per lb....12@15
Loganberries....4.00@6.00
Cantaloupe River nutmegs....25@60
Muskmelons....75@1.00
Nectarines red....75@1.00
Nectarines white....50@60
Pears Bartlett per box fy....75@1.25
Winter Nellis....1.00@1.50
Persimmons....75@1.00
Pomegranates per box....40@65
Aligator pears per doz....7.00@9.00
Quinces per box....75@85
Raspberries per chest....7.00@10.00
Strawberries per chest....6.00@7.00
Longworths per chest....6.00@8.00
Watermelons per doz....1.25@2.00

Dried Fruits.

Prunes 4-size basis....3¼@3½
Santa Clara....3½@3¾
1908s contracted for....4@4½

New crop contracts, 25-lb. lots—Apricots per lb.: Choice 6½@8; fancy 9@10½.

PEACHES—Choice 5@5½; fancy 6@7.

Apples evaporated....5½@6
Pears....5@8

RAISINS—1907 crop f. o. b.; Clusters and layers. 30-lb bxs—Imperial Clusters, 6-crown, $2; Dehesa Clusters, 5-crown, $1.75; Fancy Clusters, 4-crown, $1.40; London Layers, 3-crown, $1.10; do, 2-crown, $1.05. Seeded, 25-lb bxs—Fancy bulk per lb, 6½@7c; Choice bulk, 6½@7c. Loose Muscatels, 50-lb bxs— Standard, 4-crown, 5½c; do, 3-crown. 4¾c; do, 2-crown, 3¾c; Seedless, 4¾c. Seedless Sultanas— Unbleached, 4¾@5c. Thompson Seedless—Unbleached, 5½@6¼c. Dried Grapes, 4c.

New Crop Raisins—Preliminary prices are named as follows: Cluster—Imperial 6-crown, $2@3; Dehesa, 5-crown $2.50; London Layers, 2-crown, $1.25; 3-crown, $1.35; 4-crown, $2. Thompson's Seedless, 5¾c. Loose Muscatels, 5¾c. for 4-crown, 5c for 3-crown, 4½c for 2-crown and 4¾c for seedless.

Nuts.

Walnuts S S No 1 new crop....12½@8½
Walnuts No 2....10@10½
Almonds nonp....11½
Almonds IXL....10½@11
Ne Plus Ultra....9½

Beans Dried.

Limas....4.25
Pink....2.50@2.60
Small white....4.40@4.50
Large white....3.75
Lady Washington....3.45@3.50
Black eyes....3.25
Red kidneys....3.50
Garvanzas....1.75@2.25
Bayo....3.15@3.25
Horse beans....1.75@2.25

Hops.

Hops new crop....9@13
Hops old stock....3@6

Honey.

Clear white comb....15½@16
Amber....12@14
Extracted W W....6@7
Extract light amber....6½@7
Beeswax No 1 per lb....25@27
Beeswax No 2 per lb....24@25

Hay.

Somers & Co., say:

Arrivals of hay during the past week have been ranging about as they did the week preceding, the total showing but 2210 tons. Although prices were well maintained, yet there was no particular undercurrent of strength to the situation due very largely to the impending election, which although it has caused no undue excitement, yet has been of peculiar interest to the hay and grain trade, for most of the operators concede that the market is in a peculiarly sensitive condition to be in all likelihood materially advanced under renewed business activity providing the safe candidate be selected.

The account of stock which has been recently compiled by the San Francisco Hay Association shows but about one-half of last year's quantity of the available supply of hay in public warehouses throughout the country contributary to San Francisco. We are promised some relief from outside states and as it is generally understood that the consumption is materially less this year, it may be that we will get through the remainder of the season without material trouble. The tendency of the market from now on should most certainly be towards a higher range of prices and any unusual demand will probably bring about a marked advance.

Choice wheat hay....19.00@21.00
Good wheat hay....17.00@18.50
Other grades same....15.00@17.00
Wheat and oat....14.00@17.50
Tame oat....13.50@18.50
Wild oat....13.50@17.50
Stock hay....10.50@12.50
Alfalfa....11.00@15.00
Straw per bale....55@85

Grains.

Wheat No 1............	....1.67½@1.70
Barley new	...............1.35@1.40
Corn large yellow	.............1.80@1.85
Oats white	............1.60@1.70
Oats gray....	...........1.65@1.70
Rye new crop......	..........1.45@1.50

Feed Stuff.

Bran per ton	................29.00@31.00
Feed cornmeal per ton	.......37.00@38.00
Cracked corn per ton	........38.00@39.00
Rolled barley per ton	........29.00@30.00
Oil cake meal per ton	........38.00@39.50
Cocoanut cake per ton	......25.00@26.00
Middlings	........34.00@36.00

Citrus Market

LOS ANGELES, Nov. 11, 1908.

Oranges are going forward slowly in fact practically none from south of Tehachapi. The California Fruit Exchange is shipping none whatever. The Exchange is shipping from Tulare and Butte counties. All told from those two sections 400 cars have already been forwarded.

The earlier navels sold up to $2.00 or a little better f. o. b. California points. The later ones a trifle lower.

There has been some complaint of green, sour oranges. It is possible the season is being crowded a little too early. Loss will surely occur later if such is the case.

Southern California shipments aggregate about 100 cars.

The following quotations on Valencias are of those shipped some time ago.

NEW YORK, Nov. 9.—Six cars Valencias and seven cars lemons sold. Market is very steady on high colored fruit, but somewhat lower on off colored, coarse stock. Lemon market opened weak and lower but gradually advanced with the close of the market firm. Weather warm, favorable.

VALENCIAS—	Avge.
Orchard National O Co......	....$4.35
Standard National O Co	............3.65
Old Mission C C Chapman	.........7.35
Golden Eagle C C Chapman	........4.65
Mayflower F J Richardson	........6.85
Mayflower F J Richardson....	..5.25
Buena F J Richardson......	......4.25

PITTSBURG, Nov. 9.—Two cars sold, two on track. The market is strong on Valencias, weak on regular size lemons.

LEMONS—	
Mission ST Ft Ex Santa Barbara	..2.50
Festival ST Ft Ex S Barbara	....2.25
Big R SB Ft Co Rialto	............3.60

PHILADELPHIA, Nov. 9.—Two cars lemons sold. Weather cool. The market is firm on good fruit. Two cars on track.

LEMONS—	
Las Fuentes Crocker S Smrlnd	..3.32
Montecito C-S Summerland..	.....2.89
Visalia TCC Ft Ex Lemoncove	..4.31
Lemon Cove TCC Ft Ex L-Cove	3.85

BOSTON, Nov. 9.—Five cars sold, two on track. Weather favorable. Market is easier.

LEMONS—	
XXX ST Ft Ex Whittier	..........4.00
Rey ST Ft Ex Fernando	..........3.75
Tunnel ST Ft Ex Fernando	........3.45
Artillery Cal Cit Nnion	............4.30

ST. LOUIS, Nov. 9.—Weather cool. Market is weak on Valencias. Steady on lemons. Four cars sold, four on track. Florida oranges sold $2.25 to $2.35.

VALENCIAS—	
Sunset SS Ft Ex Orange	..........2.40

LOS ANGELES PACIFIC CO. BALLOON ROUTE ELECTRIC RAILWAY

Los Angeles Pacific Co

Electric Lines

The Shortest and Quickest Line

LOS ANGELES to the OCEAN

VISIT
VENICE, OCEAN PARK
REDONDO, SANTA MONICA
PLAYA DEL REY

Fish at Long Wharf, Port Los Angeles

Try a Trip on the BALLOON ROUTE DAILY EXCURSION, One Whole Day for ONE DOLLAR. Car leaves Fourth St. 9:30 A. M.

Los Angeles Stations:

Hill Street Between 4th and 5th — **Fourth Street** Bet. Hill and Broadway

Veterinary

Dr. R. T. Whittlesey, veterinarian, of 714 East Seventh street, Los Angeles, will answer questions in this department. In writing of sickness or injury to any animal be explicit in giving symptoms and particulars. Always enclose full name and address, but if assumed name or initials are preferred they will be used.

Injured Eye.

I have a mare that got down and in struggling to get up bruised one eye. It is now about three weeks since it was injured. It has turned white and runs water; the sight is destroyed. Also have mule colt six months old that has a small navel rupture about the size of a small hen egg. The opening is about the size of a dime. The rupture is easily pushed back but comes down as soon as let loose. I first noticed it when the colt was about three months old. Please give remedies through the Cultivator.—Subscriber, Paso Robles.

The sight may be destroyed at present, but the eye will probably clear up in a few months, unless the eyeball is destroyed. Get the following prescription filled and use it in the eye five or six times daily. Inject a few drops at a time with a curved medicine dropper: R—Adrenolin (1 to 1000 solution,) one dram; distilled water, seven drams. Mix and use as directed.

As to the rupture it will take a surgical operation to cure it, which I would advise you not to try yourself. You might try fastening a hard pad over it and if you can contrive to keep it in place it may cure it.—R. T. V.

Possibly Lumpy Jaw.

I have a young cow, about to have her third calf next May. A large lump came under the left side of her jaw bone. It commenced to come about three weeks ago. I cut it the other morning and a lot of discharge came out. I bathe it with hot soda water but it still keeps sore. She eats well but has got a little thin. Do you think it advisable to use her milk? What do you think is the matter with her? She wears a halter all the time. I would be much obliged for your information.—J. J. J.

There will be no harm from using her milk. It is impossible to say what the nature of the sore is without an examination. It may be a simple abscess, in which case all it needs is opening, cleaning out and treating as any other open wound.

Or it may be actinomycosis (lumpy jaw,) in which case the cow should have internal treatment with potassium idodide, one-half ounce daily for thirty to forty days.

Would advise you to cut out a small piece from the lump, place it in a solution of formaline and water, twenty drops to one ounce, send it to University of California veterinary department, Berkeley, and ask them to let you know whether it is actinomycosis or not.—R. T. W.

ELECTRIC POWER ON THE FARM.

Electric railways radiate from the larger cities and link towns and villages together into one large chain. The farmer realizes the advantage of such a system as a means of transportation, but so far he has overlooked the greatest advantage of all—that of obtaining power to operate electric motors.

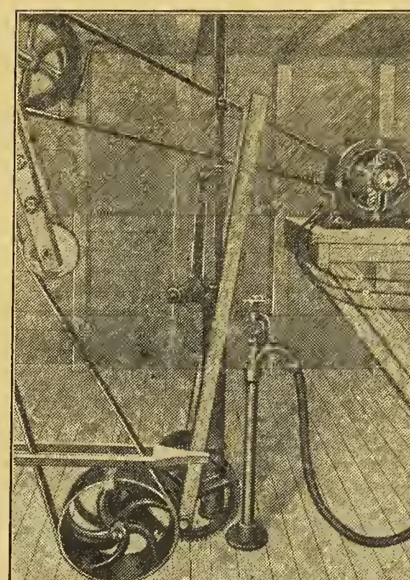
The electric railway company is willing to supply the power at a nominal sum, the manufacturer stands ready to furnish a reliable motor and it remains for the farmer but to express a little interest and all the advantages of modern electricity will be at his command. As the electric railways operate at 500 volts direct current, the power can be wired direct to the motor without the use of any of the auxiliary apparatus necessary on a high tension alternating current system and a motor once installed needs practically no attention.

Success in farming depends in a large measure upon the manner in which the odd jobs are done. The average farmer finds it difficult to obtain a steady, reliable man. But the work must be done, so he does it himself, meanwhile neglecting his other and more important duties. His more progressive neighbor will install a small electric motor.

Few people realize the varied uses to which an electric motor can be put on the farm or dairy. A few of the many machines now being driven by electric motors are: churns, cream separators, ensilage cutters, corn shredders and shellers, grist mills, feed grinders, saws, grindstones, ice cream freezers and all kinds of pumps.

Every farmer needs water badly and no investment pays as sure returns as a permanent, reliable water supply for the house, dairy, barn, lawn and fire protection. A farmer does not realize at what a small cost he could have a running water supply in the house. A windmill to pump the water is a very economical arrangement, but the lack of wind is felt particularly in the hot summer months.

Mr. A. L. Feighner, a farmer residing near Marion, Indiana, has



solved this problem of an adequate water supply at a low cost. He had erected orginally on his farm a wind mill operating a pump. This gave him a good, but very unreliable water supply, because just when he most needed water there was no wind to operate the pump. To this equipment he added a pumping jack and a small Western Electric Co. direct-current motor. His present equipment, as shown in the illustration, makes it possible for him to have an unlimited supply of fresh water at a low cost. The pumping jack can be readily adjusted to any pump and disconnected by simply removing a single bolt. The motor is not used, of course, when there is sufficient wind to operate the pump, which tends to save power. The power necessary to run the motor is supplied at a very low cost by an inter-urban railroad which crosses the farm. Mr. Feighner is so well pleased with his outfit that he contemplates operating some additional apparatus from the line shaft in the near future.

An electric motor of standard manufacture once properly installed can be relied upon for instant service at any time. It can be operated just as cheaply as a gas engine and much cheaper than the steam engine. Besides, gasoline and oil are dangerous to handle. A few farmers can perhaps adjust the loose packing of a steam engine or start a cranky gas engine when it gets out of order and refuses to start. But can the ordinary man? Surely his wife cannot be expected to turn the heavy fly wheel of a gas engine or fire a boiler. Any one can start an electric motor by simply throwing a switch.

The electric motor is a cheap, clean and reliable source of power, available at all times and so simple that even a child can operate it.

PLUMBING

Plumbing Materials

WATER SEWER PIPE

ALL PLUMBING REPAIRS

We contract to furnish all the materials and do the work or furnish the materials only.

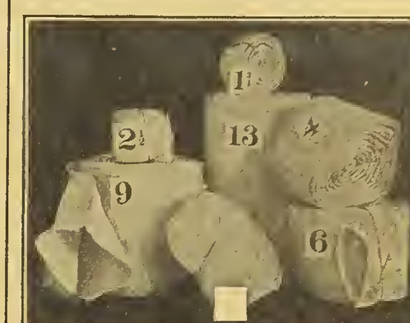
GET OUR PRICES

JAMES W. HELLMAN

Hardware, Stoves, Etc.

157-161 NORTH SPRING STREET

LOS ANGELES, CAL.



IRRIGATING HOSE

12 oz. canvas, coated or plain; good for several seasons. 1¾ inches, 2½ inches, 4 inches, 6 inches, 9 inches, 13 inches. Galvanized or brass couplings.

Tents, Tarpaulins Picking Sheets. icking Bags. Stack Covers

Our Tent Catalogue, mail d free, gives full information.

The Wm. H. Hoegee Co. INC.

138-140-142 So. Main St., Los Angeles

300,000 Feet Water Pipe Cheap

ALL SIZES

150,000 feet of this shipment is second-hand pipe, practically as good as new, and is now on sale at a big discount by the Adams Pipe Works, 2025 Bay street. Sizes and prices: ¼-inch 2 cents per foot; ⅜-inch, 2 cents per foot; ½-inch, 2¼ cents per foot; ¾-inch, 3 cents per foot; 1-inch, 4¾ cents per foot; 1¼-inch, 6 cents per foot; 1½-inch, 7 cents per foot; 2-inch, 9¾ cents per foot; 2½-inch, 15 cents per foot; 3-inch, 19 cents per foot; 3½-inch, 24½ cents per foot; 4-inch, 30 cents per foot. Oil well casing prices and sizes: 2-inch, O. D. 7 cents per foot; 2-inch, I. D. 9 cents per foot; 3-inch, 13½ cents per foot; 3¼-inch, 16 cents per foot; 3½-inch, 17 cents per foot; 4-inch, 20 cents per foot. All pipe is carefully inspected, new couplings and new thread are put on every piece, every joint is guaranteed to be first class, serviceable pipe. Mail orders promptly filled. To reach the Adams Pipe Works in Los Angeles, take car marked Pacific Boulevard, starting east on Seventh street from Broadway. Ask conductor to let you off at Bay street and go east half block. Phones, F1917, Broadway 1264.

Pacific Seed Co.

C. Bagnall, Prop.

GROWERS AND IMPORTERS OF

Grass, Vegetable and Flower Seeds

All Kinds of Bulbs and Onion Sets

609 J St., Sacramento, Cal.

Send for Catalogue. Please mention Cultivator.

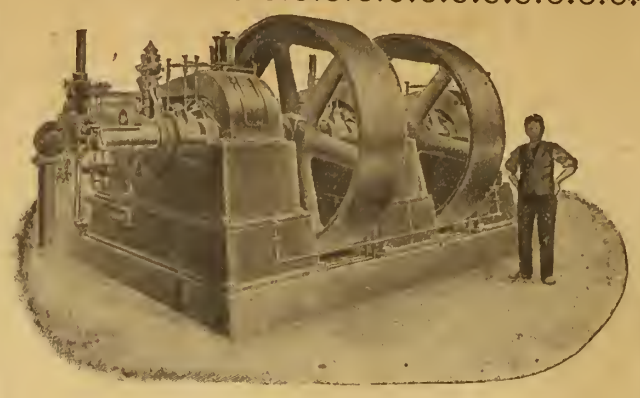
The Imperial Valley Bee Keepers' Association proposes to erect a honey warehouse at El Centro.

The Popular Western

Built In the West **Best** For the West

FACTORY AT YOUR DOOR

LONGEST LIFE LEAST FUEL — FEWEST PARTS ALWAYS GOES



7 to 600 Horse Power

Irrigation Plants Designed Constructed Installed

Note results obtained with a 40 H. P. *"WESTERN"* at Ontario, Cal.

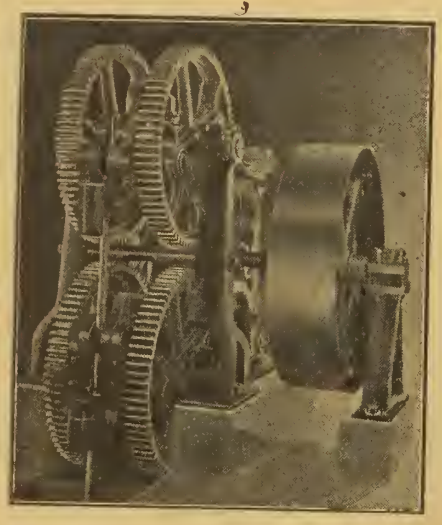
"We are lifting 175 inches of water against a head of 46 feet above pump; vacuum guage stands at 13, with a shade over 3¾ Gallons No. 2 Distillate per hour."

IOWA MEADOWS COMPANY
(Signed) S. J. Ulrey, Manager

Western Gas Engine Co.

Works and Office:
908-932 No. Main St. - Los Angeles, Cal.
Send for Catalogue

New Pomona Double Plunger Deep Well Pump Head



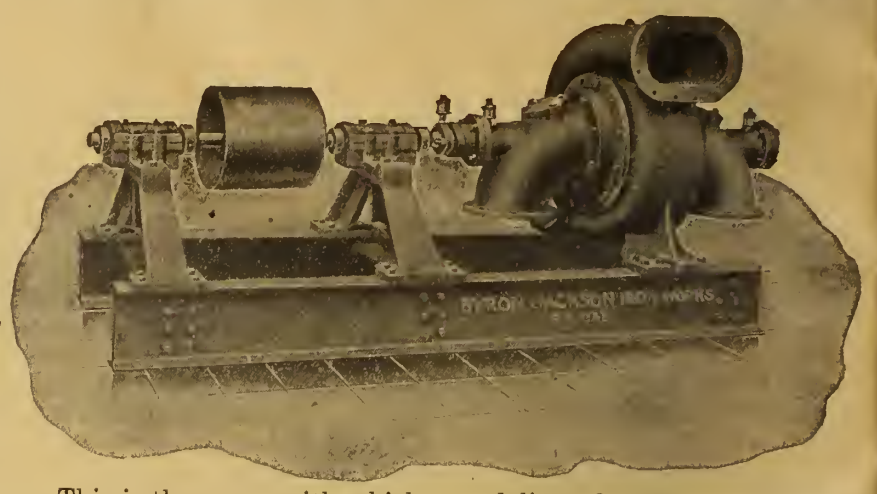
Most Efficient Deep Well Pump in the State

It Is Made in California

Built in Three Sizes—from Ten to Forty Horse Power

It is the smoothest running deep well pump because there are no dead centers, no jerk or jar, and no danger of breaking the pump rods. Be sure and write for our big catalogue. Watch this space for further information.

Pomona Manufacturing Co.
Pomona, Cal.



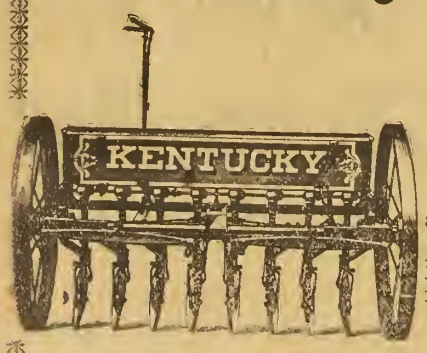
This is the pump with which we delivered 20 per cent more water than promised for a certain head and horsepower. The customer says in a letter that he desires to express to us his great satisfaction upon the result achieved.

Byron Jackson Iron Works

Main Office and Works: West Berkeley, Cal.

Sales Rooms: San Francisco, Cal. Los Angeles, Cal. Portland, Oregon.

Kentucky Disc Drills

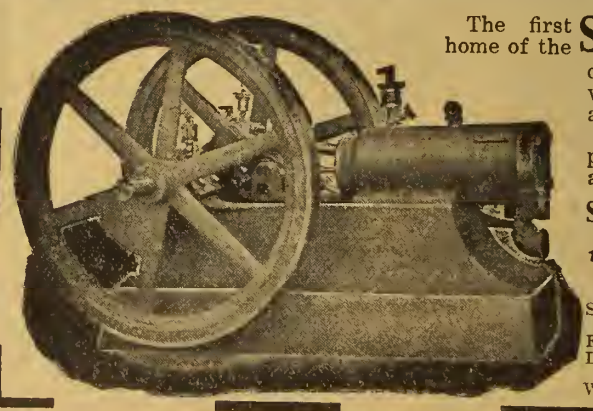


meet every requirement of particular Farmers. Constructed on correct mechanical principles, of the best material obtainable, they are strong and lasting. KENTUCKY Conical Disc Bearings are unique. Of fairly large diameter, they are narrow, giving greatest clearance between discs. Dust proof, oil retaining and adjustable. Over 250,000 in use, giving perfect service, have demonstrated the superiority of the Kentucky Disc Bearing.

Write us for Catalogue of the complete *KENTUCKY LINE*

Pacific Implement Co. 135 Kansas St. San Francisco

Samson Gasoline and Distillate Engines



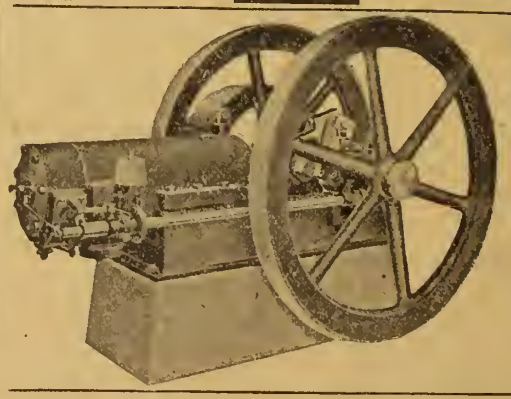
The first home of the **SAMSON** engine is a large one. Its second home, which is everlasting, is a happy one.

They may be compared with the sea—always ready to roll.

Samson Iron Works

Office and Factory: 1100 to 1198 Aurora St. Stockton, Cal.

BRANCHES:
San Francisco, Cor. Market and First Sts.
Fresno, 920 J St.
Los Angeles, 204 N. Los Angeles St. W. L. Cleveland Co., Agent



HERCULES DISTILLATE ENGINE

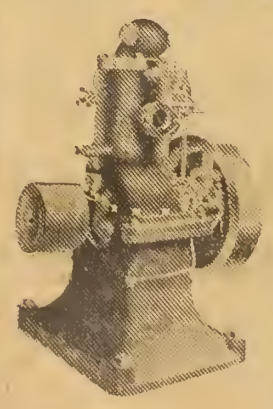
Heavy, Strong and Simple in Construction

The Right Engine at the Right Price

Horizontal and Vertical; All Sizes. Buy direct from the manufacturer and save agent's commission. Send for our new Catalogue C.

The Hercules Gas Engine Works
351 Market St., San Francisco
Telephone Douglas 3630

KEROSENE ENGINES



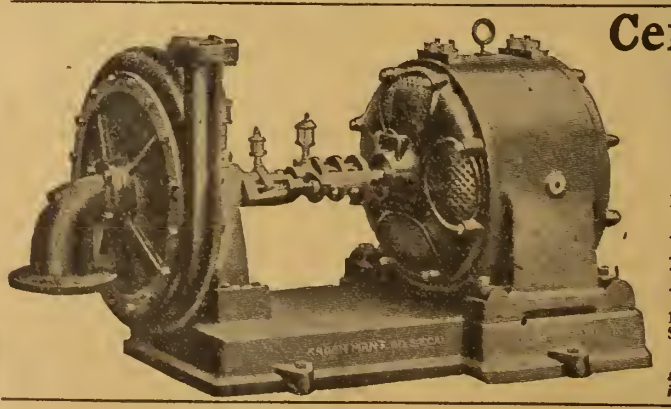
No Batteries or Spark Plugs Used

Simplest, Most Reliable and Cheapest Power on the Market

4, 8 and 16 Horse Power

Marshall Brothers
Point Richmond, Cal.

Catalog Free on Application



Centrifugal Pumps

For high or low heads

Direct Connected or Belt Driven

Highest obtainable efficiency

Krogh Man'f'g. Co.

127 to 133 Beal Street
SAN FRANCISCO, CAL.

Send for New Catalogue No. 50 just issued.

California Cultivator

Published Weekly — One Dollar a Year

Los Angeles — November 19, 1908 — San Francisco

President's Thanksgiving Proclamation

ONCE again the season is at hand, when, according to the ancient custom of our people, it becomes the duty of the President to appoint a day of prayer and of thanksgiving to God. Year by year this Nation grows in strength and worldly power. During the century and a quarter that has elapsed since our entry into the circle of independent people we have grown and prospered in material things to a degree never known before and not now known in any other country. The thirteen colonies which struggled along the seacoast of the Atlantic were hemmed in, but a few miles west of tidewater, by the Indian haunted wilderness, have been transformed into the mightest republic which the world has ever seen. Its domains stretch across the continent from one to the other of the two greatest oceans and it exercises dominion alike in the arctic and tropic realms. The growth in wealth, in population has surpassed even the growth in territory. Nowhere else in the world is the average of individual comfort and material well-being as high as in our fortunate land.

For the very reason that in material well-being we have thus abounded, we owe it to the Almighty to show equal progress in moral and spiritual things. With a nation, as with individuals who make up a nation, material well-being is an indispensable foundation. But the foundation avails nothing itself. That life is wasted, and worse than wasted, which is spent in piling, heap on heap, those things which minister merely to the pleasure of the body and to the power that rests only on wealth. Upon material well-being as a foundation must be raised the structure of the lofty life of spirit, if this Nation is properly to fulfill its great mission and to accomplish all that we so ardently hope and desire. The things of the body are good; the things of the intellect better; but best of all are the things of the soul; for in the nation, as in the individual, in the long run it is character that counts. Let us, therefore, as a people, set our faces resolutely against evil, and with broad charity, with kindliness and good will toward all men, but with unflinching determination to smite down wrong, strive with all the strength that is given us for righteousness in public and private life.

Now, therefore, I, Theodore Roosevelt, President of the United States, do set apart Thursday, the 26th of November next, as a day of general thanksgiving and prayer, and on that day I recommend the people shall cease from their daily work, and in their homes or in their churches meet devoutly to thank the Almighty for the many and great blessings they have received in the past, and pray that they may be given strength so to order their lives as to deserve a continuation of these blessings in the future.

In witness whereof I have hereunto set my hand and caused the seal of the United States to be affixed.

Done at the City of Washington, this thirty-first day of October, in the year of our Lord one thousand, nine hundred and eight, and of the Independence of the United States, the one hundred and thirty-third.

—Theodore Roosevelt.

CALIFORNIA CULTIVATOR CLUBBING PRICE LIST

Good Until October 1, 1909

Periodicals in any club offer will be sent to the same or different addresses, except foreign and Canadian, where there are always extra postage charges. Subscriptions may be either new or renewals, but every order must state after each magazine, which it is. All orders must include the Cultivator for 1 year, and be sent to our office at 115½ N. Broadway, Los Angeles, or come through our authorized agents. Write plainly, especially all names and addresses, to avoid errors.

Class 13

American Magazine	$1.00	Any **two** with Cultivator **$2.30**
Boston Cooking School Mag.	1.00	Any **three** with Cultivator **$2.95**
Camera Craft	1.00	Any **one** and one in class 20 with Cultivator **$2.65**
Childrens Magazine	1.00	Any **two** and one class 20 with Cultivator **$3.30**
Cosmopolitan	1.00	Any **two** and one class 27 with Cultivator **$3.65**
Designer	1.00	Any **one** and one class 35 with Cultivator **$3.25**
Garden Mag.—Farming	1.00	Any **one** and one class 40 with Cultivator **$3.40**
Good Housekeeping	1.00	Any **one** and one class 45 with Cultivator **$3.75**
Harper's Bazar	1.00	Any **one** and Sunset with Cultivator **$2.50**
Health	1.00	
Irrigation Age	1.00	
Judge Library	1.00	
Judge Quarterly	1.00	
Little Folks, Salem (New)	1.00	
Metropolitan	1.50	
Pictorial Review	1.00	
Success	1.00	

Class 27

Ainslee's Magazine	1.80	Any **one** with Cultivator **$3.00**
Outing Magazine	3.00	Any **two** with Cultivator **$3.75**
Putnam's Reader	3.00	Any **one** and one class 35 with Cultivator **$4.00**
Recreation	3.00	Any **one** and one class 40 with Cultivator **$4.25**
Review of Reviews	3.00	
Smart Set	2.50	
Suburban Life	3.00	

Class 20

Appleton's Magazine	1.50	Any **two** with Cultivator **$3.00**
Bohemian Magazine	1.50	Any **one** and one class 27 with Cultivator **$3.25**
Breeder's Gazette	2.00	Any **one** and one class 40 with Cultivator **$4.00**
Circle	1.50	Any **one** and one class 45 with Cultivator **$4.25**
National Magazine	1.50	Any **one** and McClure's with Cultivator **$3.00**
Hampton's Broadway	1.50	
Pacific Monthly	1.50	
Pearson's Magazine	1.50	
Storiettes	1.50	
Van Norden's Mag.	1.50	
World Today	1.50	
Technical World	1.50	

Class 35

Lippincott's Magazine	2.50	Any **one** with Cultivator **$2.75**
Out West Magazine	2.00	

Class 40

Forest and Stream	3.00	Any **one** with Cultivator **$3.00**
N. Y. Family Story Paper	3.00	

Class 45

Arena	2.50	Any **one** with Cultivator **$3.25**
Automobile	3.00	Any **one** and one class 27 with Cultivator **$4.50**
Bookman	2.50	
Current Literature	3.00	

To any combination may be added the Ladies' Home Journal or Saturday Evening Post for $1.50 or Youths' Companion for $1.75.

Farm and Poultry Books with the Cultivator

(Write for Prices on Any Not Listed Here)

A. B. C. and X. Y. Z. of Bee Culture	reg. price	$1.50	with 1 yr. Subs.	$2.35
The New Agriculture	reg. price	2.00	with 1 yr. Subs.	2.50
Feeds and Feeding	reg. price	2.00	with 1 yr. Subs.	2.50
American Grape Growing & Wine Making	reg. price	1.50	with 1 yr. Subs.	2.25
Mushrooms, How to Grow	reg. price	1.00	with 1 yr. Subs.	1.75
Wickson's California Fruits	reg. price	3.00	with 1 yr. Subs.	3.75
Standard of Perfection (Poultry)	reg. price	1.50	with 1 yr. Subs.	2.35
Perfected Poultry of America	reg. price	2.50	with 1 yr. Subs.	3.00

Cultivator Special Club List

No Substitution Allowed in the Following Clubs Unless Mentioned

American Mag.	$1.00	**No. 1**
Success	1.00	Our price with Cultivator
Outing	3.00	**$3.25**
	5.00	
Country Life	4.00	**No. 2**
World's Work	3.00	Our price with Cultivator
Everybody's	1.50	**$6.50**
Delineator	1.00	
	9.50	
Delineator	1.00	**No. 3**
Everybody's	1.50	With Cultivator
	2.50	**$2.50**
Farm Journal 2 yrs	.30	**No. 4**
Garden Magazine	1.00	With Cultivator
	1.30	**$1.75**
Ladies' World	.50	**No. 5**
Farm and Home	.50	Our price with Cultivator
Good Literature	.35	**$1.75**
	1.35	
McClure's	1.50	**No. 6**
Wom. Home Comp. or Success	1.00	Our price with Cultivator
	2.50	**$2.50**

After Feb. 1st orders with Woman's Home Companion will cost **$2.75**

McClure's	1.50	**No. 7**
Review of Reviews	3.00	With Cultivator
	4.50	**$3.35**
McClure's	1.50	**No. 8**
Suburban Life or any class 27 Mag.	3.00	Our price with Cultivator
	4.50	**$3.35**
McClure's	1.50	**No. 9**
St. Nicholas (New)	3.00	Our price with Cultivator
Wom. Home Comp.	1.00	**$3.75**
	5.50	

After Feb. 1 price will be raised to **$4.00**

Outing	3.00	**No. 10**
Success	1.00	With Cultivator
	4.00	**$2.75**

Cosmopolitan may be added for **$3.25**

Pictorial Review	1.00	**No. 11**
Modern Priscilla	.50	Our price with Cultivator
Ladies' World	.50	**$2.10**
	2.00	

Order by club number. It is understood subscriptions are for 1 year unless otherwise stated

Review of Reviews	3.00	**No. 12**
American Boy	1.00	With Cultivator
	4.00	**$3.00**
Review of Reviews	3.00	**No. 13**
Country Life	4.00	With Cultivator
	7.00	**$4.75**
Smart Set	2.50	**No. 14**
McClure's	1.50	Our price with Cultivator
Wom. Home Comp. or Success	1.00	**$3.75**
	5.00	

After Feb. 1st price with Woman's Home Companion will be $4.00.

St. Nicholas (New)	3.00	**No. 15**
Everybody's	1.50	Our price with Cultivator
Delineator	1.00	**$4.15**
	5.50	
St. Nicholas (New)	3.00	**No 16.**
Century	4.00	With Cultivator
	7.00	**$6.00**
Success	1.00	**No 17.**
Current Literature	3.00	With Cultivator
	4.00	**$3.10**
Sunset	1.50	**No 18.**
Review of Reviews	3.00	With Cultivator
	4.50	**$3.25**
World Today	1.50	**No 19.**
McClure's	1.50	Our price with Cultivator
Wom. Home Comp. or Success	1.00	**$3.25**
	4.00	

After Feb. 1st price with Woman's Home Companion will be **$3.50**

World Today	1.50	**No 20.**
Review of Reviews	3.00	Our price with Cultivator
Cosmopolitan	1.00	**$3.75**
	5.50	
World's Work	3.00	**No 21.**
Everybody's	1.50	With Cultivator
	4.50	**$3.35**
World's Work	3.00	**No 22.**
Delineator	1.00	With Cultivator
	4.00	**$3.10**

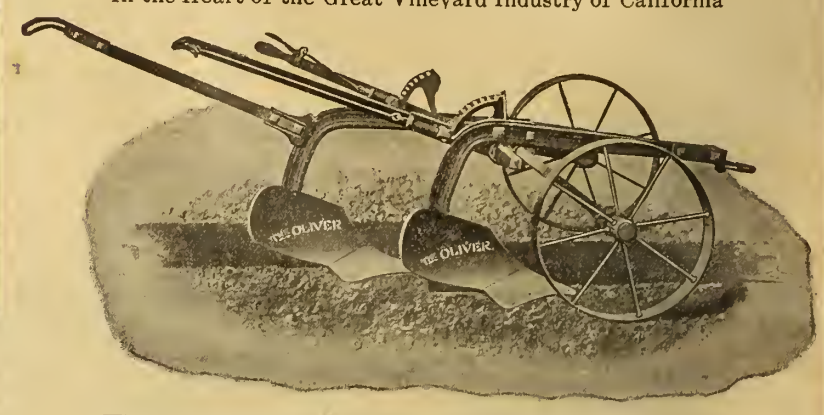
Winner of the First Award

The Nos. 17 and 18

Oliver Orchard and Vineyard Gang Plows

At the Great **Fresno County Fair**

In the Heart of the Great Vineyard Industry of California



The Greatest Improvement of the Age in Plows for Orchard and Vineyard

Get particulars from your nearest Oliver agent, or write to

Newell Mathews Company

Southwestern General Agents 200 N. Los Angeles St., Los Angeles, Cal.

When writing advertisers, mention Cultivator.

Red Cross Wind Mill

Is built right. Works right. Runs in light wind. Has ball bearing turntable and outer thrust. Easy mill to set up and take care of. Built upon honor.

Woodin & Little Pump House

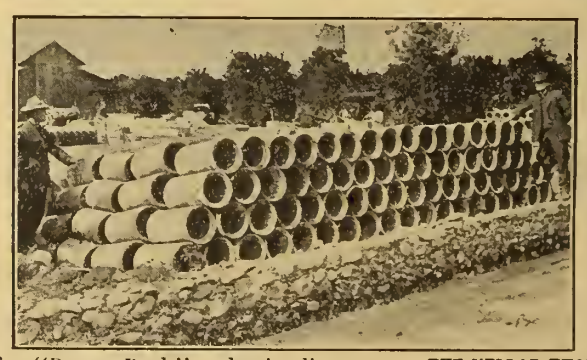
33-41 Fremont Street, San Francisco

PUMPS FOR EVERY SERVICE AND USE

Pumps for Irrigation, Road Sprinkling, Electric Motors, Gasoline Engines, Spraying, Whitewashing, Wine Pumping, Wind Mills, Hand and Power Use, Steam, etc.

Gasoline Engines Wind Mills
Tanks Pipe Pipe Fittings

SEND FOR CATALOGUE



From photograph showing amount of

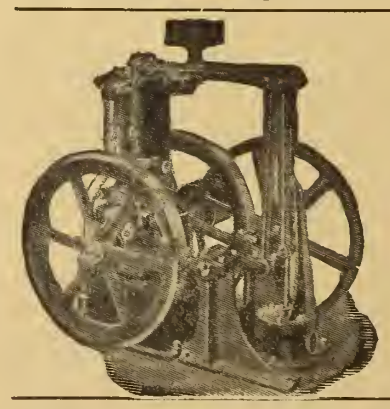
Ten-Inch Pipe

made by four men from 10 bbls. of cement in 9 hours — 280 two-foot joints, or 560 feet. This pipe was made with the

"K T" Moulds

An equal amount can not be made with any other tools in the same period of time. Write for "Brown Book" and price list.

THE KELLAR-THOMASON MFG. CO., Covina, Cal.



A Handy Little Engine

Just the thing to run the feed cutter, the pump, the churn, the grinder, or anything on the ranch. It's well named

The Little Wonder

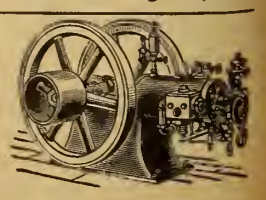
Write or call on

Wm. Gregory

602 No. Main St. Los Angeles, Cal.

A Gasoline Engine 35 H.P.

Used short time; in good condition.
For Sale at Half Price. A Bargain.



National Wood Pipe Co., 404 Equitable Bank Building Los Angeles, California

When writing advertisers, mention Cultivator.

California Cultivator

Vol XXXI—No. 21 Los Angeles, California, Thursday, November 19, 1908 Subscription $1 a Year

Foundations for Good Public Highways

Part of an Address Delivered Before the Recent State Farmers' Institute

By J. M. EDDY, Secretary of the California Good Roads Association

IN the United States we have three services that may be classed in a general way as types of public ownership of public utilities, namely, the postal system, the free public schools, and the public highways. From the foundation of the government these utilities have been owned and managed by the people through the instrumentality of federal, state or municipal law. What has been the policy toward each, what the system of management, what the quality of service, and what the general verdict at home and abroad as to their success or failure under public ownership?

The postal system was founded by Benjamin Franklin and the Federal Constitution reserved to Congress entire control over its management. It started with, and has continued under, a centralized system directed by a responsible head. The result has been a universal verdict among intelligent men that it is the best postal service as a whole ever established anywhere in this world.

View of "Object Lesson" Road near Stockton, This Road was Constructed by the Stockton Chamber of Commerce Under Auspices of Government Experts. Photo Taken October, 1908.

The free public schools had quite a different growth and are administered under different auspices. The federal government has no direct voice in their management, but it has contributed most liberally for their support and to their encouragement. The free school system of the United States, though varying in details in the different states, is conceded to be the most satisfactory and successful known in the world. So it is apparent that efficiency and success of a public utility do not depend wholly on Federal control and management. Here we have a wonderful institution reaching into every locality, benefiting every family, in the support of which the nation, the state, the county and the city co-operate, but for which the state law provides the system of organization while local authorities actually administer the service.

It would not be an extravagant statement to say, that if the 20,000,000 acres of land which are embraced in roads in this country were devoted to agricultural purposes, the market value of the area would be $1,000,000,000 and it would sustain in prosperity six million inhabitants.

No Care of Great Investment.

What system has been devised for the improvement, care, utilization and maintenance of this highway plant into which the people have put a billion dollars' worth of land as an investment? Have we a centralized administration under a responsible head, as is the case with the postoffice department? Have we a civil service system, as they have in both the postal and school systems? Have we a trained force of employees, holding special license, as do school teachers? Do we have either Federal control or Federal appropriations? Do we have freedom from politics, specialized highway engineers, expert road builders, competent, experienced and continuous administration? Do we have a strict system of accounting, so that the public is informed just where every dollar goes and why it goes there?

No. We have no uniform system, no organized administration; no trained force of roadmakers, no protecting wall to keep out politicians, no adequate system of accounting, no public conception of the fact that in an age of specialization, so intricate a problem as the improvement and up-keep of a plant which has cost us a billion dollars, which is used every day century in and century out, which has more to do with the prosperity and the comfort of all the people than any other factor except weather, and on which we expend annually $80,000,000 just to keep it running—that this great public interest is left the prey to chance, to incompetency, to abuse, and often to graft.

Three Factors.

The public highway system of the United States has been a complete failure, not because of public ownership, but because it has never been systematized, organized, administered, specialized, properly accounted for and made uniform.

Transportation on the public highways to be efficient and economical, must have three elemental factors favorable, namely, application of proper power, an easily worked vehicle adjusted to the land and the road, and a smooth and uniform roadway. With our improved vehicles and superior roadsters, the American producer should be enabled to move the 250,000,000 tons of agricultural products to the shipping points at a less figure than it could be done in Europe. But owing to the wretched condition of rural roadways it costs us annually $125,000,000 more to move our farm crops to the shipping points than it would cost in France, England or Germany, to move the same number of tons the same distance. To save that annual burden of extra cost would warrant us in expending two billion and a half dollars in road improvements.

Not Good Enough for Us.

This is an age of speed, comfort, convenience. While railroads and electricity have been developed, while steamships have displaced sailing vessels, while typewriters have done away with handwriting, and linotypes with printers, the public roads of America are just what they were a century ago, and all attempts to improve them are met by the assertion that if they were good enough for the pioneers, they are good enough for us.

The $80,000,000 expended annually for road construction and maintenance is, of course, not entirely wasted, as large sums are really required to put the roads in usable condition for certain seasons, but a large proportion of the $80,000,000 is needlessly expended because we do not expend more and perform our work better. This is only seemingly a paradox. The expenditure of large sums to make and maintain better roads would effect a reduction in the cost of transporting farm products and this economy, if continued, would eventually save enough to improve all the roads.

National Aid.

It is probably out of the question for us at this late day to put the highways of the country under national control and management, but there is no reason why the national government should not make substantial contributions for the maintenance of good roadways in all the states of the Union. Neither the Federal nor state government, in aiding the public schools, goes into the district to build a schoolhouse and equip it for the accommodation of teachers and pupils, but rather they leave to local communities the task of putting in the plant and then they supply a portion of the funds which helps maintain, under proper restrictions, an efficient school system. In short, they contribute largely towards the maintenance of schools and make it compulsory on the local community to provide the schoolhouse and equip it with proper school facilities.

I feel that the real interest of both state and national authority should be in providing a fund for the maintenance of suitable roadways after the local communities have seen fit to construct them in a proper manner after methods, rules and supervision provided by the state or the nation. I think such a policy would solve, in large measure, our public highway problem and if we could remove something of the complexity of our highway laws and resolve it to a simple system of state and national aid with local constitution under state supervision, the whole problem of good roads would be satisfactorily solved, at least for the next succeeding generation. Our people are jealous of their local convictions and while it is necessary to remove the supervision from local influence, that supervision can be better effected through a penalty of loss of state and national aid than by coercive measures under the general laws.

Applying Oil to Secure Dustless Surface on Macadam Road near Stockton, Taken October, 1908.

Continued on Page 496.

Save Time--Save Fruit

With the Brewster Picking Sack

A new method sack—invented and perfected by lifelong growers. Eminent orchardists pronounce it perfect. Those who have tried it say they would not be without it. Actual tests show that a man can pick twenty-five per cent more fruit with it and with greater ease.

Sack forms semi-circle about picker's body—is supported by straps over both shoulders and held tight by belt around body. The picker can thus work with ease either on ground or ladder. When full, it does not extend below the hips.

A great feature of the Brewster Sack is the patent gate (see illustration), WHICH PRACTICALLY ELIMINATES BRUISING. Simply unfasten a hook—the gate drops—and the fruit can be quickly but very gently poured out.

The sack holds as much fruit as the old style sack.

Made of double filled canvas, over strong steel frames; strong sustaining straps; practically indestructible.

Sent express prepaid to any address for $1.50.

Sierra Madre Sack Company - Sierra Madre, Cal.

We want reliable men in every locality to demonstrate this sack and act as our agents.

The Roessler & Hasslacher Chemical Co.

100 William Street, New York
Works: Perth Amboy, N. J.

THE ROESSLER & HASSLACHER CHEMICAL COMPANY — CHEMISTS — NEW YORK

CYANIDE guaranteed 98-99% for generating HYDROCYANIC ACID GAS

The only positive eradicator of the SAN JOSE SCALE, RED and BLACK SCALE and other insect pests

FOR SALE BY

F. W. BRAUN - Los Angeles and San Francisco
HAAS BARUCH & CO., " "

Third Annual

Tulare County Citrus Fair

TO BE HELD AT **Exeter, California**

December 1st to 5th, 1908

Don't fail to attend this great exhibition of Citrus and Deciduous Fruits—one of the grandest displays of orchard products ever collected under one roof.

Baseball, Football, Basketball, Dancing and many other games of sport. Five days and nights of unalloyed pleasure with music all the time.

For further particulars address

W. R. WOOD, President. **C. F. BALAAM, Secretary.**

Exeter, Tulare County, Cal.

TENTS

Fumigating and Lemon Curing Tents our Specialties

Irrigating Hose, all sizes. Prices and Samples quoted upon application. Write your wants Wagon Covers, Hay Covers, and Canvas Covers of Every Description.

Mellus Bros. & Co Phones—Home, F 4871; S. S., Main 8500 250 East Fifth St., Los Angeles, Cal.

ARNOTT HARNESS $10.00 to $80.00

Everything guaranteed. Money back if not satisfactory. Factory in Los Angeles. California leather for all uses. Send for No. 10, eighty page FREE Catalogue.

ARNOTT & COMPANY 112–118 So. Los Angeles St. Los Angeles, Calif.

When writing advertisers, mention Cultivator.

With the Citrus Growers

HANDLING THE LEMON CROP.

From "The Status of the American Lemon Industry," by G. Harold Powell, reprinted in bulletin form by the Department, we quote the following regarding the picking and care of the crop.

Picking.

The lemon is picked, irrespective of the degree of maturity of the fruit, when it reaches the approximate size desired by the market. If it is allowed to ripen on the tree the fruit is likely to be overgrown, coarse in texture, lacking in acidity, and of poor keeping quality. In order to judge accurately each picker is provided with a ring to be used in testing the size of the lemons. If the fruit is to be held several weeks or months before shipment, the ring generally has a diameter of 2 5-16 inches, which allows for considerable shrinkage while the fruit is in the storage house. If the lemons are to be shipped soon after picking, the ring usually has a diameter of 2¼ inches. With size rather than maturity as the leading factor in determining when the fruit shall be picked, the lemons vary in color from dark green to yellow, and in texture from the thin skin of the tree-ripened lemons to the coarse green lemons that grow on the outside branches. It is necessary to pick a vigorous-growing grove once a month, on the average, in order to avoid having a large proportion of oversized lemons. In picking the fruit the picker cuts from the tree with shears or clippers the lemons that do not pass through the ring. He also picks the smaller lemons that have ripened on the tree and have reached full growth. The fruit is placed in picking sacks slung over the shoulder of the picker and is hauled in boxes to the packing house. The handling of the fruit in the grove is done with extreme care to avoid cutting it with the clippers, stem puncturing it, or bruising it in other ways.

Handling in the Packing House.

The handling of the fruit after it reaches the packing house is a series of complex operations requiring skill and experience. The fruit has to be cleaned, graded and colored uniformly before it is ready for shipment. In addition, it may be desirable to hold it in storage for several weeks or months for better market conditions.

Washing.

The fruit is first washed by running it between brushes submerged in a tank of water or with water running on to the brushes, to remove the dust or the sooty-mold fungus that follows the black scale. The washing makes the lemons bright and clean. During the season of brown-rot infection, from January to July, the water in the washing tank is usually disinfected with a solution of permanganate of potash or of copper sulphate. When the fruit emerges from the washing machine it passes over a canvas table or a moving-belt table, where it is sorted into three colors, representing different degrees of maturity — the dark green, or unripe; the silver green, or partially mature; and the yellow, or tree-ripened lemons. The different lots are placed in separate boxes or trays in an undried condition, and the dark-green and silver-green lemons are placed in storage separately to color and mature. The tree-ripened yellow lemons are generally shipped at once on account of their comparatively poor keeping quality.

Coloring the Fruit.

If there is a strong demand for fruit from December to March and the weather is cool, the dark-green and silver-green lemons are placed in tight rooms, called "sweat rooms," of a carload capacity each or in tents, and the fruit is colored quickly by raising the temperature to between 90 deg. and 95 deg. F. with wickless kerosene stoves. A pail of water is placed on each burner of the stove to moisten the air to prevent the shriveling of the fruit. Under this treatment a silver-green lemon colors in about four days and a dark-green lemon in six days. If the fruit remains in the sweat room too long the changes go too far, the fruit loses its natural luster, and the keeping quality is supposed to be injured.

Curing and Storing.

The lemons that are not intended to be shipped for several weeks or months are placed in an unpacked condition in boxes or trays in the storage houses, either in canvas tents of a carload capacity arranged in rather open buildings or sheds, or piled in boxes or trays in cellars in which the ventilation is under control. Under these conditions the fruit colors slowly, the moisture evaporates from the skin, and the tissues of the skin shrink, giving it a velvety, tough texture and a bright waxy appearance. The aim is to regulate the temperature and humidity of the tents or cellars, so as to prevent the shriveling of the skin or the saturation of the air with moisture. In the house the lemons are stored without tents in the ventilated basement, and under the tent system on the upper floor. When the fruit is handled properly, a green lemon picked in December may be kept in the tents or cellars in good condition four or five months, January lemons about four months, and condition four or five months, and green lemons picked in February, March and April from two to three months.

In the curing of lemons the fruit is protected from the extreme changes in temperature and humidity of the outside air by the structure of the lemon curing house and by the use of the tents, which may be raised or lowered in accordance with the outside conditions. It appears to be desirable to keep the fruit in the most uniform condition of temperature and humidity possible. In the interior districts, where the changes in temperature and in humidity are more marked than in the coast region, the desired uniformity is maintained by the use of insulated walls and roofs, by the storage of the fruit in basement cellars, and by the further regulation of the interior of the house by ventilation. In addition to this, the equalization of the temperature and humidity may be carried further by the use of tents over the individual stacks of fruit. In the coast region, where the climatic conditions are less variable, the temperature and moisture of the air surrounding the fruit are equalized sufficiently by simply inclosing the fruit in the tents, which are arranged in rather open sheds. These tents are opened at night when desired to cool the fruit, or they are kept open whenever it is unusually

damp and a circulation of air is desired throughout the fruit. The tents are closed whenever the air is unusually dry in order to keep the fruit from shriveling.

Care in Handling.

The handling of the lemon in the packing house is done with more care than is bestowed on any other orchard-fruit crop. The shippers have found from costly experience that the dropping of the fruit or the rough handling of it in any other way is followed by heavy losses from decay. The injunction to "handle the fruit like eggs" is kept constantly before the laborers, and this care in handling is consistently practiced in the well-managed packing houses.

Essentials in Curing.

The regulation of the temperature and humidity in the curing houses, so as to prevent the shriveling of the fruit; the saturation of the air, and the handling of the lemons affected with the brown rot are operations requiring the finest judgment and skill on the part of the managers of the packing houses. At the present time most of these matters are regulated by judgment, but it is not too much to expect that the management of the fruit in curing and storing will soon be reduced to exact scientific methods as the requirements of humidity, temperature and ventilation, as well as other questions, are gradually worked out.

California Farm Names

AN interesting bunch of farm names is given below and indicates that our campaign for naming the home is winning some more each week. The first one of the following shows that at least one home in the state has for more than half a century been carrying its own distinctive name. We believe some of those now being given through the Cultivator will remain with the farm, some of them, many half centuries. We believe it because there is a sentiment and an attractiveness in it which will prevail besides added value from a financial standpoint by this custom.

The tourist visiting the Pacific Coast does not seem to be deterred by the so-called hard times and we find many of them inclined to remain with us. Conversation with them also develops the fact that it is not entirely financial considerations that draw them here. Neither is it always climatic considerations, but the natural beauty of the country and the fact that all the world seems to be looking to California as one of the strong factors which impel them to wish to locate and remain amongst us. The attractiveness may be increased by the beautifying of our farm homes and giving them these attractive and euphonious names.

"Kiwelattah Farm," owner David Wood, Arcata, Humboldt county. Mr. Wood writes us regarding his ranch as follows: "This is probably one of the first farms named in this state. I have a map of the farm drawn by my father with the name on and dated 1865, although the farm was named eight or ten years prior. Kiwelattah was an Indian Chief of several tribes on Humboldt Bay when my father with seven others discovered the bay in December 1849. He was the only Indian that I know of that gave his Indian name, although he was better known by 'Coon Skin.' His son, 'Coon Skin Nick' died on Eel River a few years ago at a very old age."

At first look, that name looked forbidding as it seemed unpronounceable. We wish Mr. Wood had given us the pronounceation. But after one of the office force had given it a euphonious sound, rolling it off the tongue like a native Indian, we decided it a beautiful name. It will be a good idea, when names like this are taken, if subscribers will tell us how to pronounce them.

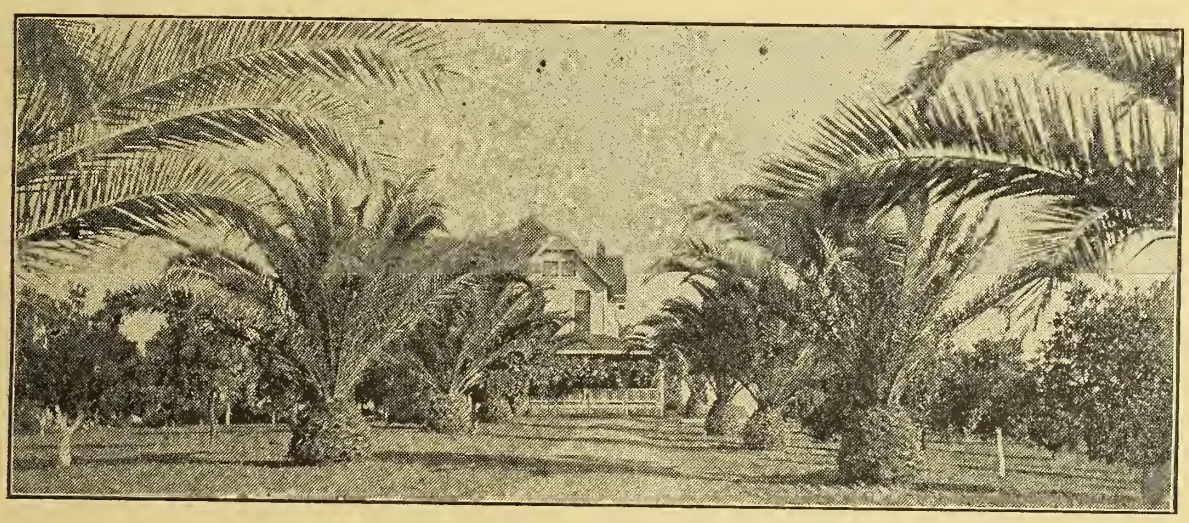
"Locust Farm," owner H. H. Brown, Bakersfield, Kern county. Mr. Brown writes the Cultivator on neatly printed letter heads with "Locust Farm" the most prominent line, "R. F. D. Number 2, Union Avenue," and on the opposite corner "Poultry, Silver Laced Wyandottes, Brown Leghorns, Stock and Fruits." Mr. Brown writes: "Enclosed find $1.00 renewal for the Cultivator, the best farm paper published on the Pacific Coast. I am glad you advocate the naming of farms. Think it a good idea. Our farm consists of 29 acres, two and one half miles from Bakersfield on Union Avenue. We have a row of locusts along the avenue and around the house. Hence the name."

"Palma Vista," owner John A. Whetstone, Escondido, San Diego county. Mr. Whetstone sends his announcement on stationery, a part of the letter head being a view of the ranch home. The productions of this ranch are oranges and lemons, tangerines being one of the prominent productions. Mr. Whetstone writes: "Allow me to add Palma Vista to your list of farm names. The view from the house suggested the name, only a fifth of the palm bordered drive being included in the cut. I have been much interested in the Farm Names and hope the good work will continue. Success to the Cultivator."

"Edgeland Acres," owner Edgar S. Miller, Elk Grove, Sacramento county. Mr. Miller writes on beautiful embossed linen letter head as follows: "We have been very much interested in your efforts to have people name their ranches. It does add very much to the pleasure of the tourist to see an attractive name displayed and, too, gives an added interest I believe in the ranch to even the home folks. Our ranch adjoins our attractive little village hence the name Edgeland Acres. We find the Cultivator very helpful and wish it many prosperous years."

"Bellflower Ranch," owners Mr. & Mrs. E. G. Nelson, Chino, San Bernardino county. In sending the name to their ranch the Nelsons write: "The place lies 4 miles southeast of Pomona and 2 miles west of Chino. There are 10 acres and they are planted to apples with some walnuts. The chief apples are the White Winter Permain and the Bellflower. Hence

Continued on Page 491.



"Palma Vista," Home of John A. Whetstone, Escondido.

YELLOW MONEY AND YELLOW FRUIT

Are a pair that travel together in good shape in an orange or lemon grove. Especially is this true if you will plant only the robust and true-to-name

Citrus Trees

grown by the San Dimas Citrus Nurseries, the largest growers of choice orange and lemon nursery stock in the world. No branch of horticulture offers better inducements in the way of profits, nor is there one more alluring to the person contemplating commercial fruit culture. For the past twenty years we have supplied the leading growers with their trees, and hope to number many more among our friends and patrons. Orders now being booked, subject to future delivery. Send for book on

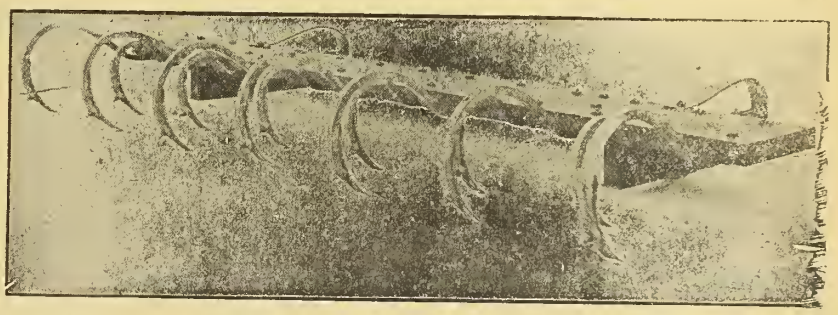
"The Citrus Fruits: Historically, Horticulturally, Commercially."

Beautifully illustrated, and some 20,000 words of text. Price 25 cents.

The San Dimas Citrus Nurseries

R. M. Teague, Proprietor
San Dimas, California

WILLIAMS' GOOSE-NECK CULTIVATOR



Especially adapted for citrus orchards. Sizes 8 to 14 feet. Lightest draft. Free trial to responsible parties. No agents. You pay only one profit. Write for

WILLIAMS & SON, Manufacturers
Orange, California

George B. Warner's Orange County Nurseries

Established 1889

Grower and Dealer in Citrus and Deciduous Trees of all Standard Varieties

Soft Shell Walnut Trees, 1, 2, and 3 years old. Grafted Placentia on Native Black Walnut Root and Soft Shell Root. Street and Ornamental Trees, Palms, Dracænas, Blue, Red and Sugar Gums (large stock.) Write for prices.

Sales Yard—Corner Sixth and Main
Residence—Tenth and Bush Sts
Santa Ana, California
Phone—S. S. Red 92

Citrus Trees Navels Valencias Lemons Pomelos

Sweet and Sour Orange **Seed-Bed Trees,** strictly first-class stock, free from scale. We also have several hundred Phoenix Canariensis and Washingtonia Robusta Palms for sale cheap. Write for prices in large or small quantities.

Southland Nurseries, F. H. Disbrow, Prop.
Phones: Main 949; Home 2520
R. D. No. 1, PASADENA, CAL.

TREES TRUE TO NAME

AND

Propagated From the Best Specimens of Their Kind

TWO IMPORTANT FACTORS

Placer Nurseries

(Established 1878)

OUR ASSORTMENT

Comprises all the Best Commercial Varieties of

Peaches
Plums
Pears
Apricots
Almonds
Cherries
Apples
Persimmons
Grapes, Etc.

Order Now
Write Us

and our stock is the best that years of experience, care in selection, and care in growing can produce. That is what you want.

Catalogue and Price List Mailed on Application

The Silva-Bergtholdt Co.

Newcastle, California

Agents Wanted

Trees Grape Vines

Full Line of Commercial Sorts

Grown on Virgin Soil, True to Name, and Healthy. Nineteen years of fair and square dealing makes us the most popular nursery in the West. ***Wilson's Trees and Grape Vines*** long noted as the very best. Catalog and Price List for the asking. Address

The Fresno Nursery
F. H. Wilson, Proprietor
Box 615a - - Fresno, California

TREES

We have a full line of Nursery Stock, including citrus and deciduons fruit and nut trees: Also eucalyptus trees, 15 varieties.

ROSE BUSHES, ORNAMENTAL, SHADE AND STREET TREES.

We publish a price list, a descriptive catalogue. and a special Eucalyptus pamplet.

Orange County Nursery & Land Co.

Main office and Nursery

Riverside Branch, Cor. Market and 7th, Sts.
Corcoran Branch, Whitely Ave.
Fullerton, Cal.

125 to 140 lbs. of Grapes to the Vine

Raised by Ex-Postmaster Rush Stevens of Sacramento on his ranch with

Tom Lewis' Fertalizer

My Fertilizer is lower in price than other fertilizers and gutranteed to give results. I have hundreds of testimonials. Send for circular and prices.

Tom Lewis, 1916 1918 10th St., Sacramento, Cal.

EUCALYPTUS

Growers of Commercial and Ornamental Eucalypti

EKSTEIN & EKSTEIN
Modesta Euc. Nursery
Modesta, Cal.

EKSTEIN BROS.
Vignolo Euc. Nursery
Anaheim, Cal.

"California Prosperous"

IN a letter replying to an article "California Prosperous," appearing in the department of California Horticulturally in the issue of October 1, a subscriber shows that he has a grievance and thinks many others in this state have also. This is possibly true.

The article in question was written by Mr. Isaac who is located at Sacramento but we believe will be quite generally endorsed over the state, though in some sections and in some lines of production there will be those like the writer of the following letter who will take exception. As the original article may not be at hand we quote nearly half of it as follows:

"There was a financial stringency in the East a year ago but California hardly realized it, while this year may be accounted by farmers of our state as among the most prosperous in our history. Crops, as a rule, have been good, the demand for our products excellent and prices satisfactory. Our agricultural population on the whole have done well, and the country banks are well supplied with money from the deposits of the farmers, while the purchasing power of this important class is greater than ever."

Our critic sends his name and address but these we will not mention as he fears it might injure others in his section, but he has the courage of his own convictions. He says: "I do not have any idea that you will care to publish a few facts in the case but I am going to tell you what I know to be true. But as a matter of fact that article (California Prosperous) is not true—not absolutely so."

Then our subscriber proceeds to show wherein it is not true by his one experience as follows: "I located here a year ago, buying five acres of as good land as there is in this valley. I have worked hard but have been unable to make the products pay my grocery bill, to say nothing of interest on money, wages, etc. I might be led to believe that my failure was due to poor management if my experience was exceptional. But it isn't. Let me tell you what my neighbors have done.

"One gardener, who bought eight acres three years ago, had magnificient crops of all kinds of truck this year. The highest net income for any month of the year—and it took three men and a team to market it—was $60. That means $60 to pay the wages of three men and a team for 30 days, besides interest on an investment of $7500. The average net income for the year this far has amounted to about $35 a month. A pretty good income for three men who worked early and late all the time. They were fortunate enough to sell out a few weeks ago for $1200 less than they had in it."

Some three or four other examples of "red ink farming" are mentioned in the letter. He then adds: "Personally I have been trying for three months to dispose of my property for a thousand dollars less than I have actually spent on it, without success. Real estate dealers—I have been to many of them—declare that they never experienced such a hard time to sell anything as during the past year; that the financial stringency has practically killed all business of this kind, notwithstanding the fact that "California hardly realized it," as you declare.

"If this is one of the most prosperous years in our history what must have been the disaster of former years! May Providence come to the rescue of the poverty stricken ranchers before a really poor year dawns.

"'Excellent demand!' I can cite you a long list of farmers—garden men—who found it absolutely impossible to get one cent for no inconsiderable portion of their crops, many a wagon load of truck being brought back from market to be fed to stock or rot for fertilizer.

"It seems to me it is little short of criminal to send out such misleading reports, thus inducing many a hard working farmer to come here and give up his few dollars in the vain effort to realize some of the fortunes that they have read about in the papers. Once stuck, they see that their only salvation lies in keeping up the impression that the 'fortunes' are really to be made, in the hope of selling out to some other gullible sucker.

"This may sound harsh, but it is gospel truth. Of course it is not 'fit for publication' in California, admittedly the rich man's paradise, but I give you these facts in the hope that they may lead you to tone down your enthusiasm a bit out of consideration for the poor sucker from the East. I have been a newspaper man myself for a score of years and know how an editor is expected to boost, but there should be a limit to this thing for the sake of humanity."

In the first place we may say that if the Cultivator falls into the error of becoming over-enthusiastic and over states things, the calling down and correcting will be most welcome. Hence we have given these extracts from this letter. But is the Cultivator entirely wrong and is our subscriber entirely right? We think if the agricultural (including the horticultural) industries of this state, are taken all together the past year is correctly chronicled in our former article. To be sure the small fruit and truck growers near the large cities have been up against Japanese and other competition which has made the year most discouraging. We do not doubt what our subscriber says is absolutely true, that many people have brought loads of produce to market and been unable to sell. The cantaloupe growers of Imperial valley, looking at it from their own standpoint, would write a letter very similar to the one we have just quoted. Some grain men who sowed their grain on light soil late in the season probably never cut a single straw of their crop. Hop growers have plowed up their yards and some wool growers have decided not to shear till next spring. These are indeed discouraging factors to all engaged in those lines. On the other hand our walnut growers and almond growers are finding this a very satisfactory season. Bartlett pear people receive most excellent prices. Oranges, while not commanding the high prices of last year, have at the same time made a good average and the painstaking citrus grower who has produced fine fruit and used due diligence in marketing has a satisfactory balance as a result of the year's work. The northern cherry grower feels satisfied and, above all, the alfalfa producer, the dairyman and the swine breeder have all had most excellent returns.

Put Your Money at Interest Here

We Pay 4% on Term Deposits

Special Facilities for Out-of-Town Depositors

Write Today for Information

German American Savings Bank

Spring and 4th Sts. Los Angeles, Cal.

EUCALYPTUS SEED

Eucalyptus rostrata, the Red Gum
E. corynocalyx, the Sugar Gum
E. tereticornis, the Forest Red Gum
E. globulus, the Blue Gum
E. citriodora, Lemon-Scented Gum
E. cornuta, the Yate Tree
E. polyanthema, the Red Box
E. leucoxylon, Victorian Iron Bark

and Many Other Valuable Sorts

I shall be pleased to correspond with prospective buyers and give particulars as to prices on the seeds I am offering. Trial packets of any variety 15c each, 2 for 25c, or twelve for $1.25. Also young trees of many varieties for sale. Send for circular and cultural directions.

THEODORE PAYNE
NURSERYMAN AND SEEDSMAN
Home Phone A2480
345 S. MAIN ST., LOS ANGELES

Australian Eucalyptus Seed

Our Mr. R. S. Webb (a native Australian) has just returned from that country with seventeen varieties of Eucalyptus seed, comprising the varieties that have been tried in Australia, and each variety is the best for the particular purpose for which it is used, or for the particular soil and climatic conditions where they grow.

The following are some of the varieties of Eucalyptus trees preferred by the lumbermen and manufacturers of Australia:

1. Iron Bark (Panniculata)
2. Microcorys (Tallow Wood)
3. Black Butt (Pilularis)
4. Turpentine (Syncarpis)
5. Resinefera (Mahogany)
6. Tereticornis (Red Gum)
7. Saligna (Blue Gum)
8. Corynocalyx (Sugar Gum)
10. Spotted Gum (Maculata)
11. Jarrah (Marginata)
12. Sideroxylon (Iron Bark)

We will have trees of the above varieties for sale about February 1st.

AGGELER & MUSSER SEED CO.
Successors to Johnson & Musser Seed Co.
113-115 N. Main St. Los Angeles, Cal.

300,000 Eucalyptus

Fruit Trees
Shade Trees
Roses Shrubs
Palms Ferns

And everything that you need for your ranch or garden. Send for free catalogue

Sycamore Grove Nurseries
SAINT & WARNER
4584 Pasadena Ave. Los Angeles

No matter how prosperous the times may be there are always some, possibly not through lack of judgment so much as a combination of circumstances, such as glut, choice of wrong crop, etc., who have not succeeded. That is true in business of all lines.

Living in the same section with the writer of that letter is a small fruit and truck grower. Last year this gardener produced on a single acre of ground a net income of $2700. This was not an accident though in part due to a combination of circumstances, nearly all favorable. In the first place he had had nearly a life time experience in the same work in California. Prices were better then, we admit, than this year. The experience coupled with the good soil and the most intelligent care and intense cultivation from start to finish gave these marvelous results.

Could the writer of the letter from which we quoted have accomplished the same results under the same conditions? Most assuredly he could not, for note he says in his letter that he for 20 years was in the newspaper business. He has now been in California one year. Had the gardener who made $2700 on California soil broken away from that and gone into the newspaper business would he have made more success than our critic has in California agriculture? Farming is a science. The marketing of the product is a science. Until it is learned and until we can procure either by co-operation or otherwise better compensation for our labor there will be many disappointing stories just as written to us this week.

We do not think it is the fault of California. We do not think it is the fault of the growers who come here and buy land entirely. At least 90 per cent of the men who engage in business are failures. We do not believe the same percentage holds true in regard to the farmers. Meantime we must be patient and not make too great sacrifices until we solve the problems before us.

IT'S PENNY WISE

Policy to set out a good tree, costing good money, and then let the sun burn the bark or the rabbits gnaw it, when for $1 an acre you can get Yucca Tree Protectors that are practically indestructible. Write for free sample of the wrap. Yucca Manufacturing Company, 1380 Willow street, Los Angeles.

SALE OF DAIRY STOCK.

The opportunity to secure a fine bunch of dairy stock, or individuals from one, is seldom offered these days. But Southern California county dairymen are now offered their pick from 150 fine dairy cows at public sale which is to be made Wednesday, November 25. This is pronounced to be one of the very finest herds in Southern California and has been selected and bred up for very many years. At the head of the herd is a fine Ayrshire sire, also to be placed on sale. It is the property of the Rancho Verde company, located in San Bernardino county, but for the sale is moved to Clearwater a few miles south of Los Angeles. To reach it take Santa Ana Pacific Electric cars at 6th and Main Streets and get off at Clearwater. The herd is open for inspection to intending buyers several days in advance of the sale. Messrs. Briggs & Weber are the auctioneers.

Lindsay shipped 1072 cars of citrus fruit last year.

If you want to save the jobbers profits on

Buggies, Wagons and Agricultural Implements

Call or write the
SOUTHWEST SUPPLY CO.
Exclusive Agents for the Celebrated **Racine-Sattley Line.**
127 South Los Angeles St. LOS ANGELES, CAL.

When writing advertisers, mention Cultivator.

Special Sale of 1,000 Lbs. of

Australian Brown Onion Seed

Crop 1908. Heavy Seed. The Best Paying Onion on the Coast.

$1.50 per lb.
4 lbs. for $5.00
10 lbs for $10.00

200 lbs. Yellow Danvers
$1.00 per lb.
6 lbs. for $5.00

100,000 Strawberry Plants

200,000 Other Berry Plants and Trees

Send for Catalogue. Free

A. MITTING
17 to 23 Kennan St.
Santa Cruz, Cal.

Six of the Most Valuable New Fruits
Ever Introduced in California

"Improved French" Prune Originated by Luther Burbank

"Concord" Walnut French Variety Grafted trees only. Better than Franquette or Mayette

"Paul" Cherry Finest Black Cherry

"Philippi" Grape Handsomer than Tokay; a month earlier. Disinfected cuttings only, to comply with quarantine laws.

All these, like Muir, Lovell, and Phillips Cling Peach, are of California origin.

"Comet" Red Currant Much larger, earlier and sweeter than any other.

"May Duke" Gooseberry Earliest of all; large; smooth skin.

Write for Further Particulars.

EUCALYPTUS TREES by the 1000 or 100,000. No stronger stock; grown in the open, without lath shade or screen, therefore hardened to all weather.

GENERAL NURSERY STOCK

Leonard Coates Nursery Co., Inc.
EST. 1878. INC. 1905.
Morganhill, Santa Clara County, Cal.

Seed 75 varieties of ***Sweet Peas*** Separate Colors, 5c per Pkt. 15 Leading Varieties, post paid, 50c. 4 Varieties, that bloom in 45 days, 25c. This is the best time to plant.

Get Seed Where Seeds Grow

We are headquarters for ***Lettuce, Onion, Melon, Radish, Turnips,*** Etc. Make up a list of your wants and submit to us for prices also ask for catalogue.

Eucalyptus All the Leading Varieties in seed @ 15c per package. (Six of the leading varieties, E. Rostrata, E. Leucoxylon, E. Rudis, E. Globulus, E. Corynocalyx, and E. Tereticornis for 50c, with cultural directions). 500,000 Plants, all varieties. State your wants and get prices.

Send 10c for large packet each of our new ***Cabbage Head Lettuce, King of May*** and ***Brown Dutch***, earliest and finest flavor.

Cannon Ball Cabbage is finest grown. 5c packet, oz. 25c

Morris & Snow Seed Co.
425 So. Main, Los Angeles, Cal.

Beaumont orchardists are preparing to plant extensively of apples

TREES

Season 1908-9

Order Now for Future Delivery

If your trees are purchased from the Fancher Creek Nurseries they will be true to name well developed, with good roots.

FOR 25 YEARS we have been engaged in growing reliable nursery stock. Our thorough knowledge of every branch of the business makes it possible for us to raise and deliver stock that meets the demands of this country, and gives satisfaction to growers.

Last year we did the largest business in our history. This year our stock of

Deciduous, Citrus and Ornamental Trees, Grape Vines and Rose Bushes

is more complete and better than ever.

We are sole propagators and disseminators of

Luther Burbank's New Creations

Valuable Burbank Booklet illustrated in colors mailed for 25c.

SALESMEN WANTED

PAID-UP CAPITAL $ 200.000.00
FANCHER CREEK NURSERIES
INC.
Geo. C. Roeding Pres. & Mgr.
Box 12 Fresno, California, U.S.A.

Notice to Orchardists

Now is the time to plant your cover crops. Plant Vetch, Blue peas and White peas in sandy soils or where there is slight alkali. Plant Burr Clover or Foenugreek on heavy soil. Write us for prices and for any particular information you may wish.

Aggeler & Musser Seed Co.
Successors to Johnson & Musser Seed Co.
113 N. Main St., Los Angeles, Cal.

FOR SALE

Fine thrifty year old peach trees all varieties. Three kinds of apricot trees. Year old grafted walnut trees on native roots. All kinds of plum trees.

SHROEDER & HEISLER
Lankershim Cal.

Orange county flour mills last year turned out flour aggregating in value $215,000.

West Coast Seed Co.

115 W. 7th St., Los Angeles

SEEDS THAT GROW JUST SOW

Also the best place to get the best values in

Poultry Supplies

Just try us. Send for Free Catalogue and Price List.

INCUBATOR FACTORY: Cor. Griffith and Alhambra

Plants SEEDS BULBS Trees

We are headquarters for

GARDEN AND FIELD SEEDS

Those who are not yet in receipt of our Fall Catalogue, send for it at once.

Prospective planters of ALFALFA, CLOVER and GRASSES are requested to write us before planting.

Remember, our handsome new 1909 General Catalogue, ready for mailing in December, will also be sent to those who write us now.

C. C. Morse & Co. 41 Jackson St., also Market St. San Francisco

Crimson Winter Rhubarb

$1.50 a Dozen $6.00 per 100 $40.00 per 1000

Now is a good time to plant. Pedigreed Stock.

Fruit Trees and Berry Plants of All Kinds

J. B. Wagner, Pasadena, Cal.

The Rhubarb and Berry Specialist

Dept. F

SEEDS

TREES PLANTS BULBS

If you are interested in the Best Seeds, Etc., write for our 1909 Seed and Plant Annual, which we will mail to you free. Please mention this paper.

Trumbull Seed Company

Successors to Trumbull & Beebe

61 California St., San Francisco

THE only pruner made that cuts from both sides of the limb and does not bruise the bark. Made in all styles and sizes. We pay Express charges on all orders. Write for circular and prices.

Dept. J

RHODES MFG. CO., GRAND RAPIDS, MICH.

Fruit Growers and Vineyardists

We would advise you to use our P. N. K. This is a Fertilizer well adapted to produce a good, vigorous growth to your trees and vines, and the best quality of fruit in quantities that you desire, consequently paying you large interest on the money expended. Make a trial of this brand and you will use no other. Write for our pamphlet, ***"The Farmers' Friend,"*** for 1909.

The Pacific Guano and Fertilizer Company

268 S. Market Street - - San Francisco, California

When writing advertisers, mention Cultivator.

Small Fruits and Vegetables

STRAWBERRY CULTURE.

The following is from an interview with Mr. G. H. Hopkins of the Fairview Nurseries of Burbank, Cal. The two Engravings are also used by Mr. Hopkins's courtesy.

TO raise strawberries, one should plan ahead. Plow under a lot of well rotted manure and raise a crop or two of something that requires thorough cultivation of the soil. If irrigation is to be used, level the ground carefully. Then plow and cultivate until the soil is perfectly pulverized.

Set out a full stand of plants. The initial expense is more but it gives quicker returns. Planted 3x2 feet, one acre holds 7000 plants. Planted with the rows 18 inches apart, the plants 12 inches, you can set 28,000 to the acre. Of course if you expect to use a horse in caring for your berries you will have to increase the space between the rows. Plants should never be allowed closer than 10 inches. They may be placed in double rows, 8 to 10 inches apart, or 3 feet from center to center of the rows, with the plants 10 to 12 inches apart and one can get 30,000 berry plants to the acre. Give plants plenty of room to grow and you will have more and larger berries than possible from small plants.

Whatever system is followed, the essential thing is to keep off unnecessary runners and early bloom, cultivate thoroughly, and water when necessary. After each watering, cultivate thoroughly. Quit for a few weeks after the first heavy bearing, and then start in again, watering and cultivating.

One cannot raise good berries to eat and good plants to set out at the same time from the same plants. Have a few rows set apart for letting the runners root to secure plants, and on the rest of your patch keep the runners down, so the plant will devote its reproductive energies to forcing berries.

If you can irrigate, you can raise berries the first year from a crop planted in April. Pick off early blooms and cut off the runners when they start. Water and cultivate well so the plants will make a good growth. You may get a good fall crop and a most satisfactory crop for the next season is assured. But fall planting, the earlier the better, gives the best results. The plants do best in the cool rainy season and your spring crop is certain.

For home use, any good soil will answer for a strawberry bed, but for marketing, a sandy loam will prove best. The berries will have a better color and better shipping qualities.

Hopkin's Berry Fields.

Acres of Berries.

As a general rule, all improvements which a tenant makes upon rented premises at his own expense, and for his own use, which are not so attached to the freebold as to become a part of it, may be removed or disposed of by the tenant when he leaves the premises. Even buildings of considerable size erected by the tenant for his own use may be removed or disposed of by him if it can be done without injury to the rented property. A wooden building standing upon blocks or rollers or resting by its own weight upon a brick or stone foundation, may be removed by the tenant if he erected it at his own expense for his own use. But a brick or stone foundation laid in mortar, even though constructed by the tenant at his own expense, could not be lawfully removed by him, because such a structure is deemed by the law to be so annexed to the land as to have become a part of it. Pumps and water tanks and troughs supplied by the tenant and not so firmly and permanently attached to the premises but that they can be removed without injury thereto, may be removed by the tenant before or at the time when he surrenders possession of the rented premises.

A tenant who has a right to remove improvements in the nature of fixtures which he has placed upon the premises, must do so before he vacates the place. If he neglects to do so he can not return and take them away.

A feed mill or cider mill put upon rented property by the tenant for his own use is his personal property, even though it be affixed to the soil by being staked down. Such articles as these would continue to be the personal property of the tenant although he should not remove them at the end of his term; and while he would be technically a trespasser if he should return to take them, he could replevin them in case the landlord would not permit him to take them.—[Ex.

Live Stock and Dairy

By Mrs. Minna E. Sherman

FOUR DAYS AT THE STATE FARM.

THE State Farm is filled with an enthusiastic body of students enrolled in the Short Courses. The Poultry Course has finished its work. The Dairy Short Course began on the 4th. The dairy school had one woman enrolled. Many women took the poultry course but there were none in the other courses.. It seemed strange as women need this training greatly. A few women, one would think, would realize the opportunity that California affords them as fruit growers. There is need of skilled labor in fruit work; the farmer's wife should be too valuable as a helper to do drudgery. The single sisterhood could do better at creamery work than as teachers and store girls. In every creamery there are men employed; beside the butter maker, usually a canwasher and general helper to clean up. The rest is within a woman's strength. I know this is true for I have often run the separator and churn and on a few rare times have run the engine as well.

State Farm Creamery.

The creamery at Davis is in operation making good butter, that looks very attractive in its parchment paper with the words "University Farm" in blue and gold in a border around it. The butter room is large, in fact a class room. The students are divided into squads and have to clean it up. It is beautifully clean and very attractive. Different separators are in use from day to day. The principal makes being represented, the students soon understand the way to run them, rather than to form the opinion that one is better than the other. The churn and butter worker combined is large and sometimes too large for the somewhat limited amount of cream on hand. Churning and cheese making come on different days, and neither comes every day. Naturally the butter turned out by the students as practice work is not as good as that Mr. Hageman makes. It is good butter, however. We are waiting to see what score it will receive at the Creamery Operators Convention this week.

Barn.

The large barn is completed and is being filled with cows as fast as the money can be secured to purchase them. Some excellent Holsteins and superior Jerseys are in milking at present. The Jerseys are rather better in type than the Holsteins. A bunch of Shorthorns was borrowed for the Short Course work. The scoring of these was on the first day I was there but unfortunately at that hour I had to talk Grapes in the Viticultural Course.

Pioneering.

The State Farm is a big place and the walking bad. The professors and their wives who pioneer at an institution like the one at Davis suffer much annoyance from the primitive conditions. Davis is not a burg of much pretensions, one store having a telephone. The meat shop having none it is necessary to eat eggs or walk to town. The roads are dusty and it is hard to present a neat appearance after having gone even a little way.

The State of California has provided a fine farm but no way to get to it. Some of the students have rooms at a distance from the hotels. They walk to their breakfast and then to the farm, back at noon to town, and in the afternoon back again to the farm, then back again at night. The professors and their wives often have to follow the same weary road, over and over through the dust. The farm needs a bus badly to make at least two trips a day with a five or ten cent fare and the rest paid by the Farm funds.

Dormitories.

The four new dormitories planned will bring the students closer together. One is nearly completed and will soon be furnished. There is as yet no provision for a kitchen and dining room at the farm. The work of building is handicapped by the red tape necessary to secure the materials. It would seem as though money was wasted on stationery and on clerks to make out the formal papers that should be spent on the work in hand. The great value of this farm is in showing the student that farm life need not be drudgery when taken up with intelligent interest. It is making them see that life of every kind, animal or vegetable, is capable of being uplifted.

Special Lectures.

Every Friday night some of the brightest minds sparkle for the enlightenment of the student body. One night Dr. Wheeler talked to them, giving them a wider view of the way others viewed the farm. Then Professor Wickson told of his friend Luther Burbank and of the hybridizations of plants as demonstrated by Mr. Burbank. The Friday night I was there, Judge Shields of Sacramento spoke. He was just from the tiresomness of his successful political campaign. Elected again with almost no dissenting votes, he is an example of the man of wide sympathies. Few realize that Judge Shields was a successful breeder of dairy cows only a few years ago. His talk was on breeding to the best lines of blood to secure the best animals, illustrated at first with the pedigrees of well known horses. He followed out clearly the line breeding as well as the inbreeding of animals, using the records of good and of poor cows to emphasise his points.

The Best.

One remark of Judge Shields was: "Why do you farmers have any thing but the best? Even if it is only a dog have it with a pedigree!" I watched the faces of the men with interest as Judge Shields talked. At first listless, then brightening, and finally into many came the dawning of a resolve to do as he said, "have the best." Faces that were browned with the sun and had looked a little heavy and stolid kindled into enthusiasm with the speaker's ideals. Yes it is inspiring to spend a while at the State Farm. The professors have the welfare of the farmers at heart. Do we respond to them as we should? When only ten or twelve gather at a Farmers' Institute where at least a hun-

Wood Soled Boots and Shoes. Boots, $3.25; Shoes, $2.00. O. J. Weber Co., 555 South Los Angeles St., Los Angeles, Cal.

Cream Separators, all sizes, all prices. O. J. Weber Co., 555-557 S. Los Angeles street, Los Angeles.

EVERYBODY BUYING DE LAVAL Cream Separators

The wonderful improvements made in the 1908 DE LAVAL CREAM SEPARATORS—added to their THIRTY YEARS record of ONE MILLION prosperous users throughout the world—have convinced practically all WELL-INFORMED buyers of their overwhelming superiority, as well as actual cheapness, and they are being bought in even greater proportion this fall than in the spring or ever before.

A catalogue to be had for the asking shows the reasons WHY.

DE LAVAL DAIRY SUPPLY CO.

108 So. Los Angeles St. LOS ANGELES
42 E. Madison Street CHICAGO
74 Cortlandt Street NEW YORK

General Offices: 101 Drumm Street, SAN FRANCISCO.

107 First Street PORTLAND, OREG.
1016 Western Ave. SEATTLE
Box 1052 VANCOUVER, B. C.

Save from $1 to $2 per horse

that you now pay for clipping by doing it with this splendid

Stewart No. 1 Horse Clipping Machine

New and improved *1908* Model Ball Bearing and all enclosed gears running in oil. The price at your dealers' all complete, is ONLY $8.50

Every Horse should be Clipped Clipped horses look better, feel better, work better, and are easily cuffed. No machine ever made runs so easily, clips so fast, and lasts so long as this *Stewart No. 1.* It is fully guaranteed and must please or the purchase price will be cheerfully refunded.

All leading dealers have it. Ask to see it!

It is the greatest clipping machine of all time. If your dealer hasn't it, write to us about it.

Chicago Flexible Shaft Co. Dept. H, Chicago

The Lafayette Stock Farm Lafayette Indiana

J. Crouch & Son, Props.

Percheron Belgian German Coach Stallions and Mares

Our last importation of Percheron, Belgian and German Coach stallions and mares arrived in our barns August 1st, among them the prize winners of France, Belgium and Germany, and we can show buyers over 200 head of high class stallions, which we will price as low as any reliable importer can, and give liberal guarantee and terms. If your locality needs a stallion, write us.

J. Crouch & Son
1309 J St. Sacramento, Cal.

Rhoades & Rhoades
Expert Live Stock AUCTIONEERS

Sales conducted in all parts of California and adjoining States. Write for dates and terms. Twenty-five Years' experience.

830-32 South Main St., Los Angeles

Wonderfully Elastic!

Page Fences "give and take" but never break. 25 years of practical experience woven into the fabric. No other fence has it! This is the "Jubilee Year" or Quarter-Centennial of Page Fence. "Jubilee" book FREE. Page Woven Wire Fence Co., Box Y114 Adrian, Mich.

Creamery Supplies

Cream Separators — Milk Cans
Combined Churns — Milk Bottles
Babcock Testers — Brushes
Butter Moulds — Wrappers
Engines and Boilers — Milk Coolers
PASTEURIZERS
MILKING MACHINES
Creamery and Dairy Supplies and Machinery of all Styles and Sizes

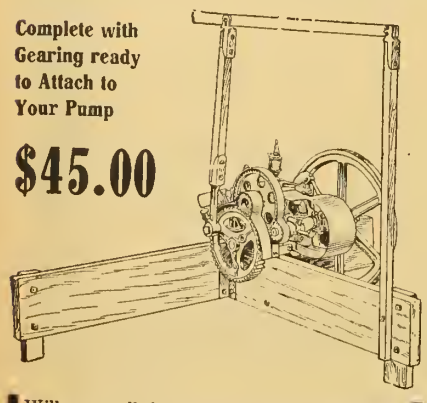
Send List of Goods Wanted and we will Quote Prices

O. J. WEBER CO.
555-57 S. Los Angeles St.
LOS ANGELES, . CALIFORNIA

Aermotor Gasoline Engine

Complete with Gearing ready to Attach to Your Pump

$45.00



Will pump all the time, wind or no wind, and deliver as much water as an 8 ft. Aermotor in a good wind.

From 225 to 1600 gallons per hour, depending on height water is to be raised.

Air cooled, uses Gasoline or Distillate.

A reliable, durable engine at a very low price. Can You Afford to be without one.

Send for Special Circular.

Tanks Towers Pumps Distillate Engines

Smith-Booth-Usher Co
Machinery and Supplies
Successors to
S. J. Smith Machinery Co. and L. Booth & Sons
212-214 S. Los Angeles St., Los Angeles
Home, Ex. 1090—Sunset, Main 1090

SECOND HAND PIPE AND CASING

All our pipe and casing has newly cut threads with new couplings attached and dipped in asphaltum. Guaranteed good as new. Prompt delivery on carloads or less. Small orders receive same attention as large ones. All sizes of pipe, also fittings and valves.

WEISSBAUM PIPE WORKS
133 Eleventh St., San Francisco

PASPALUM DILATATUM

King of dairying and fattening grasses. The great Australian drouth resister. Primest heavy seed direct from the grower, 4 lbs. (ample for trial) post free, $2.00. Full information.

C. F. JULIUS
Central Bucca, Coffs Harbor, New South Wales

HOLSTEINS

We Have For Sale a Number of Registered Young Bulls and Heifers **$100**

All our stock comes from the celebrated herd formerly owned by the Pierce Land and Stock Co., the premium herd of Holstein Friesians in California. Oakwoods Stock Farm Co., Lathrop, Cal

John Lynch Breeder of Registered **Shorthorns**
MILK STRAIN
Box 321 Petaluma, Cal.

Berkshires--Shorthorns

My Berkshires took 9 First, 6 Second and 4 Third Prizes and both Gold Medals. 50 Head For Sale.
G. A. MURPHY, PERKINS, CAL.

THIRTY THOROUGHBRED
Poland China Hogs and Pigs
FOR SALE
W. R. McCaslin, R.F.D. No. 1, Rosevelt Ave, Sacramento

When writing advertisers, mention Cultivator.

dred should come, is it right? Why not go at least ten miles to an Institute?. It is for your own good! The man who is farming the way "Dad did back East" is going to be crowded to the wall by the "book farmer" in the future.—M. E. Sherman.

BACON AND PORK.

I have always cured my pork on the farm, and you don't have to have the evening you kill below 40 degrees to save your meat, says a writer in Farm and Ranch. Here is how I manage it. Get yourself ready to kill and dress your hogs by sundown, wash them down, and let them hang until 8 p. m. Then take down and cut up your hog ready to salt. Take the ribs and the backbone out, and cut off the feet at the upper joint. Cut off the snout and the jowls and split the head open; take out the brains in a dish and wash in salt and water ready for breakfast. Now take the hams and shoulders and trim the extra lard off and place them on the bench with the shank from you and cut the meat with your knife down the shank bone and across the ham or shoulder. Split the bone with a saw; cut through the bone all the way and be sure and split the main joint. Don't cut the meat under the bone. Then, after you have got all the big joints sawed or cut open, take each piece and lay out on a table where it can cool off during the night. Don't salt your meat until early in the morning as salt closes the pores in the meat and does not let the animal heat escape.

Now put the meat down in cold water, using a gallon of salt to 200 pounds of meat and one tablespoon of saltpeter and water enough to cover the meat. Put in the ribs and bones and the head, after it is cleaned, and the feet, after the toes are cut off. (There is nothing about the hog to throw away, but the entrails and the lights after the lard is stripped off—yes, and the kidneys and sometimes the liver if it is not healthy.)

Examine the meat if it gets warm in the middle of the day, and put in more cold water. Then, after supper, go to your smoke house and lay all that meat out on a table where it can drip; and next morning pour off all the first brine and put some fresh dry salt on each piece and pack it down in the box or barrel. Use, as before, one tablespoon of saltpeter to each gallon of salt and rub the salt all over each piece as you pack it. Then, when you get it all packed, use salt only to cover it up. You can and must examine it every afternoon if it's warm weather and see that the meat is perfectly cool. In four or five days you can take it out and rub it over with sugar or, as I prefer, sorghum molasses and red pepper, and after it dries smoke it or use a liquid smoke preparation. Use a similar method in beef, pork or mutton and don't neglect to keep a smokehouse of your own cured meat.

ABSORBENTS IN STABLES.

Absorbents are used in stables first and chiefly for the purpose of absorbing liquids that would otherwise be lost. Second, to hold ammonia that would otherwise escape, especially from horse and sheep manure, and very valuable. It not only contains a large amount of plant food, but it is in a form that is readily available. also to absorb odors that would prove injurious to milk. Third, to add to the quantity of the fertilizer made and saved on the farm. The first of these is, of course, the most important.

The materials used as absorbents of liquids include straw, leaves, moss peat, dry loam and dry muck. Those used to arrest ammonia are gypsum, acid phosphate and earth or peat. Earth in any of its forms is also helpful in keeping down the odors found in cow stables. Straw is used to a far greater extent as an absorbent of liquids than the other ingredients named, but moss, leaves and peat exceed it in absorbing power.

The liquid portion of the manure is The plan frequently adopted in Europe was to save it in tanks and to draw it directly from there and spray it over the land, but this method is, under average conditions, too expensive for America. There is the further objection that when thus kept loss of fertilizing ingredients is very considerable. The aim should be, therefore, to absorb the urine in the litter, and to distribute the same over the land at the earliest possible moment practicable thereafter.

Gypsum has been recommended in stables to prevent the escape of ammonia, not only in the form of gas, but also to retard the loss of nitrogen in manure heaps. To effect this end it has been recommended to scatter the gypsum at the rate of about two pounds per mature animal per day over the manure and liquids in the stable. The applications are to be made two and three times a day. Whether under all conditions this will pay is not quite certain. Authorities are not quite agreed on this point. Some claim that acid phosphate will answer the purpose better.

It is also certain that dry loam muck or peat will not only absorb liquids in stables if applied in sufficient quantity, but that they will also to some extent fix ammonia, and they are very helpful in keeping down offensive odors, such as arise from the manure. The extent to which they should be added will depend largely on the amount of liquid in the manure. This in turn will be considerably dependent on the amount of water in the food. As every dairyman knows, much more liquid is voided by cows pastured or fed on succulent grass or soiling food than those fed on dry food, even though given all the water that they will take.

When much earth is thus added to manure and the manure is thrown out in loose heaps in the yard or under a manure shed, when fermentation follows, the excess of earth by making manure dry out overmuch may aid in the escape of nitrogen. The aim should be to apply manure as soon as made to the greatest extent that may be practicable.

This is one of the great advantages of using absorbents. The liquids are not only saved, but in some instances the escape of ammonia is lessened. The amount of manure made is greatly increased, and because of tnis much more land is manured than would otherwise be possible. This, in some localities, will prove a great matter. Nevertheless, the farmers who burn their straw or even a part of it will not be much influenced by the value of absorbents. The man who burns straw or allows manure when made to lose much of its valuable constituents is not going to pay

For Mehring Foot-Power Milking Machines see O. J. Weber Co., 555-557 S. Los Angeles St., Los Angeles, Cal.

Anthrax Cure, Milk Fever Outfits. See O. J. Weber Co., 555-557 S. Los Angeles street, Los Angeles.

Don't Be Like The Sailor

who clung to the anchor as he threw it overboard, and of course went to the bottom—the result, a dead one.

You may have done practically the same thing, as far as dairy profits are concerned; if you have thrown over pan setting methods to buy a so-called cheap (?) separator.

If you haven't bought as yet—don't until you thoroughly investigate the

Tubular Separator

because it gets all the cream and a richer grade; furthermore it is a stranger to repairs, because it stands wear and tear.

The simplicity of the Tubular is enough to warrant your consideration.

Begin your investigation by writing for free Catalog 260.

THE SHARPLES SEPARATOR CO.,
West Chester, Penna.
Toronto, Can. San Francisco, Calif. Chicago, Ill.

CEMENT PIPE

Irrigation lines installed anywhere Skilled mechanics, work guaranteed. Estimates furnished. Main lines for Irrigation Companies a specialty.
Information cheerfully furnished.

Ben. F. Thorpe
Covina, Cal.

CUTTER'S
Anthrax
and
Blackleg
VACCINES

Are given the preference by 80% of California stockmen because they give better results than others do.
Write for prices, testimonials and our NEW booklet on Anthrax and Blackleg
The Cutter Laboratory
Berkeley, California

Live Oaks Farm

Frank A. Meacham, Proprietor.
Importer and breeder of RED POLLED CATTLE, SHROPSHIRE SHEEP, RAMBOUILLET SHEEP, HORNLESS AMERICAN MERINO SHEEP. Both sexes for sale. Take electric car at Petaluma or Santa Rosa for LIVE OAKS STATION. Address all mail to
Petaluma, Sonoma Co., Cal.

VENADERA HERD
OF REGISTERED JERSEYS

I have for sale a number of richly bred young bulls, some of them from cows that have high official yearly records.

GUY H. MILLER,
Route 3. Modesto. Cal.

Hay For Sale. Buy your hay in car lots. Special attention given to supplying alfalfa to dairies.
E. R. LONG
Bakersfield, California

Geo. C. Roeding, Fresno, Cal, breeder of
Thoroughbred Holstein Bulls and Heifers
Thoroughbred Berkshire Boars and Sows

Thoroughbred Poland China Swine
Black Minorca and Barred Rock Poultry
High Grade Stock of Best Strains.
Young Stock For Sale
W Bassett Hanford, Cal

PURE BRED BERKSHIRES
Young Stock For Sale
Wm. H. Bird Box 6, Compton Cal.

When writing advertisers, mention Cultivator.

AUCTION

150 DAIRY COWS

Cash Sale on the Briggs Ranch, Clearwater

At 10 o'Clock A. M. Prompt

Wednesday, November 25

Also registered Guernsey Bull No. 11858 (Alessandro of Soledad, 2 years and 5 months old.) This is without exception the finest herd of Dairy Cows in Southern California. Are all from thoroughbred stock and consist of selected Jerseys, Guernseys, Holsteins and Durhams. The owners invite inspection before the sale.

This is the famous Rancho Verde herd and are all from selested dairy stock. Average test over 5 per cent. Many of these cows give 60 lbs. of milk. Moved from San Bernardino County for convenience of sale. All have been inspected and are guaranteed. Nearly all fresh or coming in soon.

Take Santa Ana Pacific Electric Car at 6th and Main Sts., Los Angeles. Get off at ***Clearwater.***

Free Lunch. For further particulars apply to auctioneers.

Rancho Verde Co., Owners
Victorville, San Bernardino County, Cal.

Briggs & Weber, Auctioneers
555-557 So. Los Angeles St., Los Angeles, Cal.

AUCTION **50 Dairy Cows** *Sale on the La Dow Ranch 46th and Normandie Avenue* **Los Angeles, Cal.**

At 10 o'clock a. m. prompt TUESDAY DECEMBER 1st. Also Holstein Bull, 3 years old, one of the county's best

This is without exception the finest herd of Dairy Cows in Southern California. All are from dairy stock and consist of selected Holsteins, Durhams and Jerseys. The owners invite inspection before the sale. These are large milkers and every cow guaranteed as represented. Many of these cows give 50 to 60 lbs. of milk. Come out and see them milked before the sale. All have been inspected and are guaranteed. Nearly all fresh or coming soon. ***FREE LUNCH.*** Take Grand Ave. Car (48th St.) get of at Normandie, 300 feet north

For further particulars apply to auctioneers.

BRIGGS & WEBBER, Auctioneers
555-557 S. Los Angeles St. Los Angeles

V. DEL FANTE, Owner.
Los Angeles

much attention to the use of materials that will absorb the liquids in the manure. This man will have first to be convicted of the guilt associated with burning straw or allowing manure to waste. His case is hopeless until this is accomplished.—Professor Thomas Shaw in New England Homestead.

MILK FOR PIGS.

When all has been said and done, there is perhaps no one article of food that is better for the young animal than milk. There is hardly an instance when the addition of milk to a ration for young animals is not desirable. The growing pig is no exception to this rule and, in fact, milk can profitably be fed to a hog until he is ready for market. A hog that is being fitted for show purposes should not be fed an excess of milk, as milk is only for the general utility hog. This rule, however, does not apply to the young show pig. While most of the milk fed to young pigs is skimmed, it seems to have a highly effective tendency to make them thrive, though if analyzed it is shown that the food content in skim milk is not large.

Tables found in the feeding standards show that skim milk, and more especially that obtained from separators, contains slightly in excess of 90 per cent. water. In food constituents that are digestible skim milk contains 2.9 per cent. protein, 5.2 per cent. carbo-hydrates, and .3 of 1 per cent. fat. As compared with ordinary corn skim milk is a little more than one-third as rich in carbo-hydrates and contains rich in protein, about one-twelfth as one-fourteenth as much fat. Notwithstanding the comparatively small amounts of digestible matter found in the skim milk it seems in some way to increase the digestive capacity of the hog and act as a tonic that facilitates rapid growth.—Journal of Agriculture.

FARM NAMES.

Continued from Page 485.

its name. Trees are about 15 years old and produce a very good crop each year."

"White Cliff Fruit and Vegetable Farm," owner W. A. Mayo, Ventura, county. "Our ranch is located on upper Ventura avenue and is bordered on the west by Ventura river, the White Cliffs it takes its name from being on the west side of the river. This is one of the most fertile little valleys in the state where everything planted grows to perfection."

"Spring Vale," owner Frank Tunnell, Los Olivos, Santa Barbara county. "The idea of naming our ranches strikes me as an exceedingly good one. We have only thirty acres one half mile from Los Olivos, the terminus of the narrow gauge railroad. A large spring supplies a nice little stream through the ranch which is filled with water cress making green feed the year round for 250 buff and white leghorn hens. We also keep 20 dairy cows, the cream being separated with tubular valve separator. We feed the skim milk to our chickens and pigs. The cream is shipped to California Creamery, Los Angeles. We have a small orchard, a good vegetable garden, an eight room cottage with shade and ornamental trees and think Spring Vale about the right name for our place." If a picture like that written by Mr. Tunnell does not make the dweller of the dusty city long for just such a little ranch we do not know what will.

"Orange Crest Ranch," owners Mr. and Mrs. F. A. Thornton, Camanche, Calaveras county. Mr. Thornton writes: "Our beautiful ranch is situated on a bench or mesa overlooking the Mokelumne river. We are on the Amador county side of the river. We have a nice grove of oranges which do finely here. We also grow figs, apples, grapes, pears, winter vegetables, and we find that all kinds of fruits and vegetables do well here."

The best feed for making muscle is oats. They are not heating nor very fattening. The young calves should be given oats in order to give them muscle and make them plump.

According to late statistics there are at the present time 19,746,000 horses in the United States. This is a gain during ten years of 40 per cent.

TWO HUNDRED RECIPES FOR ENTERPRISING HOUSEKEEPERS.

Every woman who prides herself upon the variety and tastiness of her "table" will be interested in the new book of recipes by Helen Louise Johnson.

The important point about Miss Johnson's recipe book, which is called the "Enterprising Housekeeper," is that it contains over two hundred tested recipes calling for the use of meats, fowl and other things left over from previous meals. This book will be sent free to any woman sending her name and address to The Enterprise Mfg. Company of Pa., 229 Dauphin Street, Philadelphia.

The primary reason for distributing the cook book "Enterprising Housekeeper" is to demonstrate the possibilities of the "Enterprise" Meat and Food Chopper in the preparation of deliciously appetizing dishes that contribute both to the pleasure of the table and to economy in household maintenance.

The "Enterprise" is the only true Meat and Food Chopper that actually cuts meat so that each minute piece retains its goodness and flavor. The "Enterprise" cuts by means of a four bladed steel knife and perforated steel cutting plate that does the work thoroughly.

With the "Enterprise" Chopper and the "Enterprising Housekeeper" the housewife is ready for guests expected or unexpected, knowing that her table will be a credit to her ability as a versatile cook and housekeeper.

Remember that skim milk is good for poultry as well as for pigs.

California Cultivator

ESTABLISHED 1889

Subscription Price One Dollar per year, payable in advance. Dates of expiration of subscription accounts appear each week on the address label. John Jones 7-08 means July 1, 1908. Notify us by mail if you desire to discontinue.

Thursday, November 19, 1908

Address All Communications to

CULTIVATOR PUBLISHING CO.
115½ No. Broadway, Los Angeles.
733 Merchants Ex. Bldg., San Francisco.

Copy for Change of advertisement must be in office on Saturday preceeding date of issue. New advertising copy should reach the office not later than Tuesday to insure insertion.

CULTIVATOR PUBLISHING COMPANY
H. A. PERKINS, EDITOR AND GEN. MGR.

C. B. MESSENGER - - - - Associate Editor
FRANK H. THOMAS - - Advertising Manager
H G. HUTCHINS - - Subscription Manager

EDITORIAL CONTRIBUTORS:

J. W. MILLS - - Deciduous and Citrus
JOHN ISAAC - - - - Horticuiture
J. B. NEFF - Wainut Culture and Irrigation.
Mrs. M. E. SHERMAN - Live Stock and Dairy
Q. A. LOBINGIER - - Vegetabie Garden
RALPH E. SMITH - - Plant Pathology
S. A. PEASE - Plant Diseases and Injurious Insects

Entered at the Post Office at Los Angeles, California, as Second-class matter.

Contents

PRESIDENT'S THANKSGIVING PROCLAMATION, Cover.
FOUNDATIONS FOR HIGHWAYS, 483.
WITH THE CITRUS GROWERS.—Handling the Lemon Crop, 484.
CALIFORNIA FARM NAMES, 485.
CALIFORNIA PROSPEROUS, 486.
SMALL FRUITS AND VEGETABLES.—Strawberry Culture, 488.
LIVE STOCK AND DAIRY.—Four Days at the State Farm; Bacon and Pork; Absorbents in Stables; Milk for Pigs, 489, 490, 491.
EDITORIAL.—Thanksgiving; Parcels Post; Convention of Fruit Growers; Scipio Craig; Milk and Cream Competition; Name the Farm, 492.
AGRICULTURAL NOTES OF THE PACIFIC COAST.—Northern, Central, Southern, The Coast, 493.
PROFIT IN THE POULTRY YARDS.—Poultry for Thanksgiving; Southern California Poultry Show; Pumpkins for Fowls; Beans for Poultry; Ducks and Geese; Poultry Talk, 494, 495, 496.
CALIFORNIA HORTICULTURALLY.—Good Work for the Farmers; Alden Anderson in the Financial World; Rain in the North; A Bonanza Fruit Shipping Year; Nothing Doing In the Pear Blight; Look Out for Infected Peach Stock; Encourage Beet owers, 497.
QUERIES AND REPLIES.—Cowpeas for Hay; Dodder Seed; Ascalano Olives; Charcoal from Mesquite; Machine Oil from Tallow; Olive Oil; Lath House; Persimmons; Peanut Butter; Water Cured Olives; Curing Pork and Ham; Salt Grass, 498, 499.
VETERINARY.—Diseased Feet of Cattle, 499.
HOUSEHOLD.—The Day Before Thanksgiving; The Turkey's Nest; When The Frost Is On The Pumpkin; Thanksgiving Menu; Roasting the Turkey, 500, 501.
PRODUCE MARKETS.—Los Angeles Market; San Francisco Market; Citrus Markets, 502, 503.

THANKSGIVING.

It is possibly in order for the Cultivator to refer to the prosperity which has come to agriculturists as a class during the past twelve months and to show reason why thanks should be given for blessings received. But we think the general condition of our country and reason for such thankfulness are vastly more forcefully and appropriately mentioned in the proclamation of our President, which appears on first cover page.

There will be some who will say that conditions during the past year have been such that we have little to be thankful for, in fact the Cultivator has received during the past few weeks severe criticisms because of references made to certain favorable conditions which prevail along agricultural lines. The year was never yet so auspicious that all producers could feel that they had been blessed as they would like. This is perhaps true of us in general, because naturally the human race is born to sorrow, at least feels so to the extent that knocking comes perfectly natural.

Enough has been given to the California family during the past twelve months that all may at least feel thankful for the privilege of living in this blessed country. The stock and the farmers are not suffering in the driving blizzard, the leaves are green, all the fruit is not yet marketed, flowers are in bloom, our tables are loaded with the products of our ranches, among which are grapes, strawberries, blackberries, raspberries, all kinds of melons, garden products of nearly every kind, while the Easterner is going to church services and to grandfather's to dinuer bundled in furs and overcoats.

Therefore we say to our subscribers stand uuder the blue sky which we hope will be given to us that day and be thankful for the blessings the Almighty has sent us as individuals, as well as to us as a nation.

As we remarked some, will readily find unfortunate occurrences during the year which may be sufficient to feed our grouch. To some the whole year may seem unfortunate. Such we may remind that "whom the Lord loveth He Chasteneth" and the love thus indicated may prepare us for greater service to Him and to our fellow beings.

All have occasion for thankfulness.

Let us express it.

PARCELS POST.

The Cultivator is in receipt of a letter from a valued subscriber at Stockton who referred to the receiving of the blanks sent out by Country Life Commission in which questions were asked as to recommendations for bettering the farmers' condition. This subscriber says that in answering Question Number 5, "Do the farmers of your neighborhood receive from the postal service, rural telephones, etc., the service they should reasonably expect. He answered: "Yes, excepting that we need parcels post." And in the final recommendation he again urged that "If you want to help the farmer give him parcels post."

The subscriber then adds: "It isn't often that the farmer has a chance to tell the President just what he wants. Here is one and if we will all ask for the same thing we may get it. There are many things we need but surely nothing we can reasonably expect will be of more benefit to us than parcels post and I write this hoping you will urge its adoption and that others who have not already sent in their answers may do so and ask fof parcels post."

Any one who has not received the regular blank from the commission may write and express their views addressing "Commission on Country Life, Washington, D. C."

CONVENTION OF FRUIT GROWERS.

In another column may be seen liberal extracts from Commissioner Jeffrey's announcement of the coming state convention. One point which we note in the announcement calls attention to a wise provision of this convention which we believe attendants have long wished. This is the placing of fewer numbers on the program and giving more time to discussion from the floor. This discussion from the floor we believe is of far more value and brings out points which growers actually wish made plain more perfectly than do the long papers which usually fill in the program to the exclusion of discussion. To be sure it requires more careful control on the part of the chairman because of the desire on the part of some to display oratorical powers and ramble in their attempt at discussion.

We believe the coming Sacramento convention will be one of the best in the history of fruit growing, and urge every fruit grower who can possibly attend to do so.

SCIPIO CRAIG.

Scipio Craig the pioneer newspaper man of Redlands died at his home Tuesday afternoon. Mr. Craig was one of the best posted irrigation men in the state of California and has attended, we believe, every session of the National Irrigation Congress. His paper, the Redlands Citrograph, it is announced has been discontinued. It has long been an authority on irrigation matters and has been more of a personal organ to express Mr. Craig's views on irigation than it has been a local newspaper.

The passing of Scipio Craig will leave a vacancy felt by all pioneers and his hosts of friends of this state.

MILK AND CREAM COMPETITION.

The Daily Division of the United States Department of Agriculture will conduct a competition at the coming National Dairy Show to be held in Chicago December 2-10. There will be four products entered for the competition as follows: "4 quarts market milk," "4 pints market cream," "4 quarts certified milk," "4 pints certified cream."

The idea is to attract attention to the requirements of city milk trade and to make awards of gold and silver medals and to give honorable mention to all exhibits which score 90 or above. Entry blanks and information will be given on application to C. B. Lane, Assistant Chief Dairy Division, Department of Agriculture, Washington.

NAME THE HOME.

One of the most interesting pages in the Cultivator this week is that on which appears the list of farm names given by owners who take pride in their own homesteads. This feature of the Cultivator is attracting much favorable comment and is the cause of several giving names to their places who have not done so before. On the other hand it is also bringing out information from some who have carried these names on their homesteads for years. For instance one of those given this week has been carried for more than half a century. We trust the movement will spread and ultimately every farm home in the state be dignified with a name at its gateway.

The Cultivator recently had a short article contributed by a valued subscriber in England and now has promise of one from another in Porto Rico and has in view items from others in foreign countries. We believe they will have value to our subscribers at least in the way of general information. It is a necessity to know how to do things in our own land and is of interest to have information of methods in other countries. That this interest may be gratified we propose to reach out and get this information which we are sure will be appreciated by our increasing family of subscribers.

The Tulare County Citrus Fair will be held in Exeter December 1-5. The Exeter people are making an effort to make this the finest show of citrus fruits Central California has yet made. The Fair has been held two years at Porterville and last year at Lindsay. While citrus fruit will be the principal factor at the Exposition there will be other exhibits somewhat after the style of the regular county fairs. It should prove a drawing card to many thousand people to Exeter.

When I bought my farm I did not know what a bargain I had in the bluebirds, bobolinks and thrushes, which are not charged in the bill. As little did I guess what sublime mornings and sunsets I was buying, what reaches of landscape and what fields and lanes for a tramp.—Ralph Waldo Emerson.

Shop Talk

CLUBBING RATES—This week we wish to suggest to Cultivator readers the matter of clubbing rates, and present on another page a list from which very attractive combinations can be made. The greatly reduced prices which are made, of course, are possible only because of ordering two or three or more magazines at one time. It is not at all necessary, however, that al the subscriptions go to the same address, so it is a great convenience for neighboring families to get together, pick out the magazines wanted, divide the cost, and at the same time have the benefit of the reduced rates.

This is certainly an opportunity not to be overlooked by our readers, as such a carefully arranged list has never before been presented by a Western agricultural paper.

We want to say, too, that the list will not appear again this season, so be sure and cut it out or preserve this issue for future reference. Space is too valuable to allow repeated printing in the paper, although, upon request, copies of the list will be forwarded from this office at any time and to any address.

All necessary rules to be observed in making orders are given in the price list and should be carefully noted. It will be found that most of the popular leading magazines of the country are included, although we will gladly make prices on any others upon request.

Consider the matter and see if there is any reason why you should not have more good reading in the house, and for less money, than has been possible before. Every member of the family should have his or her favorite magazine, to the arrival of which he looks forward in anticipation of many hours of pleasure and profit.

Agricultural Notes of the Pacific Coast

Northern California

Eureka papers report the shipment of 160 tons of butter from that city in one lot.

Colusa is shipping a few oranges, having recently forwarded 100 boxes to San Francisco.

Marin county stockmen have been compelled to haul water for watering because of the drouth.

Many Yolo county, farmers are signing up contracts for beets for next season's deliveries.

Grass fires are not over, as a serious one occurred recently in Eldorado county, near Placerville.

The Colusa Meat and Cold Storage Company have placed a contract for the new machinery to be placed in their new building.

One grower near Tehama, Tehama county, has succeeded well with growing broom corn, raising this year 20 tons from 2 acres.

Articles of incorporation of the Winters Land and Development Company have been filed in Yolo county. Capital stock was $75,000.

Thousands of tons of tules are being gathered along the river in Colusa county and baled for shipment to nurseries for packing trees.

The first car of oranges shipped east from Oroville went on Saturday, the last day of October. The oranges were reported of good color.

Recent experiments in dipping sheep, in Sutter county, under the supervision of the State Veterinarian were declared to be satisfactory.

The dormitory on the State Farm at Davis is receiving its finishing touches and will soon be supplied with furniture ready for the students.

One of the most interesting talks at the Horticultural Short Course at the State Farm was made by the peach specialist, B. E. Hutchinson, of Fresno.

The short course students at Davis State Farm have formed an organization called the Farm Students' Association and have adopted a constitution and by-laws.

The Farmers' Institute train which is now in Sacramento valley received its finishing touches and exhibit at the State Farm before starting, Prof. Clark being chief decorator.

A disastrous fire on the Farm near Woodland, Yolo county, resulted in the destruction of 22 work horses, 60 tons of hay, threshing machine and many other farm implements.

The injunction against the Indiana Mining Company brought by agriculturists near Oroville has been successful and the mining company must cease from filling the channel with slickens.

Stockholders in the Sacramento Valley Beet Sugar Company, many of them from Los Angeles, recently made an inspection tour of the big factory at Hamilton. It is reported that they were pleased with conditions at the factory.

The frame work of the great State Agricultural building on the State House grounds at Sacramento has finally been completely demolished. This building covered a space of 80,000 square feet. The corner stone was laid June 5, 1883.

Central California

Tokays are injured by the recent rain at Lodi.

Lodi is appealing strongly for a new cannery.

Chinese vineyardists at Hanford are exporting their products to China.

Sanger is sending out some fine, well colored cars of Emperor grapes.

Work is rushing for the last arrangements of the citrus fair at Exeter.

Later shipments of Tokays from Lodi crowded close up to $2000 per car.

The San Jose Womau's Club held its annual crysanthemum show last week.

California has a beautiful exhibit palace on the grounds of the Alaska-Yukon exposition.

The most successful ever is the verdict regarding the recent Santa Clara Valley Poultry Show.

Long trains of wagons loaded with apples are a fabiliar sight in front of the packing houses at Watsonville.

A Stanford graduate has been selected to accompany President Roosevelt on his South African trip as a naturalist.

California Creamery Operators' Association held its annual meeting in the Ferry Building at San Francisco, November 12.

Santa Clara valley will make exhibits of some of her magnificient Bartlett pears at the coming Alaska-Yukon Exposition.

The sugar factory at Salinas had a long run this year, not finishing deliveries of beets for the factory until the middle of November.

Fresno raisin growers are still making efforts to complete the raisin pool and bring together all the growers on the 4 cent basis.

Potato growers at Stockton are appealing for protection to the potato industry, saying it is being injured by large importations from Mexico.

Santa Clara valley pear shippers have received reports from London, Eugland, that pears arrived in good condition and commanded good prices.

San Jose Grange Number 10, Patrons of Husbandry, at their recent session discussed the matter of denatured alcohol and its manufacture on the farm.

Poultry raisers of the Santa Clara valley have been discussing the profits in poultry raising and think that they have an ideal section for producing turkeys in large quantities.

Santa Clara valley fruit growers are having trouble with fruit buyers who bought fruit at a fair price earlier in the season but on its decline refused to take any but the very finest of the goods.

The apple growers of Pajaro valley are pleased at the continued dry weather which affords them an opportunity to pick their apples to better advantage. Many growers have already finished for the season.

The Chamber of Commerce at Lodi is endeavoring to discourage the sale of inferior fruit at the passenger trains passing through the towns and urging that only exceptionally fine fruit shall be offered to passing tourists.

Southern California

Orange county is exhibiting pears 17 inches around.

San Jacinto grain farmers have begun seeding grain for next year's crop.

Beaumont is to have a big rabbit drive on the day following Thanksgiving.

Southern California Editorial Association is visiting Imperial valley this week.

Farmers who have held their hay in storage until this time are pleased to find the price gradually climbing.

A potato grower at Fullerton, California, has discovered a case of what is known to be Eastern "black rot."

Tustin packing house is being overhauled and made ready for the coming crop. It shipped last year about 200 cars of fruit.

The property of the Bear Valley Irrigation Company was recently sold at a foreclosure sale at San Bernardino for $1,234,534.

Shooks for orange boxes will be lower than last year, present offers being to supply shooks for 14 cents. The lowest price last year was 19 cents.

A eucalyptus grower on the Bixby ranch west of Santa Ana has 40 Japs constantly at work in lath houses. He will raise several million trees this season.

Plans and specifications for a $25,000 cotton gin have been drawn and are in the hands of the architect at Yuma. The enterprise is being fostered by the government.

With one irrigation for the season one walnut grower at Fullerton has produced 6½ tons of walnuts on 8 acres of 13-year-old trees. He sold the crop for $1600 net.

10,000 trees have been taken from the Government nursery at Lytle Creek canyon, San Bernardino County, and will be transplanted in the mountains at Banning and Mill Creek canyons.

The Board of Supervisors of Imperial county has passed a resolution asking the Reclamation Service to make a survey and estimate of cost of a canal from Laguna Dam into the upper side of the Imperial valley.

Orange county farmers who had bought what was claimed to be beardless barley seed from a large warehouse company but which afterwards proved to be the common bearded kind have been given a judgement of $12,155.

The Chamber of Commerce of Highland, San Bernardino county, is taking steps to have all of the orange trees of that section thoroughly fumigated and to that end is encouraging the plan proposed recently by Mr. Paine to form an organization to insure freedom from scale in all orchards of members.

The Imperial Valley Date Palm and Farming Company has been organized and will have its headquarters at Brawley. The purpose of the organization is to plant 320 acres of land to eucalyptus trees and date palms. The directors for the first year are: J. W. Jennings; J. Lebert Cook; T. A. Kellog; M. D. Witter and W. T. Dunn of Brawley; Mrs. Genevieve Williams and Lewis Havermale of El Centro and W. F. Phelps of Oregon.

The Coast

The Oregon State Poultry Association will be held January 13-19, 1909.

The Seattle Poultry Association holds its annual show January 19-25.

Walnuts grown in Yakima, Washington, have proved to be good bearers and exceptionally good nuts.

It is claimed that one fruit grower near North Yakima cleaned up nearly $4000 from one acre of Buerre d' Anjou pears.

North Yakima, Washington, ranchers have been experimenting this year with manufacturing molasses from watermelon.

Pullman, Washington, is shipping nearly its entire output of apples to St. Louis and is receiving $1 per hundred pounds.

Washington county, Oregon, farmers have been greatly benefited by the special agricultural train and its corps of lecturers.

The state of Oregon ends the year with nearly a million dollars in the treasury and claims not to have one penny of indebtedness.

It is reported that not to exceed 600,000 pounds of wool remain unsold in Oregon and Washington, most of this being in Washington.

The first navel oranges from California this season sold in Portland, Oregon, November 5. They commanded $4.50 to $5.00 per box.

The Northwest Fruit Growers' Association aud the Oregon Board of Horticulture will hold a meeting in the near future at Portland, Oregon.

Farmers near Goldendale, Washington, have lost many hogs during the last few weeks, from the attack of bears that come down from the hills.

Portland hop dealers are pleased with several good sized orders for hops recently. Some of the best grades have commanded as high as 12½ cents.

Portland, Oregon, is now drawing upon Kansas and other middle west states for great quantities of eggs. Some days as high as three cars are received.

Forest fires destroyed thousands of dollars' worth of standing timber; farm houses and outbuildings in Josephine county, Oregon, about the first of the month.

Reports regarding dry farming operations in Utah go to show that it has been successful in producing good crops the past year where other methods have given at least partial failure.

A forty-five acre apple orchard at Salem, Oregon, is now producing some of the finest apples of that state. It is because of intelligent care of the fruit and both summer and winter sprays.

Many horses have died in the farming sections around Baker City, Oregon, during the fall from some unknown cause. It is thought to be from poisoning by fungous growth on the stubble of the grain fields.

Cherry growers in some of the best cherry sections of Oregon are pulling out ten year old Royal Anne cherries and chopping them up for stove wood because the last two seasons have not been so profitable as they had anticipated.

PER 2 BUSHEL SACK **$1.90** PER 2 BUSHEL SACK

Buy the World's Famous Egg Food No. 4

MIDLAND

IF YOU WANT EGGS
YOU WILL FEED NO OTHER.

Used by the largest and best breeders in the country. Thousands of poultrymen are using it, and it is the acknowledged standard of the world. Haphazard feeding is no longer profitable. Try Midland Food and be convinced.

Petaluma Incubators and Brooders

The acknowledged standards of perfection. All poultrymen who have used those machines have supreme confidence in their ability to hatch and breed. Hence their ever increasing popularity. Winners of the Gold Medal at the St. Louis World's Fair for the greatest hatch, with 40 different makes of incubators in competition. How's that?

St. Louis, Mo., Dec. 8th, 1904.—Petaluma Incubator Co., Petaluma, Cal.: My Dear Sir—The awards have been held up owing to a controversy between the Exposition officials and the national commission, but today I am able to state the award of a gold medal on your Petaluma Incubators has been confirmed. You are at liberty to make use of this in any way you see fit and in due time the diploma will be issued and the medal obtainable. Congratulating you upon this evidence of the merits of your incubators, in which there was very great competition, I beg to remain, yours very truly, J. A. Filcher, Commissioner.

And Now Comes New Reward for Merit

Read the following telegram received from the Lewis & Clark Exposition at Portland:
"Petaluma Incubators and Brooders just awarded Gold Medal at Lewis & Clark Exposition."

WRITE FOR CATALOGUE 47—A BEAUTY

Petaluma Incubator Co.

Main Office and factory, Petaluma, Cal., Box F.
Los Angeles, 113-115 North Main Street.
San Francisco Office and Salesroom, 83 Market St.

Egg-More

is not a strong tonic and stimulant, but a highly nitrogenous, concentrated Poultry Food, very rich in protein. A little fed with good grains will keep hens healthy and make them lay lots of eggs. Have you tried it? Many have and are pleased. Here is just one:

F. W. Healy, the well-known banker and fancier of Pasadena, writes: "After hearing others praise Egg-More, I determined that if there was anything to keep hens laying through the fall and winter months, I wanted it. I bought a package of Egg-More and fed it and the improvement was very marked. Keeping on with it I soon proved the truth of your statement that 'you can't put all your eggs in one basket if you feed Egg-More.' I have raised poultry nearly all my life and for twenty years in California, but never did my hens lay so well as since I began to use Egg-More. I consider it the best egg producer on the market, and I do not intend to be without it."

You better try it. For sale by many dealers at 12½ lbs $1.00; 25 lbs., $1.90; 50 lbs., $3.60. If not by yours we will prepay freight on sack within 400 miles.

West Coast Mill

707-709 So. Griffin Ave., Los Angeles, Cal.

The Model Poultry Farm

Irvington, Alameda County, California

Standard Strain of White Leghorns The Best Laying Strain on the Pacific Coast

We can also show you more birds that have actually won first prizes in the show ring than any other breeder on the Pacific Coast. Write for circulars. Eggs, Chicks and Stock for sale. Address

Ours Are the Kind That Lay and the Kind That Pay

Model Poultry Farm, Irvington, Cal.

60c—EGGS—60c

MIDLAND POULTRY FOOD

Makes Hens Lay

400 Sacks will be here next week. Get your orders in early.
Price $2.00 per Sack

Aggeler & Musser Seed Co.

113-115 North Main St. Los Angeles, California

Southern California Agents for Petaluma Incubators and Brooders and Midland Poultry Food

Profit in the Poultry Yard

We solicit short articles of a practical nature from the fancier and utility breeder, giving their experience with poultry. All inquiries pertaining to feed, management, disease and its prevention will be answered through these columns.

POULTRY FOR THANKSGIVING.

WHAT would Thanksgiving be bereft of Poultry? More of the feathered tribe find their way to the table on this day than any other during the year, and a few words on this subject may be timely and appropriate.

Dressing for Market.

There are two ways of dressing poultry for market—dry picked, and scalded. Dry-picked fowls command the highest prices, but the method savors strongly of cruelty, to my notion, as the bird must be picked while still warm, and the usual way is to suspend the fowl by the feet, rap it sharply upon the head, then stick with a sharp knife in the mouth at the root of the tongue. This sticking is quite a knack, and a sharp pointed knife is used which penetrates the brain and causes the blood to flow freely, and while the fowl is bleeding the expert picker will remove every feather, beginning with wing and tail feathers, then the back, from head to tail. Pluck the "craw" crossways, breast and body feathers downward. Great skill is required to do this without tearing the flesh, but when nicely done the bird presents a better appearance for market, while the feathers can be saved and sold, quite an item where many are dressed.

For killing in this way, the French have a knife much like a screw-driver. The fowl is laid on its back, and while one person holds its legs, another opens its mouth and puts the knife just back of the roof of the mouth, pressing in to separate the vertebrae (or bones of the neck,) which kills quickly. It is a nice trick to know just when to begin picking, for if done too soon, blood will settle in the orifices from which the feathers were removed, giving the bird a spotted appearance. Hanging the fowl up to bleed insures its keeping better than where bleeding is not properly done.

Some markets do not require entrails removed, but commonsense dictates their immediate removal, unless the bird has been starved at least 24 hours before killing.

Where the heads are removed, and the scalding process is used, hanging up to bleed is also advisable, and a plentiful supply of water should be used to insure thorough work. In the case of ducks, the carcass should be wrapped in several thicknesses of woolen cloth and let steam before picking, as it is difficult to get the heat through the thick fluff of a duck.

After the fowls are picked, they may be "plumped" by plunging first into a large tub of hot, and immediately into a large tub of very cold, water which fills out the carcass beautifully, then hang in a cool place to drain and allow plenty of time for the animal heat to pass off, then pack in clean straw free from chaff or dust. First put into your box or crate an inch of straw, then a layer of fowls, breasts downwards, not touching each other with plenty of straw between the fowls and between each layer and more on top packed so tightly they cannot jostle around and get bruised.

Mark plainly to whom addressed with the number and weight of the birds, keeping a copy of this for your own use, not depending upon memory.

One bright Pennamite packed a lot of fine Buckeyes and tied them in with blue ribbons and sent them to Philadelphia market marked "Blue Ribbon Buckeyes," and got two cents a pound above market rates, so it pays to take pains with your product and put it out in attractive shape. Commission men soon learn who does their work best, and order accordingly.

Thanksgiving Poultry.

The old Scotch grace has it thusly:

"Some ha'e meat and can na eat,
Some there be who want it,
But we ha'e meat, and we can eat,
Sae let the Lord Be thankit."

And, really, sometimes it seems that Thanksgiving has been degraded into a great gastronomic debauch. And the overloaded stomachs rebel, and throw the whole machinery out of order, so often the results of the feast are colds and fever, which are never suspected of being caused by over-indulgence at the table, yet should be. This year will be celebrated especially, as it is the presidential year, and the settlement of the public mind, after the late excitement, is a good bit to be thankful for. And each individual has something to be thankful for, if he or she will just be honest with themselves, and count their blessings.

Naturally we would all like to have turkey for our Thanksgiving feast, but turkeys are either growing scarcer every year, or else there is so much larger demand than there used to be, that the price puts it out of the reach of many of us.

Supposing we do secure a fine turkey, or even a plump chicken, goose or duck, our first duty upon getting it home is to be sure that the crop and all entrails are safely removed. A young lady I once knew was mortified almost to death at her wedding breakfact by the fact becoming apparent that the crop was still present and full of the bird's last supper, so let us see about this matter and profit by her experience. Next, wash the carcass thoroughly inside and out and rub salt all over the inside, after which hang up to drain a while, say an hour, if possible. Then wipe dry with a clean cloth and proceed to fill with the "stuffing," which should be seasoned to suit the consumers. Some like a simple dressing of fine breadcrumbs, seasoned only with salt, pepper and a little sage, while others like a filling of oysters, onions or raisins, etc. Fill the crop cavity first, then the body, and sew up carefully. Then tie the legs and body together to keep the legs from spreading, and if you have a covered baking pan, no basting will be required, but the following method will answer in place of a covered roaster: Spread a clean white cloth with lard and cover the fowl with this, then grease a paper the same way and put over the cloth, finally laying a heavy brown paper over all, which will keep it moist without basting, and if the brown paper should scorch, take it off and add another one. I like to turn the bird several times while roasting, myself, and always put plenty of water in the pan, so there will be steam.

While the fowl is roasting stew the

giblets, beart, liver and gizzard and ehop them finc, and add, with the water in which they are stewed, to the gravy. In England turkeys and ehickens are more often boiled than roasted, in a large kettle of water contalning a carrot, an onlon and a bunch of swcet herbs.

Roast goose and apple sauee are prime favorites with many for Thanksgiving, while still others really prefer a fine capon to the lordly turkey. Certain it is that "the Lord sends meat, but the other fellow sends eooks," some times, and the finest fowl may be spoiled by indiffcrent eooking, while the poorest one may turn out a winner in the hands of a eareful cook. The main thing is to have the cooking thoroughly done, not underdone.

In seleeting a fowl, remember the young birds have flexible breast bones and bright, smooth shanks, and that four to five hours' gentle heat will give better results than two to three hours' fieree heat.

When we stop to think about it, our national holiday is certainly dependent upon the poultry kingdom for mueh of its good eheer.

If it were not for the hens, where would the delicious pumpkin pie be. or the custards and cakes that grace our board? No successful substitute for the fresh eggs can ever be found, and no "grain and nut" mess can ever take the place of the roast turkey and chieken pie the most of us are accustomed to. I once read of a woman who, in a time of trouble, served a mock turkey, made of mashed potatos moulded into the form of a turkey, and nicely browned in the oven, but I hope none of our readers will be obliged to do this, but that all may have a "leg and wing, and a bit of the breast," this happy Thanksgiving time.—Mrs. Frank Metcalf.

SOUTHERN CALIFORNIA POULTRY SHOW.

Poultry Breeders' Assoeiation of Southern California will hold its next annual, December 31st. to January 6th, 1909. The meeting will be held as the past few have been, at the Chutes Park. Secretary Salisbury writes "Every indieation points to a grand show in spite of the so-called hard times. We intend to have a first class, up-to-date poultry exhibition. There will be many speeial eups and ribbons amongst which are the Rhode Island Club of America eup and ribbon, the National Buff Wyandotte cup and ribbons, the National Orpington cup and ribbons, Barred and White Rock cup and ribbons, National Columbian Wyandottes eup and ribbons, besides about fifty cups from business firms and members of the Association. The show will be held in the large pavilion at the Chutes and there will be no outside show. We have four competent judges to do their part, one of whom is an eastern judge of note. We aim to have this the biggest and best show west of the Rockies."

POULTRY QUERIES.

Pumpkins for Fowls.

What is the effect of feeding pumpkins, seeds and all, ehopped up together, to poultry?—O. W. P., San Jose

Pumpkins themselves have small feeding value for poultry, but the seeds are quite rich in protein, and are also excellent for ridding fowls of intestinal worms, henee the feeding of the whole pumpkin, seeds and all, cannot but have good results, by adding bulk to the ration But, difficulty in getting the birds to eat it may be experienced, unless the mass is well seasoned with bran, and meal, and fed in the form of mash.

"Back East" in winter, when disbes often froze up and cracked, I used to select large pumpkins, halve them nieely and feed the mashes in them, and the birds would usually eat them to the rind in a couple of days, and be the better for it, but my main objeet in using them, was the convenient receptaele they made for mashes.

* * *

Beans for Poultry.

Are Blackeyed Beans a good poultry food, and ean they be given as a substitute for grain, (wheat or corn) and in what quantities? What size is suffieient for run of breeding pen, say for one eock and six hens?—G. Z., Tulare.

Beans of any kind are very rieh in flesh forming elements, and can be safely used as a substitute for corn and meat, if combined with wheat and green food, but will not constitute a perfect ration. An exeellent way to use them is to have a meal made from them, to whieh is added wheat bran, a little salt and red pepper, say a teaspoon of eaeh condiment to a gallon of the mash, and a gallon of the mash for each 30 adult birds twiee a day, with one full feed of wheat at night, or, cook the beans, and add the bran, etc., instead of grinding them. It may be that your fowls will eat the beans without being ground, in which case, a lot of bother is saved, but mine never would. A handfull to each crop, should be allowed at eaeh feed, of the whole beans

Sixty-five square feet is usually considered sufficient for eaeh bird, so a pen of 7 would call for 455 square feet of run, 15x30 would be nearly right.

DUCKS AND GEESE.

When picking dueks do not remove the feathers from the last joint of the wing or from the upper part of the neek near the head. Also leave the main tail feathers on.

Geese will not do well when confined in small yards They need range or at least sufficient room to find plenty of green, fresh grass whieh makes a large per eent of all their food.

Geese may be plucked for the "live geese feathers," so-called, at the end of the breeding season and again when the feathers are grown out and beeome so mature that there is no blood left in the quills.

Always remember that it pays to save the duck feathers if 100 or more dueks are killed during the season. The feathers sell for from 40 to 50 eents a pound and pay for the labor of picking.

Pick out the young ducks and drakes that grow and develop fastest, and that attain good size, for next season's breeders. Some ducks will be heavier at eight weeks than others are at ten, and are therefore more profitable.

If dressed ducks are to be kept after they are dried off when they are taken from the cooling water, they should be at once placed in the icebox. Duek flesh "turns" much more quickly than the flesh of hens or turkeys.

A good mash for the young ducks whieh are to be kept over for breeders is made by mixing one part corn meal, two parts bran, one part boiled vegetables and one-half part beef seraps. These should be mixed dry and moistened with milk or water.—Poultry Hearld.

Buy Chicks Now! Don't Wait

We can sell you baby chicks right now as low in price as when eggs are much cheaper. We can ship safely anywhere within 48 hours. WE HATCH 19 varieties of poultry. Send today for price list; it gives full details how we sell and ship chicks, etc. We have satisfied customers everywhere We guarantee you a square deal. We originated this baby chick business several years ago. Our sales, in 1908, exceeded 230,000 chicks. ducks, turkeys, geese, etc. We hatch all of them in season. Write us today. Call and see us—visitors always welcome.

Pioneer Hatchery Co.

108-110-112 E. 8th St., Los Angeles, Cal.

Get Your Share

OF THE

High Priced Eggs

BY FEEDING

Coulson's Egg Food

IT TURNS FAILURE INTO SUCCESS, by enabling you to secure eggs in the fall and winter while prices are high.

Improvements have been effected in the composition of the EGG FOOD during the past year so that it is now richer in the various nutrients required by the laying hen, and is a better feed than ever before. Proof of this is had in

Actual Results

By Lewis Herbert of Penn Grove, (near Petaluma, Cal.). Began feeding 1900 hens COULSON'S IMPROVED MASH EGG FOOD April. Profits for each month over cost of feed:

May	$125.00
June	125.00
July	200.00
August	240.00
September	170.00

Oetober 15th was clearing over $6.00 a day. Feeds 1¼ sacks IMPROVED MASH and 1¾ sacks of wheat a day.

COULSON'S BALANCED RATION POULTRY FOODS ARE GUARANTEED to eontain nothing but wholesome ingredients. OUR GUARANTY IS BACKED BY A $500.00 BOND deposited with the Petaluma National Bank.

We have agents selling our Poultry Foods in nearly every town in California. If you can not obtain what you want from your dealer, write us and we will tell you where to get it.

Manufactured only by

Coulson Poultry and Stock Food Company Petaluma, California

GERMAIN SEED CO., Distributing Agents, Los Angeles, Cal.

Mammoth Bronze Turkeys

Unusual success with this years early hatched birds enables us to furnish the finest lot of breeding stock (both hens and toms) ever offered before. If you are a turkey raiser improve your flock with one of our large handsome toms raised on free range and hardened to all kinds of weather. If you are not a turkey raiser start now with one or more hens and a tom, as of all poultry, turkeys are the biggest PROFIT MAKERS. Order early as the first orders take the pick of several hundred birds. Prices on application.

After January 1st. we can furnish hatching eggs from our S. C. White Leghorns, the best laying strain in Southern California. Let us book your order now.

STUHR-WILLIAMSON POULTRY COMPANY

378 Bandini Ave. Home Phone 1490 Riverside, Cal.

When writing advertisers, mention Cultivator.

GUTTING'S SUPERIOR WHITE ROCKS

Won 9 firsts out of a possible 10 and all specials and many other prizes at the great L. A. C. P. A. and Pomona Shows last winter. Place your order now for exhibition birds for the winter shows. Eggs now $3 per setting. Send for circular.

E. GUTTING 134 W. SLAUSON Los Angeles, Cal.

Now is the time to hatch **BANTAMS**

Golden Sebright, Buff Cochin, and Light Brahma Eggs, $2 per 15. Prize winners.

M. E. Dillingham Box 67, San Gabriel, Cal.

F. E. Baldwin's WHITE LEGHORNS

THEY LAY
THEY PAY
At Every Pop
THEY SHOW
THEY GO
To the Very Top

First Prizes Everywhere Shown.

Bargains *now* to make room. Send for Prices and Free Booklet.

46 Washington Ave. - San Jose, Cal.

White Wyandotte Cockerels For Sale

A few choice ones from best strains. Cheap—must be disposed of this month to make room in my yards.

Wm. C. Parker, 111 Pacific Ave., Santa Cruz, Cal.

You Get the Most for Your Money

When buying ***"Quality S. C. White Leghorn Chicks"*** from us at 100 each, because we give you ***FREE*** the "Chick Book," containing full instructions for raising them; with every order for 200 or more.

Rancho Los Encinas

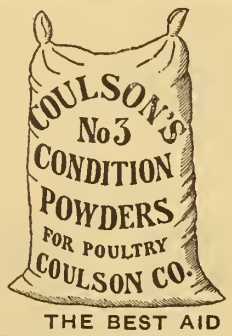
R. F. D. 76, Glen Ellen, Cal.

THIS RARE 4 KT. CALIFORNIA MATRIX TURQUOISE

Sent postpaid on receipt of $1.00 Just the thing for a Xmas gift. Money refunded if unsatisfactory. Nowell Turquoise Co 515 Delta Bldg. Los Angeles

POULTRY TALK.

Eggs, good, full and sound, can scracely be addled by shaking. There is no vacuum in a fresh egg, and therefore no space to shake the contents out of place. As the chicks come near the time of hatching there is then some danger of shocks, and yet, even in this case, will withstand considerable knocking about. Chicks are hatched in incubators en route to fairs and one of my friends has a chicken house and yard almost jam up against a railroad track where cars switch and rumble all day and night long, and yet she raises droves of chicks each year. These houses shake all the time, and strange horses put into the little stable alongside of the chicken houses, crouch and tremble because of the constant jarring of the floor and walls.—Successful Farming.



Coulson's No. 3 Condition Powder

THE BEST AID IN GETTING THOSE HIGH-PRICED EGGS.

It acts as a tonic and digestive. Enables hens to lay more eggs during fall and winter.

Our FREE booklet, "THE RIGHT WAY," gives full particulars.

SOLD BY DEALERS EVERYWHERE.

Manufactured only by

Coulson Poultry & Stock Food Co., Petaluma, Cal.

Germain Seed Co., Distributing Agents, Los Angeles, Cal.

Stop That Guessing

The **Los Angeles Incubators**

Are now equipped with a moisture guage that will accurately register the moisture, relieving the operator of all guess work and assure better hatches than ever.

Henry Albers Co., 534 So. Main Street Los Angeles

Trap Nested White Leghorns

I trap nest every bird one year before I put them in my breeding yards. and no bird that has not made a record of 13 dozen or better per year is used. I cannot afford to breed neither can I afford to sell eggs from a hen that has not made this record as a pullet. I mate 15 hens to a well matured cockerel or yearling cock bird. My breeders have roomy yards thus assuring strong fertilety. A few choice cockerels for sale.

Eggs $1.50 per 15; $7.50 per 100; $60 per 1000.

S. E. Gregg East Adams St. Reverside, Cal.

Trap-Nested White Wyandottes

Eggs for hatching now ready from fall matings.

MISSION VIEW POULTRY RANCH, MRS. C. D. HUBBARD, SAN FERNANDO, CAL.

HIGHWAY FOUNDATIONS.

Continued from Page 483.

Tonnage.

In California we are transporting from 5,000,000 to 7,000,000 tons of agricultural products annually over imperfect roadways at a cost for such transportation of $10,000,000 to $12,000,000. We are expending $3,000,000 annually on our roadways under a complex system of highway laws which could not be better designed to guarantee that a large proportion of this fund should be wasted. While abandoning the care of the roadways to local authorities, the law hedges the supervisors with such restrictions as to render the upbuilding of an efficient county system an impossibility.

Simplify.

In order to formulate a sane system for the State of California, I would simplify the highway laws, leaving larger powers to local communities in the construction and care of local roadways, but would make the laws more stringent with respect to thoroughfares. But to begin with, we must first have a compulsory system of highway accounting, and this should be provided in our county government bill. Our public roads in California, 50,000 miles in length, embrace practically 400,000 acres of land and thus involve an investment of $40,000,000 for the land alone. Can we afford to permit any set of officials to administer a plant costing $40,000,000 without holding such officials to a strict accounting? The time, method, soil, material, weather, and cost of each and every mile of road construction, and the cost of care and maintenance each year should be a matter of record, and the Board of Supervisors and Clerk of our county assure me that it can be accomplished without extra cost.

With proper accounting for each mile of roadway and enduring milestones along each improved highway, four-fifths of the knotty problems connected with construction would be untangled. Human memory is extremely fallible, hence the value of accounting. In my own county are several stretches of roadway that most men concede have given good service but no two men agree as to just when they were built, what materials were used, how these materials were applied, and what the weather conditions were at the time of application. Consequently the experience gained by the construction of these suitable roadways is irretrievably lost because we have no adequate system of highway accounting.

Civil service should be applied in the whole system of highway administration, and such an adjustment of responsibility arranged as to fix the blame definitely for any serious impairment of highway conditions.

County Improvement.

With a workable county system thus organized, then the state can afford to encourage improved highways by extending aid in the maintenance of such thoroughfares as are put in an acceptable condition. I assume that two-thirds of the highway traffic of any county moves over one-fifth of its road mileage. So improving the main highways in a permanent manner would doubtless require the paving of 10,000 miles of roadway in California, but such improvement would save fully 20 per cent. of the cost of transportation, $1,500,000 to $2,500,000 annually to the producers. The counties can afford to assume debts for such improvement; and for the purpose of encouraging such improvement, the state can afford to provide for the maintenance of these 10,000 miles of roadway when once constructed. As there are few improved roadways in California today, the cost would be merely nominal at the inception of such a plan, and would be inconsiderable for a number of years, but as counties gradually paved with macadam or other acceptable material their main roads, and they were turned over to the care of the state engineer, the expenditures for such maintenance would possibly amount to $100 per mile annually, and when the 10,000 miles have been paved and accepted, the maintenance might cost the state $1,000,000 per year.

Maintenance by State.

This plan would not only guarantee the proper up-keep of the chief thoroughfares of travel, but would hasten the permanent improvement of such main roads by the counties. All of the counties now proceeding under the Savage act to bond for good roads, are going to encounter a serious problem in the maintenance of these roads. There is where the state should extend its aid. A community may afford to create an indebtedness to construct good roads and still not be able to keep them good. Four-fifths of the roads, the by-ways of the rural districts, are still left to be improved and maintained by the counties, and these will be a continuous burden. A good road, when it is a thoroughfare, is an investment for the commerce and convenience of the whole state, and should be maintained by the state.

Instruction at University.

As an aid in reforming our highway service, along scientific lines, I believe that there should be a chair of highway engineering in our college of engineering in the state university. We need specialized engineers for this service, and they should have special training. The foundation of the magnificent system of public highways in France is a college of engineering from which the students are graduated directly into the public service, as they are from West Point into the military service. Incidentally, it would not be amiss if we could have some elementary instruction in our common schools in the matter of public highways. It is a peculiar condition of the public mind, that about nine men out of ten, especially in country districts, assume to have mastered the whole subject of highway construction, one of the most intricate branches of engineering, involving as it does higher mathematics, chemistry, mineralogy, meteorology and civics. Railway engineering is a much less difficult branch of the science, yet not one in ten thousand farmers pretends to be capable of constructing a railroad.

The Need Is Great.

We Californians have greater need than any other commonwealth—first, because the destiny of our interior valleys, our agricultural districts, is to intensify for the culture of choice food products. This means small holdings and a dense population. Second, California is destined to become the playground and resort for the people of the entire land. Our climate beckons the well-to-do and the leisure class, our mountain scenery invites the sight seers, our history invites the curious, while our wonderful resources and rapid development attract the promoter and investor.

We can never have a rival to compete with us for this harvest of guests, if only we exercise foresight in providing comfort and pleasure for their travels.

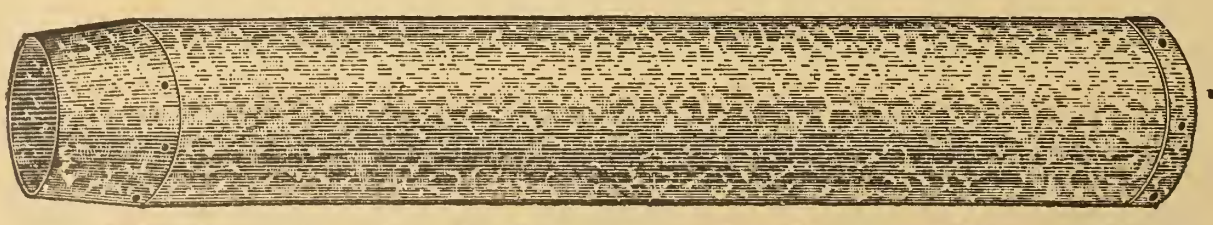
Gardena Hatchery

M. A. Schofield, Prop.

Wholesale Hatcher of Chicks

Considering price of eggs, chicks are cheaper now than any time in the year. We guarantee our patrons will receive a full count of ***live*** chicks. Write us your wants.

Gardena, Cal.



AMERICAN SURFACE IRRIGATION PIPE

SAVES WATER, GRADING AND TIME

The **only** way to **Irrigate Alfalfa. Cheaper** than **Flumes.** This is only **one** of our **specialties. We make Riveted Water Pipe** in lengths of **ten feet** from **single sheets.** Let us **prove** to you that **we make Pipe** and **Tanks right.** WRITE FOR CATALOGUE.

AMERICAN STEEL PIPE & TANK COMPANY

FORMERLY TALLERDAY MANUFACTURING COMPANY

636-7 Pacific Electric Building Los Angeles, Cal

California Horticulturally

By John Isaac

GOOD WORK FOR THE FARMER.

THE Southern Pacific Company is moving in the matter of inaugurating a series of traveling Farmers' Institutes. They have proposed to place at the service of the State University a train of cars comprising several exhibit cars, lecture car, diner, and Pullman sleeper. A corps of experts from the University will be pressed into service as lecturers and demonstrators and the whole will probably be under the direction of Prof. E. J. Wickson. The object is to present to the farmers of the state the fullest information on all subjects bearing on agriculture and horticulture and do this at their homes. It is not possible for the farmers of the state to attend the University lectures at Berkeley, so it is proposed that the University with all its stores of information shall be taken to them at their homes. The same plan has been worked in many of the eastern states and in Canada and has been a great aid to the farmer and largely increased the output of the farm by encouraging intelligent work. The railroad has generously offered to do its share of the work and its offer will undoubtedly be accepted by the University and the Farmers' Institute on wheels will soon become a fact and operate all over the state during the coming winter.

ALDEN ANDERSON IN THE FINANCIAL WORLD.

Former Lieutenant-governor Alden Anderson, who has been manager for the California Fruit Distributors since its organization, and which institution owes its success largely to his efforts, has resigned his position and will assume the management of the London, Paris and American bank at San Francisco. This is one of the largest financial institutions in the country and his appointment to its management is a mark of the appreciation of Mr. Anderson's ability. It has not yet been made public who is to succeed Mr. Anderson in the management of the Fruit Distributors.

RAIN IN THE NORTH.

Aside from very light showers--a mere trace of rainfall—the first rain of the season in Northern California fell on the evening of the 14th. It was general, although not very heavy.

Some damage was suffered by grapes still on the vine, but not enough to seriously interfere with shipping late grapes so far.

A BONANZA FRUIT SHIPPING YEAR.

We have information that up to and including the 14th inst. there had been shipped through Sacramento, the center of the fresh fruit shipping section, 10,830 carloads of fresh fruits against 6215 to the same date last season. As last season was the heaviest one for fresh fruit shipments up to that time, it will be seen that this industry is making rapid strides, in spite of the old bugaboo of overproduction.

We are informed by Alden Anderson, manager of the California Fruit Distributors, that little damage has been suffered from the late rain and that shipments will continue to go forward for some time yet. It is probable that the total shipments will touch close upon 12,000 cars or, including apples, which will continue to go out through the winter months, will greatly exceed these figures.

NOTHING DOING IN PEAR BLIGHT.

Very little is heard of pear blight nowadays, although it is still with us and as much of a threat to our pear growers as ever. This season it has not been so destructive as usual, due likely to the peculiar climatic conditions of the early spring, but it is still here and cannot be ignored. If neglected, the coming season may be especially favorable for its spread and its destructive work be greater than ever. In every orchard where there has been the least sign of it, it should be fought during the winter months when the trees are dormant and it can be checked, as it cannot be in the summer when the trees are in full growth. Look over your trees during the next two months and cut out every indication of it. The same advice may be given for peach blight, except that cutting is not necessary in this case. In every orchard where the peach blight has been, or in the districts where it is prevalent, early spraying with Bordeaux mixture, full winter strength, should be commenced at once. The earlier in the season this work is done the more effective it will be.

LOOK OUT FOR INFECTED PEACH STOCK.

From present advices there will be a much larger planting of peach stock in orchards the coming season than ever before in any one season. Already the local nurseries have all their stock spoken and will have to place orders in the East to fill the demand. There are two serious peach diseases which are found over a large area of the eastern states and which we do not have in California—the peach yellows and Rosette. Each of these diseases is exceedingly contagious and destructive and once introduced would do for the peach industry of California what the pear blight has done for the pear crop. Our nurserymen, as a rule, are careful not to take any chances on importing diseased stock, but it is up to the County Horticultural Commissioners to protect their counties from the introduction of either of these serious diseases. Do not allow any peach stock to enter It is better in this case to err on the side of security than to take chances of introducing a disease that may ruin one of our greatest horticultural industries.

TO ENCOURAGE BEET GROWING.

One of the richest sections of the State is in the Livermore valley and this being within easy reach of San Francisco, the land has been devoted largely to vegetable growing for the city market. The Alameda Beet Sugar Company has had to compete with this market for the use of the land for beet growing in order to keep their factory at work and not always with success, as the farmers have found it more profitable to grow vegetables for the San Francisco market than beets for the factory. The factory has now advanced the price it will pay for beets from $4.50 to $5.00 per ton and has been signing up a number of contracts at this price for next year's crop.

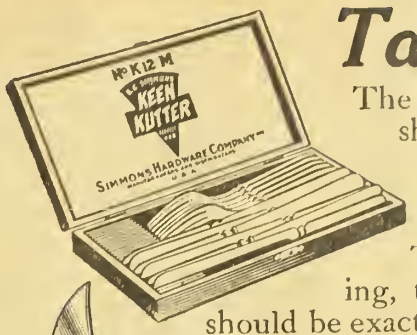


Table Tools

The temper of a carving knife should be unusual—so that the knife will cut easily without being worn out on the sharpening steel. Then, again, for easy carving, the handle and the blade should be exactly balanced for nice work. These are qualities found in all Keen Kutter carving sets.

KEEN KUTTER
Table Cutlery

—from the carving set to the table knives and forks—gives ideal table service. When next buying cutlery be guided by the Keen Kutter name and trademark. It's an absolute guarantee of quality.

The Keen Kutter name and trademark also include a full line of tools, scissors and shears, razors and pocket-knives.

If not at your dealer's write us.

SIMMONS HARDWARE COMPANY (INC.),
ST. LOUIS AND NEW YORK, U. S. A.

TREE TANGLEFOOT

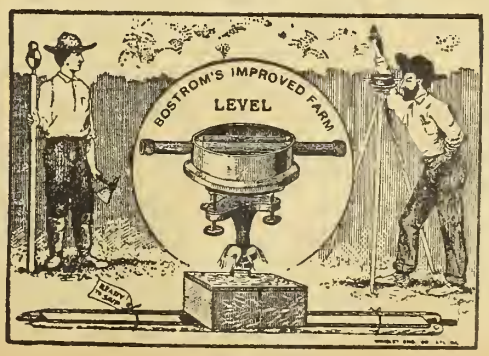
A Sticky Preparation Applied Directly to the Bark of the Trees

Will not injure trees. A band 5 inches wide and 1-16-inch thick cannot be crossed by any climbing insect pest. Remains sticky five to ten times as long as any other known substance. You can test it at slight expense, as no apparatus is required. Used by the carload in New England against the Gypsy and Brown-Tail Moths. In California it preserves prune orchards from the Canker Worm. Wherever the Gypsy or Brown-tail Moths, Tussock Moths, Fall or Spring Canker Worm or Web Worm appear TREE TANGLEFOOT is of great value, and should be used when the caterpillars begin to crawl while they are very young.

Price 25c per lb. Liberal discount on quantities. The only safe and effective banding preparation. Send for testimonials.

THE O. & W. THUM COMPANY

Manufacturers of Tanglefoot Fly Paper — Grand Rapids, Michigan



BOSTROM'S IMPROVED FARM LEVEL

Used for irrigation and drainage work. Cheapest and best level yet invented for farm use. Has the latest patented improvements in simplicity and usefulness. Can be operated by any one. Price including telescope tripod and target rod $15.00.

PALACE HARDWARE COMPANY
581 Market Street, San Francisco.

Coast Agents. Send for Circular.

THE CANTON CLIPPER

Has been on the market **since 1842—two-thirds** of a **century,** and is made in the largest and oldest permanently established plow factory in the world. It is

The Perfect Plow

WHY?

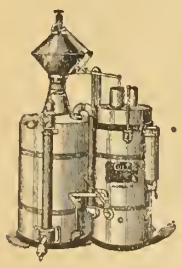
Has a high beam, giving good clearance at the throat. The beam and handles are long, giving a powerful leverage. The handles and beam are thoroughly and strongly braced, and the plow will withstand any strain. The **bottoms** are **mechanically perfect** in shape, material and finish, and have the high polish and scouring qualities which have made the **P. & O. Canton Clipper** the **leader** of **all plows** in all sections.

Quality and merit wins, and the Canton Clipper has both. Hundreds of thousands are in daily use—a lasting testimonial to their superior features.

You will make no mistake in buying a **Canton Clipper,** as they never disappoint.

Pacific Implement Co.
GENERAL AGENTS
131 Kansas St. San Francisco, Cal.
B. Hayman, Agent, Los Angeles, Cal.

Light and Cook WITH **COLT** TRADE MARK **Acetylene**



Favor us with an inquiry concerning Colt Acetylene. We shall take pleasure in sending you free of charge our excellently compiled 44-Page Catalogue containing complete and instructive matter regarding piping, fixtures, stoves and burner pertaining to this wonderful and inexpensive lighting system.

Fowler Shankland, Pacific Coast Distributor
204 Severance Building
Cor. 6th and Main, Los Angeles
Phones: F7514; Main 4830

6% Interest Paid -

ASSETS $2,002,111.
No Admission or Withdrawal Fee, Only 30 Days Withdrawal Notice.
Send For Booklet and Statement
STATE MUTUAL BUILDING & LOAN ASS'N.
223 S. SPRING ST. LOS ANGELES CAL.

Improved Berry Plants
Bred for Big Berries

We are NOT in the berry business but make a specialty of propagating strong healthy plants for the home garden or commercial plantation. We help our customers to succeed. EVERY order receives our special attention. Our catalog tells the rest.

G. H. HOPKINS & SON
Burbank, Cal.

When writing advertisers, mention Cultivator.

Queries and Replies

Questions to be answered in this department should be received at this office one week before reply is expected. Write plainly on one side of the paper and sign full name and address. Unsigned communications receive no attention.—Ed.

Cow Peas for Hay.

I have seen much regarding cow peas for hay. Can it be fed in place of other hay? Do you cut when they have podded or when they are just starting to bloom? How late can they be planted in the fall? Is it too late now? Is it as good as alfalfa?—H. A. H., San Bernardino.

Cow peas would have no value for you planted at this time of the year. They are a warm weather crop and could only be planted early in spring to succeed at all and then would not compare with alfalfa either in quantity or quality. Planting at this time of the year, we would say, next to alfalfa, plant 40 pounds of vetch to the acre, sowing with it about the same amount of barley. This will make an excellent feed and if given a fairly wet season a quantity of it.

Dodder Seed.

I plowed up a piece of alfalfa in April which was badly infected with dodder. Will it be safe if I go ahead and re-seed to alfalfa?—R. T., Escondido.

It is possible if this land was kept thoroughly moistened through the summer that the seed may be germinated and dead by this time. It is probable, however, that another season's clean culture, growing some crop which would permit of such culture, would be safer.

Ascalano Olives.

Can you give me any information about Ascalano olives? I am told they are very valuable, but cannot find that they are much grown.—C. J. F., Hemet.

The Ascalano olive is one of the most valuable for pickling purposes, being very large and exceedingly fine quality, but has the unfortunate habit of bearing light crops. In fact it cannot be grown with profit for that reason.

Charcoal From Mesquite.

Will mesquite make good charcoal? How is the kiln for making charcoal made? What is the demand and market price?—W. O. S., Coachella.

Mesquite will make an excellent charcoal. The kiln is made by standing the wood on end, gradually drawing out at the bottom so as to leave it in the form of a pyramid. After covering, there is a hole left at the top for draft. It is the work of an expert, though by sending to the Department of Agriculture bulletins may be had on the building of the kiln which will aid materially. The demand is very limited. The paying price f. o. b. Los Angeles for first class oak charcoal is 35 cents per 50 pound sack.

Machine Oil from Tallow.

Can you give me recipe for making machine oil from lard or tallow? I tried mixing with coal oil but it would not stay mixed.—H. H., Woodland.

We can give you no very satisfactory formula, and unless you have scruples against patronizing the Standard Oil trust we think it would be far cheaper to buy a good lubricant than to waste time and fuel in the manufacture of one from lard or tallow. However, one is given by Henley's Book of Formulas as follows: Melt in large kettle 10 parts by weight of tallow in 20 parts of rape oil on a moderate fire; add 10 parts freshly and well burnt lime, slaked in 30 or 40 parts water; boil and stir until froth forms and mass sticks to kettle. Burning must be prevented by stirring. Add in portions of 10 parts each, gradually, 70 parts rape oil and boil until it is united into uniform mass. Samples are continually taken to cool quickly on glass plates; they must spin long, fine threads when touched with finger. When this point is reached add, with constant stirring, when the heat has abated sufficiently, 25 to 30 parts of water. Now increase the fire, still stirring, until mass boils. In case of sudden boiling over, remove fire quickly, and have a little cold water always within reach. Add in small portions, so as not to disturb boiling, 500 parts paraffine oil; remove from fire; let mass clarify and skim warm grease from sediment into stirring apparatus. Agitate until mass begins to thicken and cool; if grease is too solid, stir in a little paraffine oil again. Add a little mirbane oil to disguise odor.

Olive Oil.

Please give me the process of extraction of oil from olives.—Subscriber, San Diego.

Of course this could not be given at all in detail in this column, for it is a work of many pages to give particulars. Write for Bulletin 158, published by the Experiment Station, College of Agriculture, Berkeley. In a word, we may say the process consists in drying the fruit somewhat to remove surplus moisture, after which it is crushed and the liquid pressed from the pomace. The liquid is then placed in containers. The oil rises and is racked off, to be later clarified, filtered and bottled.

Lath House.

Is there literature on the construction of the lath house? I wish to make a house about 30 by 32 feet. What height would be the most convenient? —T. Kiyono, League City, Texas.

The Nursery Book by L. H. Bailey, published by McMillan Company, has information, we believe, along this line. The height is not material so the workmen can walk and work in them easily. They are usually made seven feet high, although when used for hanging baskets and general ornaments we have seen them 15 or 16 feet.

Persimmons.

What would be the outlook for a market for Japanese persimmons in commercial quantities? What varieties are best adapted for market purposes? —B. J. O.M., Anderson.

The best information on the persimmon is issued by the Louisiana Experiment Station, located at Baton Rouge. Also in Bulletin 71, issued by Florida Station, Gainesville, Florida This will give you the varieties probably better than can be given in this state. In quantities so far grown there has certainly been good demand for all that has been produced. We imagine, however, it would be limited. This and other persimmon questions have been referred to Mr. Mills, who will later give us some information along the same line.

THE WORLD'S BEST CREAM SEPARATORS KING OF THEM ALL

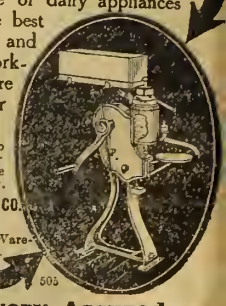
1910's WORLD'S RECORD **U.S.** FOR CLEAN SKIMMING

Are built more thoroughly, skim more cream, run with less power and have more practical improvements than all other makes combined.

U. S. Cream Separators have been built for the past 17 years by a company having

Forty Years' Experience

in the manufacture of dairy appliances and nothing but the best material obtainable and highest class of workmanship possible are contained in their construction.



Any dairyman can afford to have one of our beautifully [illegible] large catalogue No. 23. Send for it to-day.

VERMONT FARM MACHINE CO.
Bellows Falls, Vt.

Prompt Deliveries from 16 Warehouses in U. S. and Canada.

Prompt Delivery Assured
California Customers from San Francisco warehouse. No delays. Address all letters to Bellows Falls, Vt.

SAMSON WIND MILLS

Have double gears, removable bearings and center lift, which double the life of the mill. They will last longer, pump more water and give better satisfaction than any other WIND MILL.

This is an up-to-date Sub-structure, Tank and Wind Mill outfit complete; substantial, economical and attractive. We build all kinds. Write us or our general agents for full information and prices, description &c., before purchasing

The STOVER MFG. CO.
FREEPORT - ILLINOIS
California Avenue
CRANE CO., LOS ANGELES and SAN FRANCISCO
General Agents for California

60 YEARS' EXPERIENCE

PATENTS

TRADE MARKS
DESIGNS
COPYRIGHTS &C.

Anyone sending a sketch and description may quickly ascertain our opinion free whether an invention is probably patentable. Communications strictly confidential. HANDBOOK on Patents sent free. Oldest agency for securing patents
Patents taken through Munn & Co. receive *special notice*, without charge, in the

Scientific American.

A handsomely illustrated weekly. Largest circulation of any scientific journal. Terms, $3 a year; four months, $1. Sold by all newsdealers.

MUNN & Co. 361 Broadway, **New York**
Branch Office, 625 F St., Washington, D. C.

When writing advertisers, mention Cultivator.

Warranted to Give Satisfaction.

Gombault's Caustic Balsam

Has Imitators But No Competitors.

A Safe, Speedy and Positive Cure for Curb, Splint, Sweeny, Capped Hock, Strained Tendons, Founder, Wind Puffs, and all lameness from Spavin, Ringbone and other bony tumors. Cures all skin diseases or Parasites, Thrush, Diphtheria. Removes all Bunches from Horses or Cattle.

As a Human Remedy for Rheumatism, Sprains, Sore Throat, etc., it is invaluable. Every bottle of Caustic Balsam sold is Warranted to give satisfaction. Price $1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars, testimonials, etc. Address

The Lawrence-Williams Co., Cleveland, O.

Peckham Says:

Buy Sugar Beet Land

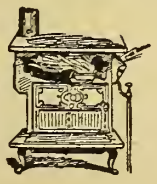
for profits—buy our Corcoran land, the best sugar beet land in the State of California. Every acre of our land will net you from $70 to $90 an acre—clear profit and we will farm it for you if you wish. Call, write or phone

George C. Peckham & Company

Phones: Main 3221, F5392.
203-4-5 Union Trust Bldg., Corner Fourth and Spring Sts., Los Angeles Cal.

Hague Domestic Oil Burner

Showing the Method of Attaching to Cook Stove. A device for using low grade distillate. Saves 40 per cent of cost of coal or city gas—let us prove it. Write for circular.



Hague Domestic Oil Burner Co.

214 Winston St., Los Angeles, Cal.

AGENTS WANTED

GOPHER DOPE to exterminate gophers, ground squirrels, rats, mice.

KILLS A BUG Moths, Mosquitoes. Bed Bugs Ants, Roaches, Fleas, Lice and Mites on Fowls, Disinfectant and Germicide.

PUROLINE A Powerful Antiseptic and Deodorizer. Odorless, non-poisonous. For use in hospitals, homes, public institutions, boards of health and ranches. ***B. & G. Disinfecting Co.,*** 417 Laughlin Building, Los Angeles, Calif.

Kill the Gophers and Squirrels

You can rid your ground of hundreds of them in a week with my device; No experiment, a sure thing, the best thing ever invented; Bank guarantee; Send postal for descriptive circular.

Peerless Rodent Destroyer Co.
P. O. Box 307, Santa Cruz, Cal.

SEED GRAIN

Black and Red Oats, Wheat, Barley, Bean Screenings, Etc.

constantly on hand and for sale at lowest market rates

Bray Brothers Buyers of Grain and Beans Members Merchants Exc.

220 Clay St., San Francisco, Cal.

Established in 1855. Correspondence Invited.

The Whiting Jersey Stock Farm Company

Is making the very best strains of blood fresh from the island of Jersey a specialty.

Whiting Jersey Stock Farm Co. Heber, Imperial Co., Cal

Rex Spray.

"Is the Rex Spray a success and is it advisable when a fruit tree gets tall to cut it back heavily? Where can we obtain alligator pear trees? Is the gas spraying tank a success?"—Subscriber Vacaville.

We have heard the Rex Spray spoken of favorably but are not so situated as to endorse it. The cutting back of any fruit tree depends on its variety and age. It is possible you may secure alligator pear trees of C. P. Taft of Orange, Orange Co. The gas spray proposition we do not think has been tested very fully and can give you no information from any one who has had actual orchard experience.

Garden Magazine.

"Will you kindly tell me where I can secure the best home garden magazine for flower culture."—D. J. B., El Centro.

The Pacific Garden Magazine published at Pasadena is the only one we know of which seems to apply to your conditions.

Cornish Fanciers At a Cornish Dinner.

A FOWL AFFAIR.

On Thursday Oct. 29 Mr. and Mrs. John D. Mercer of Los Angeles gave a Cornish dinner at their beautiful home on Vermont Avenue to about twenty members of the Cornish Fowl Club, in honor of Mr. and Mrs. Williams of Minneapolis who have come to Los Angeles to make that city their home. Mr. and Mrs. Mercer took this delightful method of welcoming Mr. and Mrs. Williams to California, and a social hour was spent around the gay and festive board in discussing the merits of the Cornish fowl.

There was some diversity of opinion as to color and shape of the breed. Yet the discussion was unanimous on the subject of the sumptuous spread which Mr. and Mrs. Mercer so generously gave for the entertainment of the club.

Mr. Williams is Secretary of the American Cornish Club and he and his good wife will be a valuable acquistion to California fanciers, especially to Cornish lovers.

Buff Orpington.

"Kindly give me the name and address of reliable parties raising Standard Buff Orpington. I have not seen any ad for such in the Cultivator."—W. A.

There are not many Orpington advertisers in the Cultivator though we imagine there will be more during the coming season. One of the largest breeders in the state has been with the Cultivator for the past year. We believe the ad appears in each alternate issue. The time is coming now, however, when several other of the best breeders will have their cards inserted and our friend who has been answered by mail will then find the columns of the Cultivator bristling with Orpington announcements.

Apples Named.

"I am sending you three apples grown here on my ranch on Smith Mountain, Palomar, San Diego county. Will you kindly give me their names. This is a fine apple section, apples are grown without irrigation. There is no codling moth, elevation 5000 to 6000 feet. I have taken the Cultivator for years and would not like to do without it."—A. G. H., Nellie.

These apples have been submitted to several qualified to name them so far as possible under the circumstances. In giving the name of an apple, however, from nothing more than a single specimen of fruit one must bear in mind that the diverse conditions of California climate, according to altitude, etc., effect the color and texture so that no one can be absolutely sure. Mr. Matthews of the firm of Ludwig and Matthews, fruit dealers, refused to give any absolute decision in the matter but said under ordinary conditions he would say that the apple which you marked number one, a large greenish yellow with diameter greater from side to side than from stem to blossom end, would be the "Twenty-ounce pippin." Number two a smaller apple somewhat elongated like the sheep nose, a bright red all over though slightly darker on one side, Mr. Matthews judged to be the "Spitzenberg." Number three, also a red apple, brighter and darker red on one side than the Spitzenberg but much lighter on the oposite side was judged to be a "Mammoth Black Twig." This is a very large apple and we note the catalogues give it "large to very large." These apples are still at the office and will be submitted to others and any later information secured will be given.

Grafting Nuts.

"I have seedling walnuts—wild black—in nursery, one year old. I wish to set part of the seedlings in orchard before grafting. Will you kindly tell me when is the best time for transplanting, also may I graft removed trees in the spring, or must I wait a year for root to establish itself?"—D., Nipomo.

The roots may be grafted at time of planting. We think now, however, that if you have them in nursery row you can give them better care for much less money by leaving them in nursery until graft has had one year's growth. Some very successful orchardists, however, even plant the

Continued on Page 503.

Classified Liners

Rates 1½ cents per word per issue. No ad accepted for less than 25 cents. Our classified columns are the clearing house for the readers of the Cultivator. Here you can insert an ad for the small sum of 1½ cents per word per issue, and be sure that it will be read by thousands.

MACHINERY.

FOR SALE—MEHRING MILKING MACHINE with extra parts and covered pail, all in good order. WM H BIRD Box 6, Compton, Cal.

FOR SALE—RENT OR EXCHANGE, BOILers and engines, gas engines, pipe and oil well casing, pumps, all sizes and makes; get our prices before you buy. A. CANNADY & CO., 691 N. Main st., Los Angeles, Cal.

FOR SALE—10x10 BELT DRIVER AIR COMpressor, never been used. Will sell cheap. N. W. corner MAIN & BRUNO Sts., Los Angeles, Cal.

FOR SALE—UNION GASOLINE ENGINES all sizes, new and secondhand, snaps in several secondhand engines in fine condition. BAILIE & BRANDT CO., 943 N. Main St., Los Angeles, Cal.

FOR SALE—11 H. P. WHITE & MIDDLEton distillate engine in good working order at a bargain. BAILIE & BRANDT CO., 943 N. Main St., Los Angeles, Cal.

FARM LANDS FOR SALE.

$7.50 FOR THIS AD.—WE WILL MAKE A special offer to the readers of the Cultivator. Bring this advertisement and we will refund $7.50 if you engage us to locate you on the finest Government land in the Southwest. Come and see us, you will learn something. LORS LAND COMPANY, 204 Bradbury BLDG., Los Angeles.

AN 80 ACRE FRUIT, VEGETABLE, AND Poultry Farm. A good home, well equipped, $6000 takes everything $3000 Cash, bal. easy terms. WM. MANTZ, Santa Maria, Cal.

I make a specialty of orange and alfalfa ranches, and exchanges. 826 MAIN St., ROOM 9, Riverside, Cal., N. R. BELL.

RANCHES WANTED.

WANT TO PURCHASE A WELL IMPROVED orange or lemon ranch of 15 or 20 acres, not particular as to location if soil, water and climatic conditions are favorable. Our party will pay up to $15,000 for a suitable property in a high-class Los Angeles industrial corporation, free from debt and making money. This interest would not require your time, is not subject to taxation and should grow to be worth double its value today. Address J. N. WILLIAMS & CO., 304 I. W. Hellman Bldg., 411 S. Main St., Los Angeles Cal.

POULTRY

BLUE ANDALUSIANS—MRS. GRIFFITH'S Blue Andalusians are still in the lead; noted for their utility and show records, layers of large white eggs weighing from 26 to 28 ounces per dozen. Eggs for hatching $2.50 per 15 guaranteed; also few trios $7.50 to $10. MRS. GRIFFITH, 3957 HALLDALE AVE., Los Angeles, Cal. TEL WEST 841.

CHAS. E. SMITH—BREEDER OF BARRED Rocks exclusively. Winners of the blue wherever shown. Eggs $3.00 per 15, stock for sale. GARDENA, Cal.

FOR SALE—BLACK MINORCA COCKERels, srong healthy birds raised on ranch. $1.50 if sold within thirty days. GEO. W. STERLING, R. F. D. 4, Kern Station, Cal.

FOR SALE—MAMMOTH BRONZE TURkeys, one eighth wild, but very tame. Strong stock having free range. Price reasonable. Mrs. H. E. Guthrie, BUENA PARK, Cal.

50 HEAD WHITE ROCK & WHITE LEGhorn yearling hens and pullets, at your own price; overstocked; must sell. J. W. WHITNEY, R. F. D. No. 2 BOX 162, Long Beach.

FISCHEL'S THOROUGHBRED MAMMOTH Bronze Turkeys—April hatched, Toms $5.00, pullets $3.50. Buff Plymouth Rock cockerels $3.50. C. K. MORSE, Ross, Marin Co., Cal.

WHITE MINORCAS—SETTING EGGS $2 for 15; $3 for 30. Incubator lots, $6 per 100. C. S. LANE, Santa Barbara, Cal.

TREES.

A LARGE STOCK SEEDLINGS AND GRAFTed Walnuts, Elberta, Muir, Lovell, Phillips cling and all other peach, Apple, Pear, Plum, Apricot trees. All varietles trees, grapes and roses. A thrifty well rooted stock and will please you.—A. R. MARSHALL, BOX 64, Santa Ana, Cal.

FOR SALE—1500 EUREKA LEMON TREES and 1000 Washington navel orange trees, true to name. Also street and ornamental trees. Clean, healthy stock only offered. GEO. B. WARNER, Santa Ana, Cal.

WALNUT TREES—5000 LARGE, STOCKY seedlings. Seed from grafted trees of Placentia Perfection variety. Will sell very cheap if taken before Jan. 1st. as land must be cleared. G. W. SHERWOOD, Fullerton, Cal.

WANTED A THOUSAND PEACH SEEDlings one year old and 3000 to 5000 orange seedlings two years old, and some Ficus australias 2 feet and up. IMPERIAL VALLEY NURSERY, El Centro, Cal.

SHOPPING BY MAIL.

SAVE MONEY AND GET A BETTER choice by shopping in a large city. We will do your shopping for you. Send for our free book. It tells you how. LOS ANGELES PURCHASING CO., 506 Bradbury Bldg., Los Angeles, Cal.

MACHINERY WANTED.

WANTED—TWO PUMPING PLANTS IN good condition, 8 to 20 H. P. Address BOX 297, Corona, Cal.

HOGS.

REGISERED BERKSHIRE AND POLAND China hogs, both sexes. C. A. STOWE, Stockton, Calif.

The Oldest Savings Bank in California

FOUNDED IN 1857. CAPITAL FULLY PAID $1,000,000.00

The Savings and Loan Society

101 Montgomery St., Cor. Sutter St., San Francisco

Exclusively a Savings Bank whose policy is for ***Conservatism*** and ***Safety,*** the result of ***Fifty-One Years' Experience.***

Deposits may be made and withdrawn by mail.

San Francisco Savings Union

Founded June 18, 1862 **Northwest Cor. California and Montgomery Sts., San Francisco**

Conducts a Savings Bank Business Exclusively

Capital Paid Up, $1,000,000.00 Surplus, $1,183,632.00

Total Assets, $27,508,850.00

E. B. POND, President.

W. C. B. de FREMERY AND C. O. G. MILLER, ... Vice-Presidents

LOVELL WHITE, Cashier. . . . . R. M. WELCH, Asst. Cashier.

Directors: John F. Merrill, Wm. A. Magee, W. C. B. de Fremery, H. C. Breeden, Jacob Barth, Fred H. Beaver, Wakefield Baker, C. O. G. Miller, E. B. Pond.

Every facility afforded for opening accounts and making deposits and withdrawals by mail. Correspondence invited.

LEARN

Plumbing, Electricity, Plastering or Bricklaying

Our graduates make $6 per day after three months instructions
You can enter at any time.—No previous knowledge required.

NO BOOKS—TOOLS TAKE THEIR PLACE

Day and Night Classes. Our Scholars are from 15 to 50 years old

Positions Secured and Experience Given on Outside Work

Write for Free Catalogue

COYNE NATIONAL TRADE SCHOOL Inc.

233 8th Street, San Francisco, Cal.

Angle Lamp

The Light That Never Fails

Thousands in use all over the country. A good light is the greatest pleasure and the first necessity of every home.

The only lamp on the market that is sold under an absolute guarantee.

Remember, the light from Kerosene is the light science has agreed upon as being the purest and best, because it is soft and mellow and restful to the eyes.

Here are a few of The Angle Lamp Merits:

NO UNDER SHADOW. NO SMOKE, NO ODOR, LITTLE HEAT.

GREAT ECONOMY—COST LESS TO BURN than an ordinary lamp. As easy to operate as gas or electricity, and better than either. ABSOLUTELY SAFE under all conditions. Lighted and extinguished like gas. Burned HIGH or LOW like GAS without a trace of odor. And a BRILLIANT, soft, steady, shadowless light—but this you will have to see to appreciate.

The lamp as shown in cut burns 22 hours on 3 quarts of oil.

Send for Illustrated Catalogue with Prices

Boesch Lamp Co., (Est. 1869) 1135 Mission St., San Francisco

The Barker Portable Cottages Bungalows, Garages, Tent and Poultry Houses

These houses are correctly built of selected material and are so different from the ordinary portable houses as the aim has been to make them look like a permanent structure built on the ground. They have stood the test of years and are conceded by experts to be the best, cheapest and most practicable portable house made. Please investigate before purchasing or building. We also manufacture sanitary poultry houses of our own designs. Write or call at office and factory, corner of Topeka and Alameda Streets, Long Beach car line.

Pacific Portable Construction Company **Los Angeles, Cal.**

Pioneer *Rubber Sanded* *ROOFING*

What Rubber Sanded Roofing will do is told of in our Booklet, "Roof Talk," which will be sent free upon request, together with samples of the Roofing itself.

PIONEER ROLL PAPER CO.

Department 11 Los Angeles, Cal.

Household Department

THE DAY BEFORE THANKSGIVING.

The day before Thanksgiving the house smells awful good—
Then I'm always in the kitchen a-bringing in the wood.
A-keeping up the fire and a-helping mother cook,
Stonin' all the raisins; mother doesn't often look
To see if I'm eatin,' for she knows my appetite
And lets me taste the stuffin' to see if it is right.
She makes me small turnovers, sorr of samples of the pies,
And she let's me try the cookies. O, my mother is a prize!
I beat the eggs and help her put the pies and things away.
I think I really have more fun than on Thanksgiving Day.

THE TURKEY'S NEST.

ONE day the old turkey hen went out to find a place to make her nest. She went a long way, and she took a long time to find it, but, when at last she had suited herself, she said:

"They may go to the East and go to the West,
But they'll never be able to find my nest;"

"Then I'll find it," said Cousin Pen, who had come to visit on the farm.

"Then I'll find it," cried brother Fred. "She can't hide a nest from me."

"Then I'll find it," said Cousin Pen,
And they all started out to look for it.

Cousin Pen went down in the hollow and looked in the grasses and leaves, and in the stumps and hollow trees.

"But though she did her very best,
She couln't find the turkey's nest."

Brother Fred went upon the hill to the ginhouse, and down in the cotton field, and round by the goose pond, where he found the Gray Goose and the White Duck taking a swim.

"But though he did his very best,
He couldn't find the turkey's nest."

Little Ben began at home to look. He looked under the house and behind the woodpile and in the barn, and out by the haystack; and while he was tipping about out there he frightened the Brown Hen from her nest, and she quarreled half the day about it.

"But though he did his very best,
He couldn't find the turkey's nest."

Then mama said she must go and look, so she put on her bonnet and

WHEN THE FROST IS ON THE PUMPKIN.

When the frost is on the punkin and the fodder's in the shock.
And you hear the kyouck and gobble of the strutting turkey-cock,
And the clackin' of the guineys, and the cluckin' of the hens,
And the rooster's hallylooyer as he tiptoes on the fence,
O it's then's the times a feller is a-feelin' at his best,
With the risin' sun to greet him from a night of gracious rest,
As he leaves the house bareheaded and goes to feed the stock,
When the frost is on the punkin and the fodder's in the shock.

They's somepin kindo' hearty-like about the atmosphere,
When the heat of Summer's over and the coolin' Fall is here—
Of course we miss the flowers, and the blossoms of the trees,
And the mumble of the hummin' birds and the buzzin' of the bees;
But the air's so appetizin'; and the landscape through the haze
Of a crisp and sunny morning of the early Autumn days
Is a picture that no painter has the coloring' to mock—
When the frost is on the punkin and the fodder's in the shock.

The husky, rusty rustle of the tossols of the corn,
And the raspin' of the tangled leaves, as golden as the morn;
The stubble in the furries—kindo lonesome-like, but still
A-preachin' sermons to us of the barns they growed to fill;
The strawstack in the medder, and the reaper in the shed;
The hosses in their stalls below—the clover overhead!—
O it sets my heart a-clickin' like the tickin' of a clock,
When the frost is on the punkin and the fodder's in the shock!

—By James Whitcomb Riley.

and she felt so proud of herself that she walked all the way home with her head in the air.

When she got to the barnyard, her friends were talking about her. There was the Gray Goose and the White Duck and the Brown Hen, and when they saw her coming they called, "Where did you make your nest?"

"Guess," said the turkey hen, and then they were puzzled.

"Well," said the Gray Goose at last, "when I go to make my nest, I always try to get near the water, for there's nothing so good for my health —so I'll guess the goose pond."

"Right," cried the Duck. "I'll quite agree. The pond is just the place for a family."

"The idea," said the Brown Hen, chuckling to herself; "Why, what could be healthier than hay or straw? I'll guess the haystack."

"But though they did their very best,
They never could guess where she'd made her nest."

The turkey hen grew prouder and prouder, and she walked about the barnyard like a queen. One day the cook saw her, and said to the children, "Certain and sure that old turkey hen has made herself a nest somewhere."

went to the wood-lot, and sat down under a tree just as quiet as she could be. By and by the turkey hen came along. She saw mama and mama saw her, but neither of them said a word. The turkey hen walked round and round in the wood-lot just as if she wasn't thinking about anything, but at last she went through the big gate into the road.

Then mama got up and followed her, just as still as a mouse, and the turkey hen

"Went up the hill and down the hill,
And through the fields and by the mill,
And down across the meadow brook,
By many a turn and many a crook,
She went to the East and she went to the West,
But she never went near her hidden nest."

"I'll give up," said mama, and the old turkey hen was prouder than ever.

Then papa said that he must try; and early one morning before the children were awake, he got up and started out to find the turkey's nest.

"He'll find it if anybody can," said brother Fred, when he was told, and the children could scarcely wait.

He stayed so long that they went down the lane to meet him, and when he saw them coming he called out:

"I declare I've done my very best,
But I can't find that turkey's nest."

And the turkey hen grew prouder

and prouder. She stayed at her nest, wherever it was, nearly all the time then, and only came to the barnyard when she wanted something to eat.

The Gray Goose and the White Duck and the Brown Hen said they wouldn't be surprised at anything she did.

But they were surprised, and so were the children, when one morning she walked into the yard with twelve little turkeys, as fine as you please, walking behind her.

"Just look here," she said, "at my children. I hatched them all out in my nest down in the corner of the old rail fence." And she added, as they gathered to see:

"I tell you what, I did my best,
When I found that place to make my nest."
—Selected.

THANKSGIVING DINNER MENU.

Corn Soup.
Roast Turkey. Cranberries.
Celery Dresing.
Creamed Potatoes. Mashed Turnips.
Pickles. Celery
Pumpkin Pie. Chocolate Tapier.
Coffee. Cake.
Nuts.

Corn Soup.

Chop one can of corn, add one pint of water, simmer twenty minutes, rub through sieve. Scald one pint of milk with a slice of onion; remove onion and add milk to corn, add salt, pepper and thicken with a little butter and flour.

Dressing for Roast Turkey.

Select a fowl not too fat. Have good bread, moderately stale. Mix with a little water, melt two tablespoonfuls of butter, mix with the bread, add sage, pepper, salt and some celery seed. (Unless you have fresh celery.) Mix well; stuff turkey and bake two and one-half hours, basting often.

Potatoes.

Boil till tender, mash, season, add milk and beat with a fork till creamy.

Turnips.

Wash, pare, cut in slices and cook in boiling salted water till tender, drain well, mash fine and season with salt, pepper and butter.

Pumpkin Pie.

For each pie, use one cupful of stewed pumpkin, one cupful of milk, one-half cup of sugar, two tablespoonfuls of melted butter, two tablespoonfuls of molasses, two eggs slightly beaten, one-half teaspoonful of ginger, one-half teaspoonful of salt, one teaspoonful of cinnamon; mix well and bake with lower crust forty-five minutes.

Chocolate Tapioca.

Scald one quart of milk, add one cup of sugar, three tablespoonfuls of melted chocolate, one tablespoonful of cornstarch and three tablespoonfuls of tapioca, which has been soaked in water till soft; boil all together till thick, add flavoring, place in mold and serve with cream and sugar.

ROASTING THE TURKEY.

Carefully pluck the turkey, singe with white paper and wipe it thoroughly with a cloth. Draw it and preserve the liver and gizzard and be particular to remove the gall bag, as no washing will remove the bitter taste it imparts where it touches.

Wash it inside well and wipe with a dry cloth. Cut off the neck close to the back, but leave enough of the crop skin to turn over. Break the leg bones close below the knee. Draw out the strings from the thighs and flatten the breast bone to make it look plump.

Have ready your dressing of bread crumbs, mixed with butter, pepper and salt, some finely shredded parsley, two dozen oysters neatly trimmed. Fill the breast with this and sew the neck over to the back. Be particular that the turkey is firmly trussed. Dredge it lightly with flour and put a piece of butter in the basting ladle; as the butter melts baste the bird with it, allowing fifteen minutes to the pound for roasting. When done and of a nice brown serve with a tureen of nice brown gravy and bread sauce.

The liver should be put under one pinion and the gizzard under the other. Fried sausages are a favorite addition to roast turkey. They make a pretty garnish, besides adding to the flavor. To determine whether the turkey is young try the skin under the wing. If it easily broken it is young. Or turn the wing backward; if the joint yields readily it is tender. A fat fowl is best for any purpose.

Another.

If turkey is too dry for you ordinarily, try the following:

Dress and rub turkey well inside and out with pepper and salt, steam until tender; then rub inside again with salt and pepper, and stuff with dressing made as follows:

Take a loaf of bread, crumble fine, add half a pound of melted butter and enough salt and pepper to season well. Drain off the liquor from a quart of oysters; bring to a boil and skim and pour over bread crumbs, add two eggs, mix well, if too dry, wet with sweet milk. Lastly add the oysters, being careful not to break them. Now fill the turkey with the dressing. flour a cloth and tie over the openings, tying it down with twine.

Spread the breast of fowl with butter. This will run down into the pan and can be used to baste the turkey as the roasting progresses. Put the stuffed fowl into a dripping pan; place in an oven not quite as hot as for roasting meats. Baste often, watching carefully as the turkey begins to brown, turning often, that all parts may be equally exposed to the heat. Roast until a golden brown color. About half an hour before being ready to take from oven baste turkey with butter and dredge with flour.

Take care not to wash off the flour in basting. Do not take it out until it is thoroughly browned, forming a rich, frothy crust, which is very palatable, when served with each piece of fowl.

Never stick with a fork, as this will allow the juice to escape. Serve with cranberry sauce. Wash and stew one quart of cranberries until they break open. Strain and add one pound of white sugar; cook until thickened; pour into a dish to cool.

NO EXCUSE.

Mrs. Hockafus—The idea of your buying a kitchen bellows! What use on earth have you for such a thing as that?

Mr. Hockafus—I don't know that I have any use for it, Lucinda. I suppose I just wanted to blow myself, that's all.—Chicago Tribune.

STUNG.

There was once a bulldog named Caesar
Saw a cat and thought he would taesar,
But the cat was too fiy,
And she scratched out an eye;
Now Caesar just saesar and flaesar.
—Philadelphia Press.

Better walk than never git ennywhere.

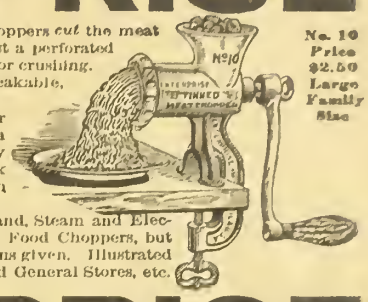
ENTERPRISE

Meat and Food Chopper

"Enterprise" Meat and Food Choppers *cut* the meat with a revolving steel knife against a perforated steel cutting plate without tearing or crushing. Easily cleaned. Practically unbreakable, and will last for years.

The No. 5 "Enterprise" Chopper costs only $1.75. No. 10, shown in cut, $2.50. They are standard family sizes, and not only save half the work at butchering time, but are useful in the kitchen every day in the year.

Made in 45 sizes and styles for Hand, Steam and Electric Power. We also make cheaper Food Choppers, but recommend the above for the reasons given. Illustrated catalog free. Sold at Hardware and General Stores, etc.



No. 10 Price $2.50 Large Family Size

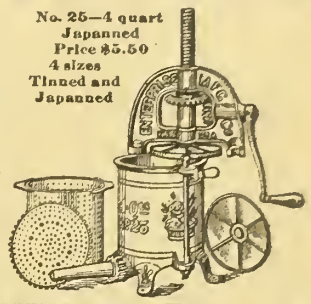
ENTERPRISE

Sausage Stuffer and Lard Press

Lessens the labor at butchering time. Two machines in one. Well made and does its work quickly and surely. Cylinder is bored true and plate fits accurately. Pressure cannot cause meat to rise above the plate. The Patented Corrugated spout prevents air from entering casing, ensuring perfect filling and preservation of sausage.

Machine can be changed into a *Lard Press* in a minute's time. Can also be used as a Fruit Press.

Your dealer should be able to supply you with the "Enterprise" Sausage Stuffer and Lard Press. If not, order direct of makers.



No. 25—4 quart Japanned Price $5.50 4 sizes Tinned and Japanned

ENTERPRISE

Bone, Shell and Corn Mill

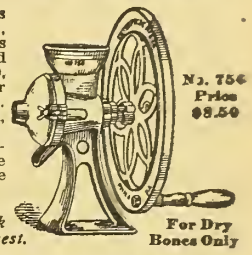
The **"Enterprise"** Bone, Shell and Corn Mill is a good, general mill for farmers, poultrymen, etc., and for compactness, strength and durability is unexcelled. Handy for grinding poultry food and making bone meal fertilizer. Mill shown in cut $8.50, weight 60 lbs., grinds 1¼ bu. corn per hour. Look for the name **"Enterprise"** on the machine you buy.

Grind up dry bones, oyster and other shells, corn, etc., for your hens and watch results.

Other famous **"Enterprise"** household specialties are: Coffee Mills; Raisin Seeders; Fruit, Wine and Jelly Presses; Cherry Stoners; Cold Handle Sad Irons, Etc., Etc.

Sold at Hardware and General Stores, etc.

Write for "The Enterprising Housekeeper," a book of 200 choice recipes and kitchen helps. Free on request.



No. 756 Price $8.50

For Dry Bones Only

THE ENTERPRISE MFG. CO. of PA., 229 Dauphin St., Philadelphia, Pa.

Turn the Wick

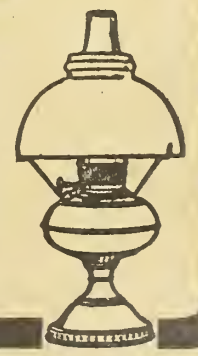
as high as you can—there's no danger—as low as you please—there's no smell. That's because the smokeless device prevents smoke or smell—that means a steady flow of glowing heat for every ounce of fuel burned in a

PERFECTION Oil Heater

(Equipped with Smokeless Device)

You can carry it about and care for it just as easily as a lamp. Brass oil font holds 4 quarts burning 9 hours. Handsomely finished in japan and nickel. Every heater warranted.

The **Rayo** Lamp adds cheeriness to the long winter evenings. Steady, brilliant light to read, sew or knit by. Made of brass, nickel plated, latest improved central draft burner. Every lamp warranted. If your dealer cannot supply Perfection Oil Heater or Rayo Lamp write our nearest agency for descriptive circular.



STANDARD OIL COMPANY
(Incorporated)

When writing advertisers, mention Cultivator.

Make Yourself and Family the finest Christmas Present on Earth. My Portable Billiard Table means worlds of undiluted enjoyment for all. A postal will bring catalog showing many styles and sizes, at prices easily within your reach.

C. Ridderhof, Laughlin Bldg., Los Angeles

PIANOS Slightly used Steinways; 1908 Model Lyon & Healys; and other remarkable Bargains. **Lyon & Healy,** 80 Adams St., Chicago.

World's Largest Music House

Our Great Re-Building Sale is Now in Progress!

EDISON PHONOGRAPHS, VICTORS, ZONOPHONES

Records and Supplies, delivered at your nearest railroad station upon receipt of full retail price. Write for particulars and ask for catalogue. **Peter Bacigalupi & Sons, 1113-15 Fillmore St. San Francisco**

The Produce Markets

Los Angeles Markets

LOS ANGELES, Nov. 18, 1908.

Butter.

Butter has finally forsaken its old time quotation of 67½ for extras which it held for many weeks and has now taken a five cent advance, standing at 72½ with actual selling price to trade 75.

All other grades have advanced in proportion.

Produce Exchange wholesale quotations are:

Creamery ex per roll 72½
Firsts 62½
Dairy 25
Eastern extra 62½
Ladles 24
Cooking 24
"Butterine" ....16@20

Cheese.

Southern California Anchor....17@19
Northern fresh ....16@16½
Longhorn ....17½@18½
Eastern singles ....16@16½
Cheddars 17½
Swiss ....17½@18
Imported Swiss ....28@30
Daisy ....17½@18
Oregon 16½
Limburger 17

Eggs and Poultry.

Owing to the extremely high price of local extra eggs an immense demand has been made on eastern storage so that storage stock has been run much lower than usual. Prices of storage have thus been compelled to advance while locals are still about as last week or at least only a half cent advance has been made during the week while storage have advanced 4 cents.

Eggs local candled ....48@51
Eggs case count buying price....44
Firsts fresh....37@39
Storage selected ....30@32
Eastern storage short time....40@42

Wholesale prices:

Hens per pound ....12½@14
Young roosters per pound....16
Fryers 16
Broilers per lb....21
Old rooster 7
Turkeys ....16@20
Geese 12½
Ducks ....11@13
Squabs ....1.25@1.80

Live Stock.

The following quotations are f.o. b., Los Angeles, on all stock.

Hogs from 175 to 200 pounds 6½
Prime steers 4½
Heifers ....3½@3¾
Calves per pound ....4½@5
Sheep ewes per head ....3.25@3.75
Lambs per head ....2.50@3.00
Wethers ....4.00@4.50

Potatoes.

Wholesale prices are:

Sweets per ctl ....1.25@1.35
Sweets red....1.00
Burbanks choice....1.00
Northern Burbanks fy....1.50
Local Burbanks 1.50
Highland fancy ....1.15@1.20
Coast ....1.50@1.60
Salinas ....1.75@1.95
Oregons ....1.50@1.60

Onions.

Wholesale quotations:

Silverskin new ....1.00@1.25
Australian Browns ....1.00@1.25
Danvers ....1.00@1.25
Garlic ....9@10
Lompocs 1.25

Vegetables.

Asparagus per doz 75
Artichokes per doz Northern....1.00
Beets per doz ....25@35
Bell peppers per lb large ....5@5½
Beans string ....7@8
Beans limas per lb ....4@5
Brussels sprouts per lb ....9@10
Cabbage sack 1.35
Cabbage red per lb....3
Celery per crate ....2.00@2.25
Chili per lb ....3@5
Chili dried 10
Corn per lug box....40@50
Chicory per bunch 10
Cucumbers per box ....1.00@1.10
Cauliflower per doz ....40@50
Carrots per doz ....35@40
Egg plant per lb ....2½@3
Green onions per doz bunches....10@15
Lettuce per crate ....60@1.00
Okra 7
Peas sugar per lb ....7@8
Parsley 30
Parsnips....35@40
Rhubarb per lb ....2@3
Rutabaga per doz 40
Radishes per doz....15@20
Salsify 40
Summer squash per box ....50@60
Spinach per doz ....15@20
Turnips doz bunches ....25@35
Tomatoes lug box ....25@50

Citrus Fruits.

New Crop Navels ....3.00@4.50
Tangerines 2.00
Valencias 4.50
Grapefruit seedless ....3.50@5.00
Lemons fy ....2.50@3.00
Lemons choice 2.00

Fresh Fruits.

Wholesale prices on the market are:

Bellflowers ....75@85
Newton Pippins 1.25
Alexandria 4-tier ....1.00@1.10
California Jonathans 1.75
Skinners 4-tier 1.15
Red Pearmains ....80@1.25
Spitzenberg ....1.50@2.00
Crab apples....1.50
Cantaloupe locals large crate..1.50@1.75
Casaba doz ....1.25@1.75
Christmas melons per crate 1.75
Figs per fig box ....1.00@1.25
Figs black per fig box....1.00
Guavas per lb ....4@5
Muscats per lug box ....75@1.00
Grapes Tokay ....1.00@1.25
Grapes Red Emperors ....75@1.00
Cornichons 1.00
Pears lb 6
Pears Winter Nellis per box..1.25@1.70
Plums Kelsey 80
Peaches per box ....75@1.50
Persimmons per lb 7
Persimmons per lb ....5@7
Pomegranates per box ....1.00@1.50
Quinces ....90@1.00
Raspberries per box 8
Strawberries per box 6
Extra fancy....10
Blackberries per box 7
Huckleberries per lb 4
Watermelon per lb....1

Dried Fruits.

Wholesale prices are:

Apricots 8
Evap. apples fy per lb....6¼@8
Figs loose white 5
Figs blk 5
Peaches 7½
Pears ....9@10
Nectarines ....9@10
Prunes ....4@4½

Beans Dried.

Wholesale prices:

Limas per ctl ....4.60@4.90
Pink No. 1....3.00@3.25
Lady Washington ....4.40@4.60
Small white ....4.75@4.85
Black eyes 3.50
Garvanzas 3.30
Lentils 9.00
Bayou 3.50

Nuts.

Almonds IXL per lb....14
Almonds choice....10@12½
Pecans polished....16
Peanuts Virginia....8
Peanuts California....8
Walnuts No 1 SS....12½
Walnuts No 1 HS....12
Walnuts No 2 both hard and SS..8½
Walnuts all less1½ per cent to trade

Honey.

Wholesale quotations:

Extracted Water White 8
Extracted Light Amber ....6@6½
Comb W W 15
Comb white 14
Beeswax....30

Hay.

Prices paid to producers f. o. b. Los Angeles are as follows:

Barley No 1....15.00@17.00
Barley No 2....12.00@14.00
Alfalfa northern per ton....11.00@13.00
Alfalfa local....12.50@14.50
Plain oat No 1....15.00@18.00
Wheat No 1....14.00@16.00
Wheat No 2....12.00@15.00

Grains.

Wholesale selling price f. o. b., Los Angeles.

Wheat new per ctl....1.90
Kaffir corn 1.80
Corn Eastern sacked 1.90
White oats 1.85
Seed Rye....1.75

Feed Stuff.

Wholesale selling price F. O. B. Los Angeles as follows:

Cracked corn 1.95
Shorts 1.75
Bran 1.65
Oil cake meal 2.50
Feed meal 2.00
Rolled barley 1.65

Orange and other trees about houses in the city of San Jose have recently been fumigated by the County Horticultural Inspector to rid them of various horticultural pests. The fumigation of some of these trees cost as high as $6.

San Francisco Markets

SAN FRANCISCO, Nov. 17, 1908.

Butter.

Though butter advanced a half cent during the last of last week it dropped to exactly last week's quotations on Saturday and remains there at this writing. The tone of the market is quiet.

The official quotations of the San Francisco Wholesale Dairy Produce Exchange for yesterday are as follows:

California extras per lb 32
California firsts 27½
California seconds....23
California thirds....20
Eastern extras....27
Ladles extra 22
Firsts 21
Storage Cal ex....26½

Cheese.

California young American fy 16
Firsts 15
California flats fy....13½
Firsts 12½
Young America fy 16
Eastern N. Y. Cheddars fy 17
Eastern fy....16½
Oregon fy 13½

Eggs and Poultry.

Eggs have advanced slightly on better grades but in general the market is quiet and much the same as last week.

Official quotations of the S. F. Wholesale Dairy & Produce Ex. are:

Fresh ranch extras 54
Eggs firsts per doz 50
Eggs second 40
Cal Storage 34
Firsts 32
Eastern Storage ex 27½
Eastern firsts 27

Eastern poultry is in large receipt though dressed turkeys are somewhat short in view of the Thanksgiging demand. The trade however, seems slow in buying, and the market is not as strong as last week.

Hens per doz ....3.50@6.00
Hens extra ....7.00@9.00
Young roosters ....5.50@6.50
Old roosters....3.50@4.50
Fryers per doz ....5.00@5.50
Broilers per doz ....4.00@4.50
Geese per pair ....2.00@2.50
Goslings per pair....1.75@@2.00
Ducks young....6.00@7.00
Live Turkeys large ....19@22
Live Turkeys small ....16@18
Dressed Turkeys ....22@26
Pigeons young....2.00@2.50

Live Stock.

San Francisco prices gross weight:

Steers No. 1....3¾
Do second quality....3¼@3½
No 1 cows and heifers....3
Second quality....2¾
Hogs 100 to 150 ....5¾
Hogs 150 to 250....6¼
Rough heavy ....4½@5
Calves per lb ....3½@4¾
Lambs spring 4
Wethers No 1 ....3¾
Ewes No 1....3¼

Potatoes.

Wholesale market quotations:

River whites fy ....70@85
River whites poor ....50@65
do per box....1.00@1.15
Early Rose new....75@85
Salinas Burbanks ....1.40@1.55
Sweets per lb ....1¼@1½
Sweets sks 1.15
Oregon Burbank....1.15@1.30

Vegetables.

Wholesale quotations:

Bell peppers per box ....65@1.25
Celery per doz ....15@25
Cucumbers per box ....1.00@1.25
Cucumbers pickle No 2....75
Chili peppers per lb ....6@8
Corn per sack....1.50@1.75
Egg plant per box ....75@1.00
Green peas per lb ....6@10
Lima beans ....7@8
Marrowfat squash per ton ..10.00@15.00
Squash per box Southern ..1.00@1.25
Onions green per box....70@75
Okra per box ....1.25@1.50
Rhubarb per box....50@65
Tomatoes River large box ....15@50
String beans ....5@8
Wax beans ....5@8
Garlic new ....6@10

Onions.

Onions yellow per sack ....50@60
Brown Australian....50

Citrus Fruits.

New Navels ....2.25@3.00
Valencias fy....2.50@4.00
Tangerines 1.25
Grapefruit seedless ....2.50@4.00
Grapefruit, seedlings ....2.00@3.00
Lemons ch ....1.75@2.25
Lemons fy ....3.00@3.50
Limes....4.00@5.00

Fresh Fruits.

Apples per 4 tier box ....90@1.25
Apples per 4½ tier box....65@75
Apples unwrapped....60@75
Bellflowers 85
Bellflowers No 2 ....40@65
Spitzenberg ....1.00@1.25
Newton Pippins ....90@1.00
Crabapples....50@60
Blackberries per chest....3.00
Figs per crate one layer....50@1.00
Grapes Muscats ....1.00@1.50
Grapes Tokay ....75@1.25
Grapes Isabellas crate ....1.00@1.25
Grapes Cornichon ....75@1.00
Huckleberries per lb....12@15
Loganberries....4.00@6.00
Cantaloupe River nutmegs ....25@60
Muskmelons....75@1.00
Nectarines white....50@60
Pears Bartlett per box fy....75@1.25
Winter Nellis ....75@1.25
Persimmons ....75@1.00
Pomegranates per box ....1.25@1.75
Aligator pears per doz....7.00@9.00
Quinces per box ....75@85
Raspberries per chest ....5.00@9.00
Strawberries per chest ....5.00@7.00
Longworths per chest....6.00@8.00
Watermelons per doz....1.25@2.00

Dried Fruits.

Prunes 4-size basis ....3¼@3½
Santa Clara ....3½@3¾
1908s contracted for....4@4½

New crop contracts, 25-lb. lots—Apricots per lb.: Choice 6½@8; fancy 9@10½.

PEACHES—Choice 5@5½; fancy 6@7.

Apples evaporated ....5½@6
Pears ....5@8

RAISINS—1907 crop f. o. b.; Clusters and layers. 30-lb bxs—Imperial Clusters, 6-crown, $2; Dehesa Clusters, 5-crown, $1.75; Fancy Clusters, 4-crown, $1.40; London Layers, 3-crown, $1.10; do, 2-crown, $1.05. Seeded, 25-lb bxs—Fancy bulk per lb, 6½@7c; Choice bulk, 6½@7c. Loose Muscatels, 50-lb bxs— Standard, 4-crown, 5½c; do, 3-crown. 4¾c; do, 2-crown, 3¾c; Seedless, 4¾c. Seedless Sultanas— Unbleached, 4¾@5c. Thompson Seedless—Unbleached, 5½@6¼c. Dried Grapes, 4c.

New Crop Raisins—Preliminary prices are named as follows: Cluster—Imperial 6-crown, $2@3; Dehesa, 5-crown $2.50; London Layers, 2-crown, $1.25; 3-crown, $1.35; 4-crown, $2. Thompson's Seedless, 5¾c. Loose Muscatels, 5¾c. for 4-crown, 5c for 3-crown, 4½c for 2-crown and 4¾c for seedless.

Nuts.

Walnuts S S No 1 new crop....12½
Walnuts No 2 ....8½
Almonds nonp 11½
Almonds IXL ....10½@11
Ne Plus Ultra 9½

Beans Dried.

Limas ....4.25@4.35
Pink ....2.50@2.60
Small white ....4.40@4.50
Large white 3.75
Lady Washington ....3.45@3.50
Black eyes 3.25
Red kidneys 3.50
Garvanzas ....1.75@2.25
Bayo ....3.15@3.25
Horse beans ....1.75@2.25

Hops.

Hops new crop 79

Honey.

Clear white comb ....15½@16
Amber ....12@14
Extracted W W ....6@7
Extracted light amber ....6½@7
Beeswax No 1 per lb ....25@27
Beeswax No 2 per lb ....24@25

Hay.

Reports are freely circulated that a great shortage in hay will prevail this season.

Somers & Co., say: The recent advance in hay prices has attracted an increased amount of hay to market during the past week, which fact has been made possible partly by the relief afforded in several districts by the railroad company in the way of furnishing cars. Arrivals for the week ending today show a total of 3570 ton in comparison with 2210 the week preceding. In spite of this marked increase, prices have advanced for all offerings have been readily absorbed. It is possible that hay may yet be somewhat higher than the present range but relief from outside states will probably prevent any abnormal prices.

Choice wheat hay ....20.00@22.00
Good wheat hay ....18.00@19.50
Other grades same ....16.00@17.50
Wheat and oat ....15.00@20.00
Tame oat ....15.50@19.00
Wild oat ....14.00@18.00
Stock hay ....11.00@13.00
Alfalfa ....11.00@15.50
Straw per bale ....50@90

Grains.

Wheat No 1....1.67½@1.70
Barley new ....1.40@1.45
Corn large yellow....1.80@1.85
Oats white ....1.65@1.72½
Oats gray....1.65@1.70
Rye new crop....1.45@1.50

Feed Stuff.

Bran per ton ....29.00@31.00
Feed cornmeal per ton....37.00@38.00
Cracked corn per ton....38.00@39.00
Rolled barley per ton ....30.00@31.00
Oil cake meal per ton....38.00@39.50
Cocoanut cake per ton ....25.00@26.50
Middlings ....33.50@36.00

Marshall's Nurseries..

Growers of

Fruit Frees, Grape Vines, Shade and Ornamental Trees and Plants.

Catalog sent on application

S. W. MARSHALL & SON

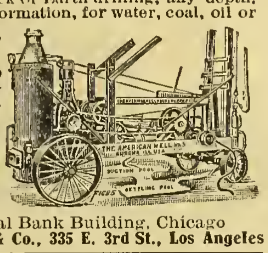
Fresno, California.

59 Styles and Sizes AND FORTY YEARS AT IT has established the standard by which others are judged in the

"American" Drilling Machinery

Rotary, Coring, Rock or Earth drilling, any depth, any size, thru any formation, for water, coal, oil or mineral prospecting, the "American" is the standard.

Our new complete catalog is the encyclopedia of the drill hole.



The American Well Works Aurora, Illinois, U. S. A.

First National Bank Building, Chicago

Henshaw, Bulkley & Co., 335 E. 3rd St., Los Angeles

Citrus Market

LOS ANGELES, Nov. 18.

Complaint is continually coming in regarding shipments of oranges this year as to their being green, though thus far no serious set-back has occurred as to price paid. It has declined, however, from the earliest quotations. Some feel this will seriously injure the market while others think it will only lessen the consumption to a certain extent and that later on when it is known the oranges are fully ripe prices will recover. Some Tulare county oranges are of small size and will be held on trees until winter shipment.

Lemons are looking up and commanding better prices than formerly. This, in the face of quite extensive receipt of foreigns, the new crop of which are now coming in. The Californias are bringing better prices than the foreigns, at least the better class are. Low grade Californias are somewhat in the dumps.

Shipments.

Shipments from Southern California since November 1st, are 39 cars oranges, 184 cars lemons. From Tulare and Butte counties the shipments of oranges aggregate 498 cars oranges, 15 cars lemons, making a total of 736 cars since Oct. 1st.

NEW YORK, Nov. 16.—Four cars Valencias and four cars lemons sold. The market is unchanged on lemons, but there is a good demand. Valencias unchanged. Clear, favorable.

VALENCIAS—	Avge.
Scepter SS Ft Ex	$5.30
Searchlight SS Ft Ex	4.20
Bunker Hill Cal Cit Union	2.25
El Toro Cal Cit Union	1.50
Old Mission C C Chapman	7.30
Old Mission C C Chapman	5.90
Golden Eagle C C Chapman	4.20
Orchard National O Co	4.55
Standard National O Co	3.45
LEMONS—	Avge.
Fet SA Ft Ex	$3.90
Princess QC Ft Ex	2.65
Corona Lily	2.35
Marguerite California Cit Union	2.70
Economy Randolph Ft Co	2.55

CINCINNATI, Nov. 16.—Weather cold. Market is steady. One car sold, one car on track.

LEMONS—	
Arab SA Ft Ex San Dimas	2.70
Duck SA Ft Ex San Dimas	2.25

ST. LOUIS, Nov. 16.— Weather cool. The market contiuues depressed on lemons. Four cars sold, five on track. Florida oranges averaged $1.95.

LEMONS—	
Los Fuentes Crocker-S Sumld	2.30
Montecito Crocker-S Summerl'd	1.60

BOSTON, Nov. 16.—Five cars sold one car on track. Weather favorable. Market is easier.

VALENCIAS—	
Defender Altland Ft Co	2.40
Buscada Altland Ft Co	2.15
LEMONS—	
Visalia TCC Ft Ex Lemon Cove	3.85
Lemon Cove TCC Ft Ex Lemon C	3.15
Orchid Altland Ft Co	3.10
Buscada Altland Ft Co	2.30
Artillery California Cit Union	3.55
Harbor Charles Mohnike	2.35
Ramona Charles Mohnike	1.90
Conqueror Independent Ft Co	2.50

CLEVELAND, Nov. 16.—It is snowing. The market is strong on navels, steady on lemons; one car sold, three cars on track.

NAVELS—	Avge.
Pocahontas TCC Ft Ex Zante	3.20
Hiawatha TCC Ft Ex Zante	2.80

Queries

Continued from Page 499.

black nut in orchard form, putting two or three where the permanent tree is to be, then allowing the most thrifty to stand, then grafting when it has reached proper age. If you desire to lift these trees and put them in the orchard this spring they may be planted from December to February.

Peanut Butter.

"Will you please inform me through the Cultivator how to make peanut butter, and oblige,"—F. K. H., Pasadena.

Peanut butter is secured through crushing and reducing to a paste the nuts, but the method of procedure we cannot give. If any subscriber can give information to the inquirer it will be appreciated.

Water Cured Olives.

"Please tell me whether olives may be put up or cured by treatment with water only? If so how? I have tried twice and failed, attached hose to bottom of barrel and weighted barrel at top letting water run in at the bottom and out at the top, but the olives get soft before the bitterness has left them."—Old subscriber, Lordsburg.

The process for removing bitterness by the cold water process is a slow and tedious one but gives an excellent result when successful. However it is very uncertain and expensive and the bacterial decay or softening is liable to appear. This is especially true of the ripe fruit. If fruit which is not fully ripe is used and the berries handled exceedingly carefully they may be cured in this way in from 40 to 60 days. The process may be hastened by those who are curing a small quantity of olives by making shallow cuts through the skin of each olive which permits the water to enter and removes the bitterness quicker. We think on the whole you will find much better results by the lye process. In the water process it is not absolutely necessary that the water be running all the time but it must be changed as often as twice daily.

Curing Pork and Hams.

"Please give recipes for pickling pork and hams. What substance makes the best smoke."—J. V. B., Ripon.

A couple of formulas may be seen by turning to Live-stock Department this issue. A good substance for smoking your hams is the good old fashioned corn cob. Some, however, these days prefer the application of liquid smoke which may be purchased ready for application.

Salt Grass.

"A Subscriber" at Laton, Cal. writes, asking regarding Australian Salt Bush for alkaline ground. As the letter has no signature and is in a plain envelope we have no means of knowing who it is from. In fact there is no week but that from one to four or five letters come to our desk without signature and of all these for the last three or four months not one has been objectionable or has contained anything that should induce the writer to withhold his name. Why subscribers see fit to write to us this way is a question we would be glad to have explained. There is a rule of every office in the country to cast unsigned letters into the waste basket.

Another subscriber "C. D. E." at Chatsworth writes a long letter with request for information in the Poultry Department. If C. D. E., or "subscriber" will send in his name we will then turn his letter over to the proper Department and the questions will all be answered. Our query department is becoming more than full and these questions will all be turned over to the waste basket unless signatures are given.

Veterinary

Dr. R. T. Whittlesey, veterinarian, of 714 East Seventh street, Los Angeles, will answer questions in this department. In writing of sickness or injury to any animal be explicit in giving symptoms and particulars. Always enclose full name and address, but if assumed name or initials are preferred they will be used.

Diseased Feet of Cattle.

I have fifty head of fat beef steers in prime condition that are having trouble with their feet. The foot swells and gets very sore between the toes and then cracks and swells to the knee, either on a fore or hind foot, and sometimes both. They are fed on No. 1 alfalfa hay and have a clean, dry corral in which they are fed, and good running water. The cattle go down very fast after once affected. Can you tell me what it is, and the cause and remedy?—E. F. B., Central House.

I think you are making a very grave mistake in trusting the above to any diagnosis or treatment that I or any one else could make from the above description, where there is so much at stake.

You do not mention to what extent this inflammation goes, whether any of the animals show a tendency to heal, or do they get worse? Have any recovered, how long since the disease started; do the hoofs crack loose at the coronet (where the hoof and skin join)?

My advice to you is to call on the best veterinarian you can obtain and have a thorough examination made, as there is undoubtedly something you have overlooked.

I should suspect that some chemical in the soil, perhaps alkali, is causing the sores between the digits, and that the swelling above is sympathetic; in which case a cure of the sores would cure the rest; but of this I can not be sure. You might try a saturated solution of sulphate of copper and water, swab the sores once daily, but do not trust to this very long, unless you see some improvement, as procrastination may be expensive. If possible, arrange for them to drink from troughs where they will not have to get into water or mud.

In 1884 an outbreak, the symptons of which read about like yours, started in Kansas. It was first diagnosed as "foot and mouth disease," a very contagious disease, which has never gained a prominent footing on this continent, although it has been introduced several times.

This outbreak caused a terrible scare. Kansas was quarantined, experts were sent by the Federal government and many other states, a thorough investigation took place, and it was finally decided to be "egertine gangrene," caused by egerot, or smut on corn.

If you care to read up on the above, you can get the 1884 report of the Bureau of Animal Industry, at Washington, which contains some very fine colored cuts of the diseased feet and legs.

Southern California handed the East 4954 cars of lemons during the season. This is 1454 in excess of last year. The increase of oranges over the preceeding year was only 554 cars.

PLUMBING

Plumbing Materials

WATER SEWER PIPE

ALL PLUMBING REPAIRS

We contract to furnish all the materials and do the work or furnish the materials only.

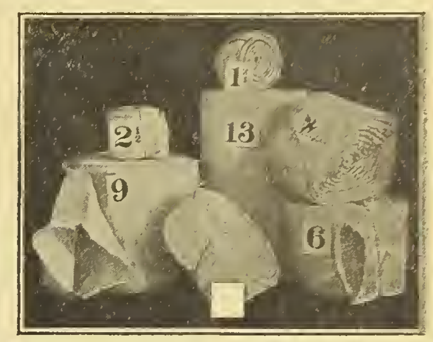
GET OUR PRICES

JAMES W. HELLMAN

Hardware, Stoves, Etc.

157-161 NORTH SPRING STREET

LOS ANGELES, CAL.



IRRIGATING HOSE

12 oz. canvas, coated or plain; good for several seasons. 1¾ inches, 2½ inches, 4 inches, 6 inches, 9 inches, 13 inches. Galvanized or brass couplings.

Tents, Tarpaulins Picking Sheets. Picking Bags, Stack Covers

Our Tent Catalogue, mailed free, gives full information.

The Wm. H. Hoegee Co. INC.

138-140-142 So. Main St., Los Angeles

300,000 Feet Water Pipe Cheap

ALL SIZES

150,000 feet of this shipment is second-hand pipe, practically as good as new, and is now on sale at a big discount by the Adams Pipe Works, 2025 Bay street. Sizes and prices: ¼-inch 2 cents per foot; ⅜-inch, 2 cents per foot; ½-inch, 2¼ cents per foot; ¾-inch, 3 cents per foot; 1-inch, 4¾ cents per foot; 1¼-inch, 6 cents per foot; 1½-inch, 7 cents per foot; 2-inch, 9¾ cents per foot; 2½-inch, 15 cents per foot; 3-inch, 19 cents per foot; 3½-inch, 24½ cents per foot; 4-inch, 30 cents per foot.

Oil well casing prices and sizes: 2-inch, O. D. 7 cents per foot; 2-inch, I. D. 9 cents per foot; 3-inch, 13½ cents per foot; 3¼-inch, 16 cents per foot; 3½-inch, 17 cents per foot; 4-inch, 20 cents per foot. All pipe is carefully inspected, new couplings and new thread are put on every piece, every joint is guaranteed to be first class, serviceable pipe. Mail orders promptly filled. To reach the Adams Pipe Works in Los Angeles, take car marked Pacific Boulevard, starting east on Seventh street from Broadway. Ask conductor to let you off at Bay street and go east half block. Phones. F1917. Broadway 1264.

Pacific Seed Co.

C. Bagnall, Prop.

GROWERS AND IMPORTERS OF

Grass, Vegetable and Flower Seeds

All Kinds of Bulbs and Onion Sets

609 J St., Sacramento, Cal.

Send for Catalogue. Please mention Cultivator.

There will be a large planting of sugar beets in District Number 79, Sutter county.

The Popular Western

Built In the West **Best** For the West

FACTORY AT YOUR DOOR

LONGEST LIFE LEAST FUEL FEWEST PARTS ALWAYS GOES

Weir of the Iowa Meadow Company

Irrigation Plants

Designed Constructed Installed

Note results obtained with a 40 H. P. **"WESTERN"** at Ontario, Cal.

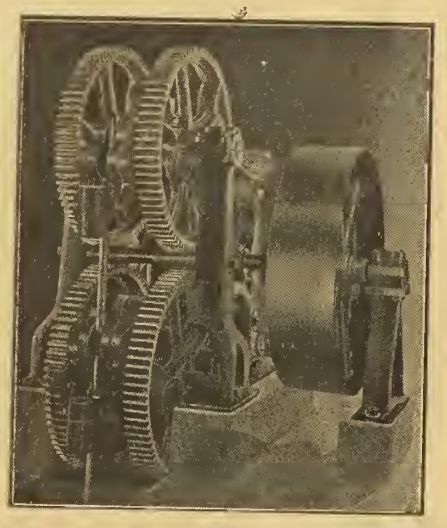
"We are lifting 175 inches of water against a head of 46 feet above pump; vacuum guage stands at 13, with a shade over 3¾ Gallons No. 2 Distillate per hour."

IOWA MEADOWS COMPANY
(Signed) S. J. Ulrey, Manager

Western Gas Engine Co.

Works and Office:
908-932 No. Main St. - Los Angeles, Cal.
Send for Catalogue

New Pomona Double Plunger Deep Well Pump Head



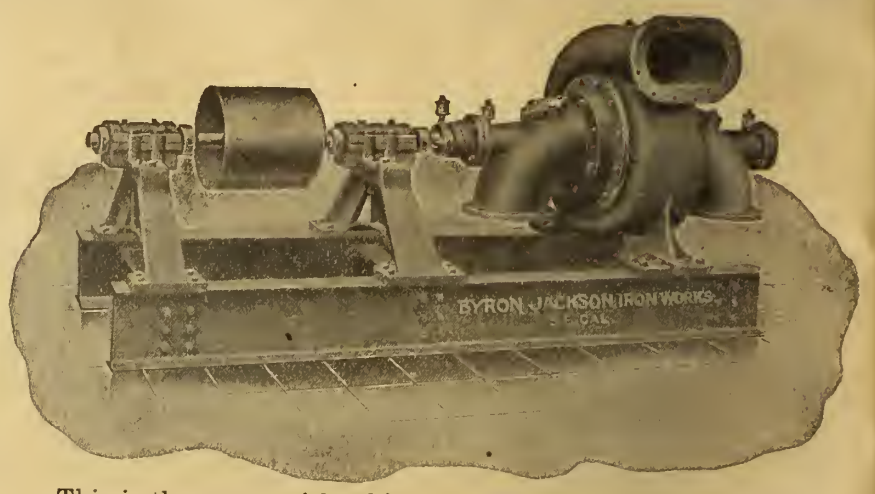
Most Efficient Deep Well Pump in the State

It Is Made in California

Built in Three Sizes—from Ten to Forty Horse Power

It is the smoothest running deep well pump because there are no dead centers, no jerk or jar, and no danger of breaking the pump rods. Be sure and write for our big catalogue. Watch this space for further information.

Pomona Manufacturing Co.
Pomona, Cal.



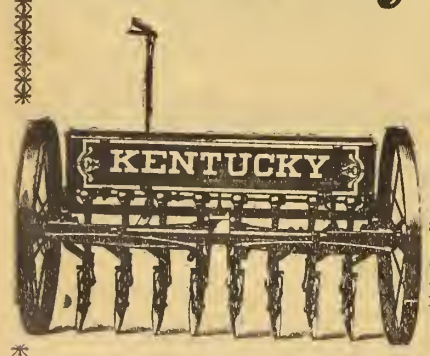
This is the pump with which we delivered 20 per cent more water than promised for a certain head and horsepower. The customer says in a letter that he desires to express to us his great satisfaction upon the result achieved.

Byron Jackson Iron Works

Main Office and Works: West Berkeley, Cal.

Sales Rooms: San Francisco, Cal. Los Angeles, Cal. Portland, Oregon.

Kentucky Disc Drills



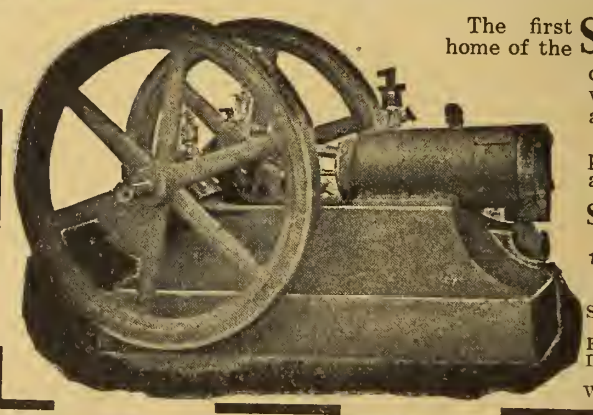
meet every requirement of particular Farmers. Constructed on correct mechanical principles, of the best material obtainable, they are strong and lasting. KENTUCKY Conical Disc Bearings are unique. Of fairly large diameter, they are narrow, giving greatest clearance between discs. Dust proof, oil retaining and adjustable. Over 250,000 in use, giving perfect service, have demonstrated the superiority of the Kentucky Disc Bearing.

Write us for Catalogue of the complete

KENTUCKY LINE

Pacific Implement Co. 135 Kansas St. San Francisco

Samson Gasoline and Distillate Engines



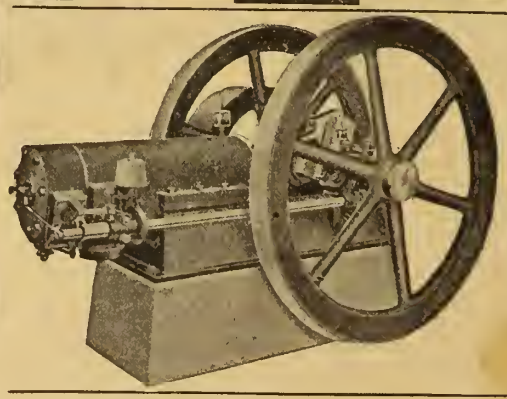
The first home of the **SAMSON** engine is a large one. Its second home, which is everlasting, is a happy one.

They may be compared with the sea—always ready to roll.

Samson Iron Works

Office and Factory:
1100 to 1198 Aurora St.
Stockton, Cal.

BRANCHES:
San Francisco,
Cor. Market and First Sts.
Fresno, 920 J St.
Los Angeles,
204 N. Los Angeles St.
W. L. Cleveland Co., Agent



HERCULES DISTILLATE ENGINE

Heavy, Strong and Simple in Construction

The Right Engine at the Right Price

Horizontal and Vertical; All Sizes. Buy direct from the manufacturer and save agent's commission. Send for our new Catalogue C.

The Hercules Gas Engine Works
351 Market St., San Francisco
Telephone Douglas 3630

KEROSENE ENGINES

No Batteries or Spark Plugs Used

Simplest, Most Reliable and Cheapest Power on the Market

4, 8 and 16 Horse Power

Marshall Brothers
Point Richmond, Cal.

Catalog Free on Application

Commercial Gas Engines

are Better Engines than you have been using.

See One Buy One

So will your neighbors.
Send for Bulletin No. 12

Commercial Engine Company
953-955 No. Main St., Los Angeles, Cal.

30.5
C A
Ap 0

California Cultivator

Published Weekly — One Dollar a Year

Los Angeles — November 26, 1908 — San Francisco

Four Favorites of the Poultry Yard

White Wyandotte Cock, Owned by Mrs. C. D. Hubbard, San Fernando, Cal.

THE White Wyandotte male illustrated is the true Wyandotte type, distinct from the Plymouth Rock, in that the Wyandotte is more compact. They are short, round and plump, and have been designated the bird of curves. They are termed the utility man's friend from the fact that they are always fairly well finished from the time they are large enough for broilers till fully matured.

They are good layers of good sized brown shelled eggs.

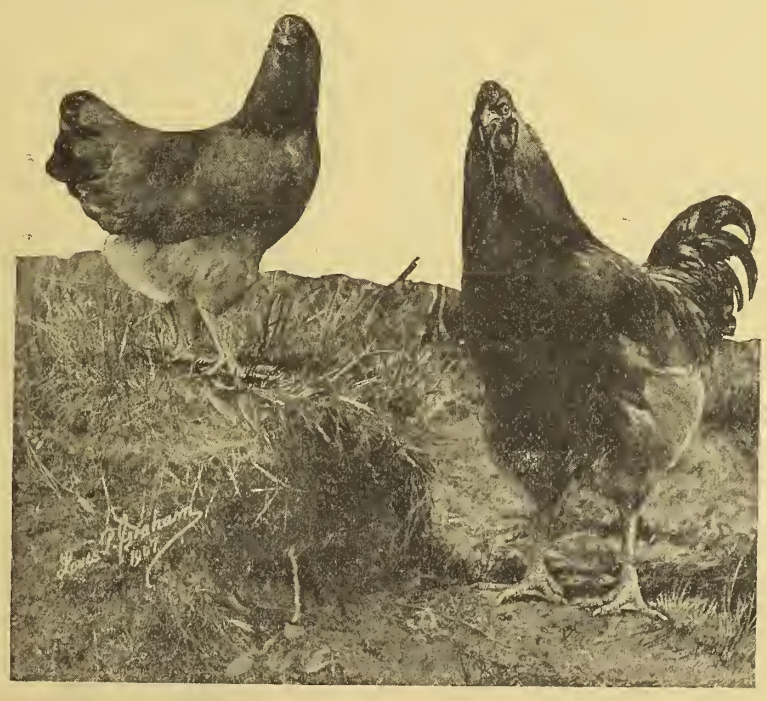
The Whites are the most popular of the eight varieties of the Wyandotte family. They are bred very true to shape. Having orginated from sports of the Silver Wyandottes they inherited the true characteristics of the family.

The Standard Weights for the Wyandotts are, cock 8½ lbs. cockerels 7½ lbs. Hens 6½ lbs. pullets 5½ lbs.

Cornish (Indian) Fowl Cock, Imported by Alex Aikman, East First St., Los Angeles, Cal.

THE Cornish (Indian) fowl one of the oldest breeds represents what may truly be termed a gentleman's fowl. When bred close to Standard requirements they are decidedly a handsome bird. The shape is broad, deep, full, being bred on the lines calculated to carry the largest proportion of meat.

We are glad to note today that they are having quite a revival of their former popularity and we predict the next few years will see them again on top.



A Bunch of Buckeyes, Owned by Mrs. Frank Metcalf,.

BUCKEYES were orginated by Mrs. Metcalf of Warren Ohio. Recently Mrs. Metcalf has located in California and is now regular Department Contributor of the Cultivator. The Buckeye is from a cross of Asiatics, Black, Red and Indian Games. It is a large, well proportioned fowl, resembling Indian Game. They are strong and vigorous about size of American breeds. In color they are much the same as R. I. Reds.

Cornish (Indian) Fowl Hen, Imported by Alex Aikman, East First St., Los Angeles, Cal.

THE White Plymouth Rocks orginated over twenty years ago and were sports from the barred variety. They have enjoyed a wave of popularity extending over a period of 10 years, this is due to their attractive appearance and utility qualities, being very hardy, good layers, and bred remarkably true to color and shape.

Some years ago it was predicted that this variety would rival their ancestors the barred and this is fast becoming a fact for in the largest shows of the country they are already close rivals in numbers to them. Many individual specimens are found to conform closely to the Standard requirements.

They are good foragers, good mothers and good layers; a bird that will not disappoint the fancier or utility breeder.

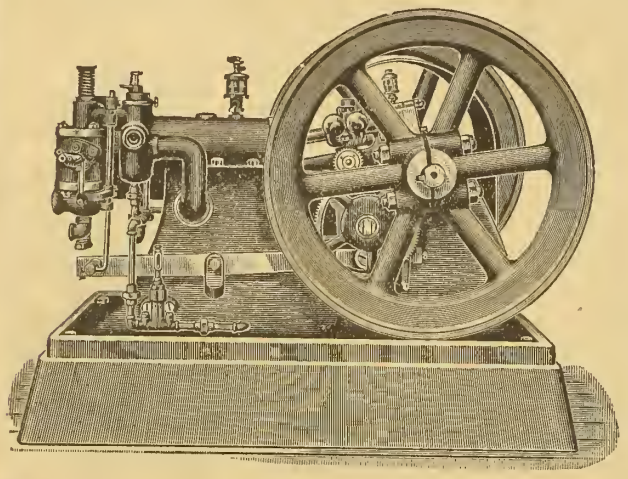
White Plymouth Pullet, Owned by E. D. Gutting. 136 West Slauson Ave., Los Angeles, Cal.

We Hatch
19 Kinds of Baby Chicks

Send for price list and descriptions. We can ship them safely anywhere within 48 hours. Can refer you to satisfied customers everywhere. Chicks from fine stock. ***Now*** is the time to buy chicks to get pullets to lay at the right time. We ship to all points on main lines in California, Arizona and Nevada. We sold over 230,000 chicks so far this year—buy of us and get what you pay for. This paper guarantees you fair treatment from us. We are the largest chick dealers in the world. Call and see us when in the city. Visitors always welcome.

Pioneer Hatchery Co.
108-110-112 E. 8th St., Los Angeles, Cal.

Alamo Gas and Oil Hoisting and Stationary Engines



Best in price, appearance and quality. Self-starting and small operating cost. A complete line of repair parts and accessories always on hand.

Complete pumping plants installed and we are prepared to construct all kinds of mining machinery on contract.

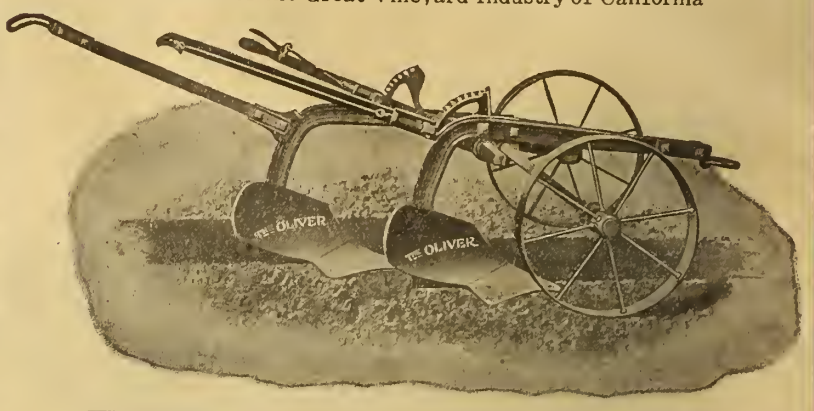
Write for catalog and prices

Harrison Machine Works 719-721 N. Main St. Los Angeles, Cal.

Winner of the First Award

The Nos. 17 and 18
Oliver Orchard and Vineyard Gang Plows

At the Great **Fresno County Fair**
In the Heart of the Great Vineyard Industry of California



The Greatest Improvement of the Age in Plows for Orchard and Vineyard

Get particulars from your nearest Oliver agent, or write to

Newell Mathews Company
Southwestern General Agents 200 N. Los Angeles St., Los Angeles, Cal.

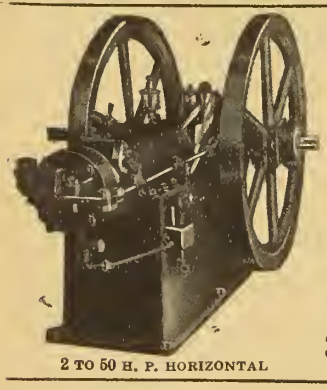
Red Cross Wind Mill
Is built right, Works right. Runs in light wind. Has ball bearing turntable and outer thrust. Easy mill to set up and take care of. Built upon honor.

Woodin & Little Pump House
33-41 Fremont Street, San Francisco

PUMPS FOR EVERY SERVICE AND USE
Pumps for Irrigation, Road Sprinkling, Electric Motors, Gasoline Engines, Spraying, Whitewashing, Wine Pumping, Wind Mills, Hand and Power Use, Steam, etc.

Gasoline Engines Wind Mills
Tanks Pipe Pipe Fittings

SEND FOR CATALOGUE

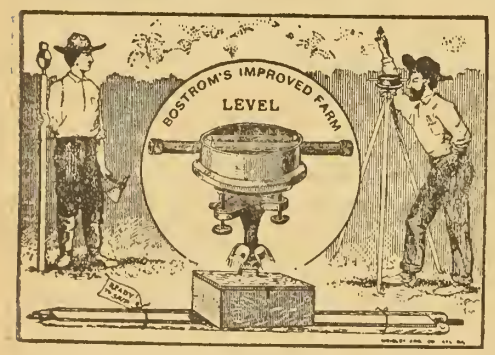


2 TO 50 H. P. HORIZONTAL

STOVER GAS ENGINES

The simplest and the best. We have had long experience installing pumping plants. We know our business. See us before you buy. 2 to 50 H. P.

LIVINGSTON & LEE
352 So. Los Angeles St., Los Angeles, Cal.

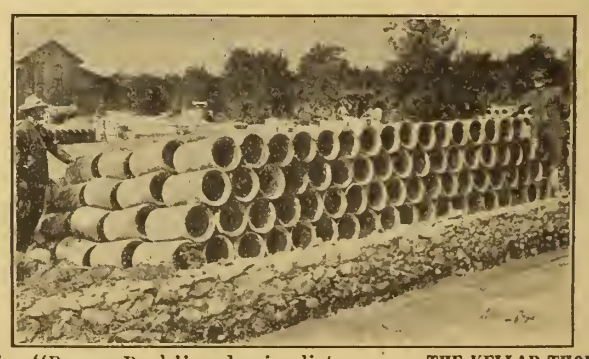


BOSTROM'S IMPROVED FARM LEVEL

Used for irrigation and drainage work. Cheapest and best level yet invented for farm use. Has the latest patented improvements in simplicity and usefulness. Can be operated by any one. Price including telescope tripod and target rod $15.00.

PALACE HARDWARE COMPANY
581 Market Street, San Francisco.

Coast Agents. Send for Circular.



From photograph showing amount of

Ten-Inch Pipe

made by four men from 10 bbls. of cement in 9 hours — 280 two-foot joints, or 560 feet. This pipe was made with the

"K T" Moulds

An equal amount can not be made with any other tools in the same period of time. Write for "Brown Book" and price list.

THE KELLAR-THOMASON MFG. CO., Covina, Cal.

Cultivator Order Blank

Balance of This Year Free—For New Subscribers Only

_____190

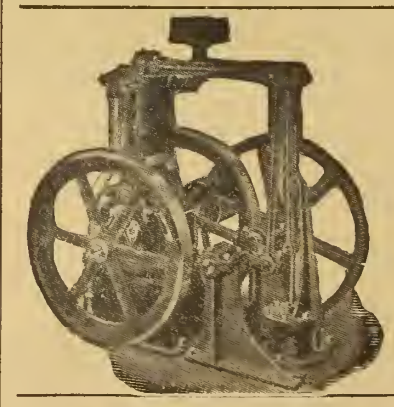
CULTIVATOR PUB. CO.
115 1-2 No. Broadway, Los Angeles

Gentlemen—Enclosed find $1.00 (Canadian and Foreign, $1.50) for which please send the ***Cultivator*** to the following address from date to January 1, 1910.

NAME _____ P. O. ADDRESS _____

Signed _____

Address _____



A Handy Little Engine

Just the thing to run the feed cutter, the pump, the churn, the grinder, or anything on the ranch. It's well named

The Little Wonder

Write or call on

Wm. Gregory
602 No. Main St. Los Angeles, Cal.

Fruit Growers and Vineyardists

We would advise you to use our P. N. K. This is a Fertilizer well adapted to produce a good, vigorous growth to your trees and vines, and the best quality of fruit in quantities that you desire, consequently paying you large interest on the money expended.

Make a trial of this brand and you will use no other. Write for our pamphlet, ***"The Farmers' Friend,"*** for 1909.

The Pacific Guano and Fertilizer Company
268 S. Market Street - - San Francisco, California

When writing advertisers, mention Cultivator.

California Cultivator

Vol XXXI—No. 22 Los Angeles, California, Thursday, November 26, 1908 Subscription $1 a Year

Dry Farming Somewhat Disappointing

Mr. Arthur R. Briggs, President of the State Board of Trade, Addresses the State Institute, from Which the Following is Taken. He Has Not Found the Method Entirely Satisfactory

IF by "dry farming" is meant the kind of farming a goodly number of grain growers throughout the State experienced this year. I ought to be able to deal with the question somewhat practically and intelligently. If the condition of moisture, or lack of it which I have contended with, and the failure to get any crop worth harvesting, is evidence of being a dry farmer—I am surely a worthy subject of the Dry Farming Congress, and entitled to a life membership therein.

From 480 acres of land in Fresno county seeded to barley in the fall of 1907, to be harvested this year, which land is not under irrigation, and where the rainfall was only 7 inches for the season, which was handled in the way usual among grain growers in that county (I might say in California generally) and from which a return of $6000 was expected, I realized the magnificent sum of $575, and this for sheep feed. In another county, which I will not mention for fear of the consequences that might follow, I was not much more successful. From 640 acres in wheat the returns aggregated $1400, wereas I should with ordinary conditions have received $8000 or $9000 from this field.

These examples are given to assure my hearers if they likewise have any of them been taking lessons this year in growing grain on dry land without artificial irrigation, with similar results, of my full sympathy with them.

The significance of the term "Dry Farming" is likely to be misunderstood. Many who have not given special thought to the subject and therefore are not informed in respect to it, seem to think that through some peculiar process of cultivation or scientific juggling with the soil, crops are grown by that system of farming that could not be produced by any other method of cultivation. At the experimental station in Wyoming, viz: at Cheyenne, under the able direction of J. H. Gordon, quite startling results have been attained. Likewise in Colorado, at Fort Collins, under the management of Dean Carlyle, similar results have been had, but in both these districts the annual rainfall is given at 10 inches and upward.

Conserve.

Dry farming methods under any system, so far as known, do not supply moisture but conserve it. If the precipitation is too slight to produce crops, no amount of cultivation will take the place of it.

At the Dry Farming Congress held in Denver, 1906, much testimony was elicited from farmers to the effect that in the semi-arid districts where dry farming had been pursued most successfully, the rainfall averaged from thirteen to twenty inches annually. It therefore appears that farming in the semi-arid districts without artificial irrigation, to be successful, must be done where there is sufficient precipitation when properly conserved to produce crops; that dry farming involves methods of conserving the moisture, not providing a substitute for it, as well as proper and timely cultivation.

"The system concentrates the limited rainfall of two seasons on one crop by storing most of the moisture in the ground. The great drawback to its rapid adoption is that it means lots of work, more than twice as much as the ordinary farming which takes chances of enough rainfall at the right time."

Conditions in California.

Scientific dry farming loses much of its interest to the average California farmer when he learns that it is successful only in districts where the average rainfall is from ten to twenty inches. Careful farming, in a thorough manner, under methods that have been followed in this state almost since grain growing began here, has given fair, if not always satisfactory returns. Land in the great valleys in seasons when the rainfall has exceeded ten inches, has produced crops that would average eight sacks, an equivalent of 20 bushels of wheat to the acre, and this too at the minimum of cost. What the returns might have been under a rotation of crops or more careful plowing and harrowing, one can easily imagine.

A large part of the San Joaquin Valley is known to give a fair yield in grain with ten inches of rainfall for the season, and when the precipitation reaches fifteen inches the yield is large. Timely rains have given good grain crops in that valley when the aggregate precipitation for the season did not exceed eight inches. If, therefore, the precipitation in the great grain growing districts of California, equalled that shown by the records in the semi-arid districts of Colorado, Wyoming and Utah, where dry farming has been introduced and practiced with the best results, this state would seemingly have small need for the Campbell system of farming for growing grain.

Different descriptions of soil require different treatment. In view of this fact, no arbitrary rule for farming can be laid down with the expectation of reaching equally good results for all descriptions of land under these varied conditions. General principles respecting farm work may be useful, and if followed with intelligence and care, would doubtless be beneficial. To illustrate: the quantity of seed, either wheat or barley, that should be sown depends largely on the character of the land in its natural condition, the rainfall for the season and the time of sowing. That is if sown early in the fall grain stools prolifically, but the stools are less and less when sown as the season for planting advances, until late sowing on light soils stools very little.

Plowing.

In the matter of plowing, whether deep, medium or shallow, experience must largely be the guide also. While experience and observation of many who are engaged in farming is of little value, mainly because they farm by the rule of guess, or by precedent, there are men in every community who farm intelligently and well. The latter are quick to observe results from the introduction of new methods and improved farm implements, and are always ready to take advantage of anything that gives good results.

It has been the custom for generations to permit the soil to lie fallow in the fall. When plowing was done in the fall season it was on the theory that it was a substitute for spring work. Experience has shown that in farming on dry land much efficient work may be done in the fall months. It should be constantly kept in the mind that in the semi-arid regions, especially, the primary purpose of all cultivation is to put the soil in condition which best promotes fertility. Plowing is not just to kill the weeds, or cultivating to keep the surface of the ground loose, but mainly to preserve the moisture.

Immigration into the Semi-Arid West.

In recent years there has been an active immigration to the states and territories in the semi-arid districts of the United States east of the Rocky Mountains attracted thither by the alluring reports of what may be accomplished by scientific farming without artificial irrigation. Lands that have long been regarded as suitable only for grazing have been taken for farming. It is but reasonable to suppose that many of those who have settled on the semi-arid lands in the west, will come short of realizing the expectations held out to them, if in fact they do not become disheartened before any thorough test of the merits has been made. As one writer expresses it, what is needed is greater knowledge of farm conditions and methods. He says:

"Many who have settled upon new lands in the west are under the impression that a slight adaptation of farm methods will enable them to make a success of farming all the time, thus ignoring the plain fact that there are important differences of climate and soil which must be considered. Still others labor under the delusion that all the farmer has to do is to practice good farming under the accepted standard systems in vogue in states where little or no consideration need be given to the water problem. Both of these classes are in need of light. Unless they discover their error before the coming of the inevitable period of extreme dryness, so that they may guard against the drouth dangers, they are sure to meet with losses that will not only be of vast harm to them personally but of incalculable damage to the whole western semi-arid country."

It must be apparent that in dry farming the range of products is quite limited, viz: confined to such crops as can be cultivated during the growing season and close up to the time of harvesting. At the Congress held in Denver in 1906, one farmer living and farming in Utah who claimed to have been able to raise fair crops almost continuously for some years, described his method of growing alfalfa. He planted by use of a drill, in rows far enough apart to enable him to cultivate, the same as he did corn, and thus after each cutting he was able to work the land so as to keep a mulch on the top and conserve the moisture. It will therefore be seen that the statement that dry farming involves "lots of work" is well founded.

Large Areas Having Similar Conditions.

A feature of some significance in considering this system of farming, so far as my observation goes, is that the character of the land in Colorado and Wyoming and to some extent in Utah, is quite different from the lands in California. It may, however, be admitted that better plowing and more frequent harrowing than farmers in this state are in the habit of doing, would seem to be desirable..

But the difference in conditions in California from those in the states where dry farming is now practiced, should not be lost sight of. In this state intensive farming is growing in importance each succeeding year. Grain growing is gradually giving way to other branches of agriculture and the new conditions are not generally favorable to dry farming. Means for irrigation are extending the area of fruits, vegetables and alfalfa year by year throughout the state. The certain-

Continued on Page 513.

The Cost of a Telephone Line

may be divided into two parts—cost of installation and cost of maintenance.

The cost of installation may be a little lower if poor apparatus and equipment are used instead of the best.

The cost of maintenance is always the lowest when the best apparatus and equipment are used. This cost of maintenance should be most carefully considered. Continual repairs and replacements soon equal the original installation cost, for they mean labor charges as well as material cost—a lineman may take half a day to hunt down and replace a defective part that in itself costs but a few cents. The large production of

Western Electric Apparatus and Equipment

means low first cost—low installation cost. The low maintenance cost of Western Electric Apparatus and Equipment is due to the uniformly high quality that has made this apparatus the standard of the world—the only apparatus ever employed by operating companies for long distance work. Western Electric Quality is as necessary in a rural line as elsewhere to insure reliable, satisfactory service and low maintenance cost.

Write for Booklet 71 "Rural Telephone Equipments"—Sent Free

WESTERN ELECTRIC COMPANY

Eastern
New York
Philadelphia
Boston
Pittsburg
Atlanta

Central
Chicago
Indianapolis
Cincinnati
Saint Paul

Manufacturers and Suppliers of all Apparatus and Equipment used in the Construction, Operation and Maintenance of Telephone Plants.

Western
Saint Louis
Kansas City
Denver
Dallas
Omaha

Pacific
San Francisco
Los Angeles
Seattle
Salt Lake City

NORTHERN ELECTRIC & MANUFACTURING CO., LTD., MONTREAL AND WINNIPEG
Write Our Nearest House

Do Irrigation Work---Quicker and Easier

For Leveling Fields—For Cutting and Clearing Laterals

The photo is from an actual field-scene in New Mexico, where a 20th Century Grader is leveling seed-beds on the great truck-farm of Herman Blueher. He says: "Your 20th Century Grader has no equal for land-leveling, seed-bed making, ditching and for all kinds of irrigation work. I have reduced my force one-third since buying this machine." The

20th Century Grader

weighs only 600 lbs—light and handy—and is easily handled by one man and two horses. It is all steel and malleable iron. Price very reasonable. It pays for itself in one season. If your dealer hasn't it ask for name of nearest agent. Write now for new free booklet with large cuts showing every part.

Baker Manufacturing Co.
281 Dearborn St. Chicago, Ill.

The Roessler & Hasslacher Chemical Co.

100 William Street, New York
Works: Perth Amboy, N. J.

CYANIDE guaranteed 98-99% for generating HYDROCYANIC ACID GAS

The only positive eradicator of the SAN JOSE SCALE, RED and BLACK SCALE and other insect pests

FOR SALE BY

F. W. BRAUN - Los Angeles and San Francisco
HAAS BARUCH & CO., " "

Southwest Supply Co.

No. 127 South Los Angeles Street, Los Angeles, Cal.

From Manufacturer Direct to Consumer

The Celebrated Sattley Line

Best Disc Harrows
Spiked Tooth Harrows
Disc and Sulky Plows

On the Market at the Very Lowest Living Prices

TENTS

Fumigating and Lemon Curing Tents our Specialties

Irrigating Hose, all sizes. Prices and Samples quoted upon application. Write your wants
Wagon Covers, Hay Covers, and Canvas Covers of Every Description.

Mellus Bros. & Co
Phones—Home, F 4871; S. S., Main 8500
250 East Fifth St., Los Angeles, Cal.

When writing advertisers, mention Cultivator.

With the Citrus Growers

PRUNING LEMONS.

THE lemon tree is a vigorous and constant grower. When allowed to grow naturally it develops a number of upright shoots and slower growing laterals and may reach a height of 25 to 35 feet, writes G. Harold Powell in his report to the Secretary of Agriculture. With a tree of such large proportions the operations of picking the fruit and of fumigating or spraying the trees would be difficult and expensive. Lemon trees are therefore pruned once or twice each year, the aim being to keep the tree in a low, semi-upright, semi-open form, to make the main branches stocky and strong in order to carry the weight of fruit without breaking or swaying violently in the wind, and to stimulate the growth of fruit-bearing wood all over the tree, especially on the inner branches, which produce the lemons of the finest form and texture.

The trees are seldom entirely dormant, but grow with greater vigor at several periods from spring till fall, and slowly during the winter months. Occasionally an attempt is made to make the trees bear more heavily in the spring and summer by frequent or unusual prunning or irrigation, but the results have been of doubtful benefit. The Eureka is being planted more than other varieties, as it matures a larger proportion of fruit in the spring and summer.

There are a number of systems of pruning and training the lemon tree in use in California. In a general way they consist of shortening the wood, removing the strong-growing suckers, and thinning out the top when it becomes too dense.

In a young tree the main branches, four or five in number, are started about 2 feet from the ground and should not be opposite each other. In general, the pruning for the first three or four years consists in cutting out or shortening to lateral buds the central upright leaders, in order to give the tree an open, laterally upward form. The strong main laterals are also headed in to make them stocky, but the finer fruit-bearing wood is not pruned. The lower branches of the tree are frequently cut back or removed, but should be allowed to develop untouched, as the first fruit that the tree produces is borne on them. These branches should be removed as the tree grows older and the top becomes more dense. Some of the growers do not prune the trees until they have been planted two or three years, when they begin to form the top somewhat after the manner described.

As the trees grow older and the weight of fruit causes the branches to droop, the lateral growth is not often cut back, but the pruning consists in the removal of the sucker wood, in cutting back to 6 to 8 inches, and in thinning out the growth that develops over the top of the tree as a result of the former prunings, especially in a strong-growing variety like the Lisbon. The aim of the pruning is to increase the fruit-bearing area each year and to keep the tree sufficiently open to induce an interior growth of fruit-bearing wood from the strong branches, as the lemons of most perfect form and of thinnest texture are produced in the shaded portions of the tree. The fruit that is exposed to the sun is coarse and is inclined to be flat sided. The lower branches are often kept pruned away from the ground in order to reduce the attacks of the brown rot, which is caused by a fungus growing in the soil.

TULARE COUNTY CITRUS FAIR.

The Tulare County Citrus Fair is to be held next week.

The following is from a statement sent us by the management:

All arrangements for the Third Annual Tulare County Citrus Fair to be held at Exeter, California, from December 1st to the 5th, inclusive, are now completed.

Practically every space in the big pavilion, a corrugated iron structure 50x185 feet, has been taken and the carpenters and decorators are now busily engaged in arranging the interior for the display of the fruit, which promises to eclipse anything of a like nature in quantity and arrangement ever placed on display at a public fair.

At a meeting of the Executive Committee last Friday evening the special days for the different towns of the valley were set as follows:

Wednesday, Dec. 2nd, Lindsay Day.

Thursday, Dec. 3rd, Visalia Day.

Friday, Dec. 4th, Northern Tulare County Day.

Saturday, Dec. 5th, Porterville Day.

If you want to enjoy a day—or five for that matter—of right-down, rattling good time, come to the Citrus Fair at Exeter, California, Dec. 1st to 5th, inclusive. Reduced rates on all railroads.

Resources Become a Menace

An excellent article on the conservation of our farming lands and of the waterways of the nation is given in the August number of the Technical World Magazine. From it we quote the following paragraphs which treat of the menace, and in a later article we will give another installment treating of the remedy. It is a vital question and one which concerns the Western slope fully as much as the Eastern country of which it is written. It is reprinted by permission of the Technical World Magazine.

AMERICA'S immeasurably greatest asset—her inland waterways—is becoming a pronounced menace to the continent's future prosperity, because, through slovenly farming and profligate forest devastations, the streams are now rushing unchecked to the seas, taking with them on their travels the best elements of the fertile lands of the farming valleys.

At the present rate, on most careful estimates by the eminent scientist, Dr. W. J. McGee, this soil waste is much over a billion tons a year; an amount so stupendous that it is beyond the powers of human comprehension. It is worth to the farmers not less than a dollar a ton and as the dangerous conditions are constantly increasing, the ownership of a Mississippi valley farm will soon be a burden rather than a blessing unless the devastation of the river slopes and watersheds be sharply checked.

Shifting bars on river bottoms mean lost farm land; rushing floods of muddy waters tell an eloquent story of piratical forestation and slipshod agriculture. Every ounce of

sediment in flowing streams means lost soil which should be lying between farm furrows bringing grain and vegetables to fruition. Every muddy stream tells its own story of shifting banks and sliding soil.

Nature intended the streams to be clear and sparkling, but stripped river slopes and wasting farms make them raging channels of pollution and forerunners of a constantly increasing national poverty.

Most conspicuous of all such examples are the Missouri and the Mississippi—those giant streams which each day tear from the banks of the states through which they flow enough soil to make an army of farmers independent and which are annually becoming more and more savage as they slip further and further from the leashes in which nature intended they should be held. Farm outlines are being changed every twenty-four hours along those watercourses; the Father of Waters sweeping majestically to the South with thousands of tons of earth carried in the shape of sediment and with the richest soil salts held in solution, by this river erosion robs the farmers by three processes; taking first the solid material which the currents roll seaward on the river bottoms; secondly by the quantities which flow in suspension as a sediment, and last, by the soil salts which disappear in solution.

Few people know what two billion tons means. It is a quantity so stupendous that the mind totters in the attempt to grasp it. The annual tonnage of all American railroads and lake and river transportation lines is little more than half that aggregate.

As the future prosperity of the farmer means the prosperity of the nation, the federal bureaus which aim to prevent the increase of these already startling conditions may, some day, hope for a greater meed of public sympathy and encouragement than is now accorded them.

It is a certain fact that the farmers themselves don't see that the rivers are robbing them. They apparently know but little of the wealth the water brings them and even less of what it takes away. In times of drouth they hope for rain. If it comes they consider themselves in luck, but the real importance of the waters and the fostering and the harboring of them is a closed book. They may appreciate it more after pondering on the impressive statement that 1,000,000 square miles area of American farm lands is in itself not worth a dollar. It is asserted that the value of every farm in the country is determined within ten per cent by the waters in the soil.

Valuable as it is as a servant and terrible as an enemy it can with care be made either one or the other and at the present time it is a most pronounced enemy of prosperity when taking the best portions of the best farms from their resting places and transforming them into ocean flooring.

The Missouri River within the lines of the state of Missouri in all probability tells the story as well as any. That great stream has a length of four hundred miles in the State and its bottom land varies in width from two to three and a half miles. Its brown flood pours between low unprotected banks, tearing at all projecting points and bringing them crashing into its depths. Careful observations show that those banks are slipping and sliding into the flood at an average rate of twenty acres per mile per year—or a total of 8000 acres. That wasted land would make a hundred fine farms worth $100 an acre—the splendid sum of $800,000.

And that tells the story of but four hundred miles of river front out of a total of many thousands.

Not only is this loss of most enormous and immediate importance, but the attendant evils are even more far-reaching. Such waste means flooded low lands as an additional hardship and with all the consequential losses which follow floods. Each year millions of acres are inundated by spring floods; not merely the prairie lands but the more valuable farm lands and the lower portions of cities. Those floods will grow higher annually and they will continue to swell in volume because the checks placed upon all waterways by a wise nature are being torn away by man. The devastation of the forests and slipshod and careless methods of farming must be blamed. Nature intended forests to be protective. Their duty it is to hold the rivers in leash; to maintain the waterways in bounds and to retain that which comes from the skies as rain.

The farms depend upon the forests for these aids but a ruthless and profligate waste of wood—the stripping of river banks and water sheds, has had two effects. It has made raging water spouts of some rivers at certain periods of the year and caused them to run dry in others.

Denuded tracts leave farm lands open to encroaching streams and torrential rains. The rich top soil has been washed through long furrows to the nearest rivulet, creek, brook or river and sent swirling seaward.

With the top soil gone the friable spongy nature of that land has departed and each rain storm robs it more and more of the qualities which make it fit for profitable culture. Rains to laymen are simply rains. To the savants of the Waterways Commission they are "run-off" and "ground water."

In a friable and spongy soil the percentage of "run-off" is scarce worth mention. It practically all becomes "ground water;" gently sinking into the earth and replenishing the subterranean wells; freshening the growing trees and plants and doing exactly what a bountiful Nature meant it should do. With the spongy top soil gone the rains dash pitilessly down; fail to work through the more closely packed under soil and as "run-off" tear more and more earth and carry it as they disappear.

During the month of February, 1908, a bureau of the Department of Agriculture prepared a table of comparisons which proved that in the producing of so-called standard crops seven countries of the old world made a greater production per acre than did the United States. The showing in some branches was startling. Farmers in tiny Belgium were taking thirty-four bushels of wheat off of every acre sown to that cereal while American farmers were getting fifteen; that in Ireland 244 bushels of potatoes was an average acreage yield, while here but ninety-three were produced; that in wheat, rye, buckwheat, barley and potatoes English, Irish, German, Dutch and Belgium agriculturists made their acres give from one and three-quarters to four times as much as America's supposedly more intelligent farmers though Americans work with more modern implements and on supposedly better land.

The "intensive" farming on the proportionately smaller farms of Europe accounts for that pitiable showing only to a degree, the rabid and rapid destruction of the forests and the devastating influence of the rushing waterways being really the big and truthful reasons.

The Right Kind

Can always be found in the celebrated

Canton Clipper Line

AND P&O CANTON PLOWS

Steel Walking Plows
Chilled Walking Plows
Sulky and Gang Plows
Subsoil Plows
Hillside Plows
Road & Grading Plows
Garden Plows
Orchard and Vineyard Plows
Shovel Plows
All sizes and patterns for all kinds of work.

Pacific Implement Co
131-153 Kansas St., San Francisco
B. Hayman, Los Angeles
General Agents

YELLOW MONEY AND YELLOW FRUIT

Are a pair that travel together in good shape in an orange or lemon grove. Especially is this true if you will plant only the robust and true-to-name

Citrus Trees

grown by the San Dimas Citrus Nurseries, the largest growers of choice orange and lemon nursery stock in the world. No branch of horticulture offers better inducements in the way of profits, nor is there one more alluring to the person contemplating commercial fruit culture. For the past twenty years we have supplied the leading growers with their trees, and hope to number many more among our friends and patrons. Orders now being booked, subject to future delivery. Send for book on

"The Citrus Fruits: Historically, Horticulturally, Commercially."

Beautifully illustrated, and some 20,000 words of text. Price 25 cents.

The San Dimas Citrus Nurseries
R. M. Teague, Proprietor
San Dimas, California

WILLIAMS' GOOSE-NECK CULTIVATOR

Especially adapted for citrus orchards. Sizes 8 to 14 feet. Lightest draft. Free trial to responsible parties. No agents. You pay only one profit. Write today

WILLIAMS & SON, Manufacturers
Orange, California

George B. Warner's Orange County Nurseries
Established 1889
Grower and Dealer in Citrus and Deciduous Trees of all Standard Varieties

Soft Shell Walnut Trees, 1, 2, and 3 years old. Grafted Placentia on Native Black Walnut Root and Soft Shell Root. Street and Ornamental Trees, Palms, Dracænas, Blue, Red and Sugar Gums (large stock.) Write for prices.

Sales Yard—Corner Sixth and Main
Residence—Tenth and Bush Sts
Santa Ana, California
Phone—S. S. Red 92

Citrus Trees Navels Valencias Lemons Pomelos

Sweet and Sour Orange **Seed-Bed Trees,** strictly first-class stock, free from scale. We also have several hundred Phoenix Canariensis and Washingtonia Robusta Palms for sale cheap. Write for prices in large or small quantities.

Southland Nurseries, F. H. Disbrow, Prop.
Phones: Main 949; Home 2520
R. D. No. 1, PASADENA, CAL.

TREES TRUE TO NAME

AND

Propagated From the Best Specimens of Their Kind

TWO IMPORTANT FACTORS

Placer Nurseries

(Established 1878)

OUR ASSORTMENT

Comprises all the Best Commercial Varieties of

Peaches
Plums
Pears
Apricots
Almonds
Cherries
Apples
Persimmons
Grapes, Etc.

Order Now
Write Us

and our stock is the best that years of experience, care in selection, and care in growing can produce. That is what you want.

Catalogue and Price List Mailed on Application

The Silva-Bergtholdt Co.

Newcastle, California

Agents Wanted

TREE TANGLEFOOT

A Sticky Preparation Applied Directly to the Bark of the Trees

Will not injure trees. A band 5 inches wide and 1-16-inch thick cannot be crossed by any climbing insect pest. Remains sticky five to ten times as long as any other known substance. You can test it at slight expense, as no apparatus is required. Used by the carload in New England against the Gypsy and Brown-Tail Moths. In California it preserves prune orchards from the Canker Worm. Wherever the Gypsy or Brown-tail Moths, Tussock Moths, Fall or Spring Canker Worm or Web Worm appear TREE TANGLEFOOT is of great value, and should be used when the caterpillars begin to crawl while they are very young.

Price 25c per lb. Liberal discount on quantities. The only safe and effective banding preparation. Send for testimonials

THE O. & W. THUM COMPANY

Manufacturers of Tanglefoot Fly Paper — Grand Rapids, Michigan

Trees Grape Vines

Full Line of Commercial Sorts

Grown on Virgin Soil, True to Name, and Healthy. Nineteen years of fair and square dealing makes us the most popular nursery in the West. ***Wilson's Trees and Grape Vines*** long noted as the very best. Catalog and Price List for the asking. Address

The Fresno Nursery
F. H. Wilson, Proprietor
Box 615a - - Fresno, California

GRAFTED WALNUT TREES

Different varieties on black and soft shell roots, **25c** and up.

Orange and **Lemon Trees, 50c** and up. Special Prices on Large Orders. **Deciduous, Eucalyptus** and **Ornamental, Berry Bushes, Grapes, Roses,** Etc., Etc.

Magnolia Nursery

A. R. Rideout, Proprietor — **Whittier, California**

Deciduous Fruit Culture

By J. W. Mills

CARE OF A VINEYARD.

The first year of vineyard work it is hard to keep the vines watered and cultivated under $15.00 a year. The second year costs about twelve, the third year eight to ten dollars a year. Then the cost remains about the same year after year. The cutting vineyard costs about eighteen dollars a year the first year, then fifteen dollars for the next year and eigh to ten after that time. The relative cost of planting roots and cuttings is about the same, if the work is properly done. Planting cuttings with a crow-bar is a poor way to secure a good setting of vines.

Now, the expense of a cutting vineyard may not seem to be great but every dollar counts and will be very welcome before the vines become profitable, for the bank account feels rather weary and used up. Vineyards are like jelly-fish they have many tentacles to grasp money, so that it often seems to require a golden shower to bring a large place into bearing.

If the money must be spent, do not spend it in planting cuttings, but save the money to grow cover crops. When rootings are to be planted, a second selection has eliminated the weak, and the vineyard should be a 98 per cent stand.

The Best.

It pays always to have the best and to do the best with it. I often wonder that anyone is satisfied to plant second quality trees or vines

The young vines bear transplanting well but, after one year old, it gives them a shock. So it seems foolish to plant two year old roots. If there are a few misses, plant in one year old vines.

Watch 'Em Grow.

It is very interesting to watch the young vines develop. The little shoots are greatly in earnest, as they reach out of the ground determined to grasp something and hold it. If all the world was as much in earnest as the young vines the world would hum with activeness. The tiny vine grows on, making use of every drop of water and every bit of sunshine. Some of the young shoots spread out on the ground, others stand up in the air; every leaf plans to secure its portion of the warm sunshine. Bend down a shoot and put a clod on it, every breath of wind that stirs the leaves, every brush of a chance passer by, will be utilized by the shoot to struggle out from under the clod.

Pruning.

The first spring-time has come in the young vineyard. The flowers appear on the earth; the time of the singing of birds is come and the voice of the turtle dove is heard in our land. The fig tree putteth forth her green leaves and the vine with the tender grape gives a good smell.

At the end of the first year's growth the tiny vine is pruned back to one upright cane, cutting off above a good eye as near to the right height for a head as possible. The first year's pruning does not differ in the different varieties of grapes. One important thing is during the first two or three years to remove the suckers, going down to where they leave the trunk and taking them off clean.

The second year's pruning the vines are usually shaped toward the ultimate style of pruning that the mature vine will require. The third year of a vineyard's growth it is well to run the plows on one side of the vines about four inches deep, cutting the roots close to the trunk. This will encourage deep rooting; surface roots do not enable the vines to stand great heat. Run the plows close to one side only and, at once, throw a back furrow to fill. Fill this furrow to prevent the ground drying out. The fourth year a similar furrow is run on the other side of the vines.

In the large vineyards, six two-horse plows, three one-horse, and one wide harrow will usually keep the work running smoothly along. Each day the harrow should cover the land; without it, we are losing the moisture. The importance of following the plowing up with either a harrow or discs can be shown by examining the work of the plows, it will be seen that the plows often leave a hollow place under furrows; this the harrow fills with soft light earth.

The Merciful Man.

The horses need watching, as plowing makes sore shoulders. The common use of heavy pads on the shoulders to make ill fitting collars set better is not good; the pads heat and scald the animal skin. The collars should be carefully fitted the beginning of the working season and then numbered with white paint the number of the stall the horses stand in. When buying new harness take the team to have it fitted just as carefully as you would your own clothes.

The ends of the singletrees are readily protected from any chance of tearing the young vines by slipping over the end a piece of leather or rubber hose. The junk shop men will find this in the two inch size in two foot lengths. This covering, also, protects the horses' legs from chafing when the narrow singletrees are in use.

About Humus.

The growing of grapes saps the land more than people are willing to recognize. The clean culture exposing the land constantly to the sun and never turning down any green growth, soon exhausts the humus in the land. Barnyard manure has become more and more filled with bermuda grass, Johnson grass and morning glory, until it is hardly safe to use it without having first rotted it in cement vats. Fortunately, the land can be cheaply filled with humus by growing cover crops. As yet we have not been able to secure a good growth of peas in the vineyards before the time comes to cultivate. Burr clover does well and does not have to be inoculated. We turned it under last spring as high as the breasts of the horses. The principle trouble in growing cover crops is that they are usually not turned under green enough. When they are green they are full of moisture and rot at once.

The vineyard infested with Johnson grass and Bermuda and morning glory must be handled carefully. As soon as the crop is gathered, plow and harrow the infested spots and burn the stuff on the ground, then rake it with hand rakes and burn it again. Rake off the Johnson grass into piles and burn when dry. Next summer keep the weed knives busy on these spots.

Special Sale of 1,000 Lbs. of

Australian Brown Onion Seed

Crop 1908. Heavy Seed. The Best Paying Onion on the Coast.

$1.50 per lb.
4 lbs. for $5.00
10 lbs for $10.00

200 lbs. Yellow Danvers

$1.00 per lb.
6 lbs. for $5.00

100,000 Strawberry Plants

200,000 Other Berry Plants and Trees

Send for Catalogue. Free

A. MITTING
17 to 23 Kennan St.
Santa Cruz, Cal.

Six of the Most Valuable New Fruits

Ever Introduced in California

"Improved French" Prune Originated by Luther Burbank

"Concord" Walnut French Variety. Grafted trees only. Better than Franquette or Mayette

"Paul" Cherry Finest Black Cherry

"Philippi" Grape Handsomer than Tokay; a month earlier. Disinfected cuttings only, to comply with quarantine laws.

All these, like Muir, Lovell, and Phillips Cling Peach, are of California origin.

"Comet" Red Currant Much larger, earlier and sweeter than any other.

"May Duke" Gooseberry Earliest of all; large; smooth skin.

Write for Further Particulars.

EUCALYPTUS TREES by the 1000 or 100,000. No stronger stock; grown in the open, without lath shade or screen, therefore hardened to all weather.

GENERAL NURSERY STOCK

Leonard Coates Nursery Co., Inc.
EST. 1878. INC. 1905.
Morganhill, Santa Clara County, Cal.

Seed 75 varieties of ***Sweet Peas*** Separate Colors, 5c per Pkt. 15 Leading Varieties, post paid, 50c. 4 Varieties, that bloom in 45 days, 25c. This is the best time to plant.

Get Seed Where Seeds Grow

We are headquarters for ***Lettuce, Onion, Melon, Radish, Turnips,*** Etc. Make up a list of your wants and submit to us for prices also ask for catalogue.

Eucalyptus All the Leading Varieties in seed @ 15c per package, (Six of the leading varieties, E. Rostrata, E. Leucoxylon, E. Rudis, E. Globulus, E. Corynocalyx, and E. Tereticornis for 50c, with cultural directions). 500,000 Plants, all varieties. State your wants and get prices.

Send 10c for large packet each of our new ***Cabbage Head Lettuce, King of May*** and ***Brown Dutch***, earliest and finest flavor.

Cannon Ball Cabbage is finest grown. 5c packet, oz. 25c

Morris & Snow Seed Co.
425 So. Main, Los Angeles, Cal.

300,000 Eucalyptus

Fruit Trees
Shade Trees
Roses Shrubs
Palms Ferns

And everything that you need for your ranch or garden. Send for free catalogue

Sycamore Grove Nurseries
SAINT & WARNER
4584 Pasadena Ave. Los Angeles

Glenn county has a fine exhibit of her products in the Ferry Building,

Johnson grass may be controlled, if, for several seasons, it is never allowed to seed. The habit of the plant is to root shallow until it forms seed, then it sends down deep roots. If the seeding is prevented in summer, the next winter there will only be shallow roots that can be easily raked out and burned.

Pests.

Morning glory may be controlled in a measure by spraying. The sulphate of iron spray will kill the foliage and if it is persisted in should destroy it completely. Next season the morning glory will be sprayed every two weeks, and we will then know if this will cure it.

These pests are outside the vines. There are several things that affect the growth directly of perfect fruit. One of these is mildew. Sulphuring in spring or early summer will control it and as additional precautions in winter spray with a good solution of Bordeaux mixture. A 4-4-40 solution is the old formula.

If the infection has been very great the spraying with lime, salt and sulphur is advisable. Do not spray in a rain storm and expect results. We had a foreman who during our absence from home sprayed during a week of rain! He thought he deserved great credit for his persistency. The idea has to be hammered into the men that work on a vineyard is to grow grapes, not merely to plow, prune, and cultivate for the fun of doing it or for the joy of paying wages to help the poor working man.

"Honorable" Care.

I like the Japanese way of saying the "honorable plowing." Why not honorable? For if it is done in an honorable way we are building up character as well as making crops. The daily endurance of Nature's snubs and the overcoming of the desire to frivol away the time of men and horses in "look pretty work," putting on frills instead of doing steadily every day's plowing, which is the constant temptation. The head must be held high and the hand not falter to put honor into the plowing.

Surely living on a California vineyard makes life rich in beauty.

What need have we for pictures when Nature shows her beauty? Or for poetry when the winds sing in the trees? Or for music when the birds sing all day long?

Spring and summer have their attractiveness but winter is not bare. The cold tule fog has closed down on the land during January and the gray clouds trail on the red, brown earth. The moist air carries the sounds far—the voices of the men and the chink, chink of the harness chains are heard long before the horses come into sight. A minute of denser fog, whiter with the breath of the horses, and they slowly come into view straight down the furrows. The fog makes them appear as though they were rising up a hill as they move slowly along in wreathes of steam. The faces, browned by the sun, of men in their blue clothing wear smiles of placid contenment, for theirs is joy in turning the furrows. The plow teams come on and on, up the foggy vineyard. Bay, black, gray and white horses, one after another, until all have passed into the little circle of our vision and then passed on into the fog. The fog closes behind them and we are alone in the wonderful stillness. Only the brown furrows newly turned and the sweet fresh smell of the earth! What does it matter, we are the only thing that can voice the sentiment "That it is good to be with Nature." Our great mother Nature will not endure idleness but makes unhappy all that do not follow the divine law of earning their bread. So away to work again!

The farmer and vineyardist earns his bread in the sweetness and peace of the quiet fields under the blue skies. It is blessed to live away from the daily grind of the ceaseless toil of the busy city and to be alone with Nature in the enduring quiet of the country.—M. E. Sherman, Fresno,

CROWN GALL

Colorado fruit growers have long known of the destructive nature of crown gall to all kinds of fruit trees. There seem to be some conditions here which make the disease much more destructive than in the humid states. In fact it has caused so little damage in the East that nurserymen come to regard it as harmless. This probably accounts for the attitude of eastern nurserymen toward our inspection laws. Not a spring passes but what some of our inspectors are threatened with damage suits by some nurseryman who has had his stock condemned. Some nurserymen claim not to have heard of the disease before.

About four years ago the U. S. Department of Agriculture published the results of some experiments with crown gall which apparently proved that it is not harmful to apple trees. While this may be true under the conditions at St. Louis, where the experiments were conducted, every Colorado fruit grower of a few years' experience knows that here the reverse is true. Experience has shown our fruit growers that a great many trees die each year from this cause. And it has been noticed in a great many instances that if a badly infected tree is planted, it rarely makes much of a growth and it usually dies before it is ten years old.

The cause of the disease has been obscure, though Toomey, of Arizona, tried to prove that a certain fungus was responsible. No one has ever been able to duplicate his results, consequently it has never been fully accepted. Doctors Smith and Townsend of the Department of Agriculture have recently found that a gall on the Paris daisy is due to the attacks of a bacterium. They have also found that when peach trees are inoculated with a pure culture of these germs, galls are produced which closely resemble the common crown gall.

It now seems probable that the true nature of crown gall will be discovered; but it is not at all likely that the results will modify our treatment of diseased trees.

In the meantime the inspection of nursery stock should continue to be as rigid as in the past, and it is likely that the interests of all will be best served if all diseased trees are destroyed as soon as discovered.—W. Paddock, Colorado Agricultural College..

A few mulberry trees set out around the fruit orchard will divert the attention of the birds.

Pick the apples as soon as ripe and then store in a cool place immediately

---

Don't be afraid to put plenty of stable manure upon the orchard.

Imperial Valley Lands have a greater earning capacity per acre than any land on earth. For price list and information address, James S. White Jr., and R. A. Holt, Holtville, Cal.

TREES

Season 1908-9

Order Now for Future Delivery

If your trees are purchased from the Fancher Creek Nurseries they will be true to name, well developed, with good roots.

FOR 25 YEARS we have been engaged in growing reliable nursery stock. Our thorough knowledge of every branch of the business makes it possible for us to raise and deliver stock that meets the demands of this country, and gives satisfaction to growers.

Last year we did the largest business in our history. This year our stock of

Deciduous, Citrus and Ornamental Trees, Grape Vines and Rose Bushes

is more complete and better than ever.

We are sole propagators and disseminators of

Luther Burbank's New Creations

Valuable Burbank Booklet illustrated in colors mailed for 25c.

SALESMEN WANTED

PAID-UP CAPITAL $ 200,000.00
FANCHER CREEK NURSERIES
INC.
Geo. C. Roeding Pres. & Mgr.
Box 12 Fresno, California, U.S.A.

EUCALYPTUS SEED

Eucalyptus rostrata, the Red Gum
E. corynocalyx, the Sugar Gum
E. tereticornis, the Forest Red Gum
E. globulus, the Blue Gum
E. citriodora, Lemon-Scented Gum
E. cornuta, the Yate Tree
E. polyanthema, the Red Box
E. leucoxylon, Victorian Iron Bark

and Many Other Valuable Sorts

I shall be pleased to correspond with prospective buyers and give particulars as to prices on the seeds I am offering. Trial packets of any variety 15c each, 2 for 25c, or twelve for $1.25. Also young trees of many varieties for sale. Send for circular and cultural directions.

THEODORE PAYNE
NURSERYMAN AND SEEDSMAN
Home Phone A2480
345 S. MAIN ST., LOS ANGELES

Pacific Seed Co.
C. Bagnall, Prop.
GROWERS AND IMPORTERS OF
Grass, Vegetable and Flower Seeds
All Kinds of Bulbs and Onion Sets
609 J St., Sacramento, Cal.
Send for Catalogue. Please mention Cultivator.

We cannot paint peaches a nice luscious color without a liberal use of potash.

Plants **SEEDS BULBS** Trees

We are headquarters for
GARDEN AND FIELD SEEDS
Those who are not yet in receipt of our Fall Catalogue, send for it at once.
Prospective planters of ALFALFA, CLOVER and GRASSES are requested to write us before planting.
Remember, our handsome new 1909 General Catalogue, ready for mailing in December, will also be sent to those who write us now.

C. C. Morse & Co. 41 Jackson St., also Market St. San Francisco

Crimson Winter Rhubarb

$1.50 a Dozen $6.00 per 100 $40.00 per 1000
Now is a good time to plant. Pedigreed Stock.
Fruit Trees and Berry Plants of All Kinds
J. B. Wagner, Pasadena, Cal.
The Rhubarb and Berry Specialist
Dept. F

SEEDS
TREES PLANTS BULBS
If you are interested in the Best Seeds, Etc., write for our 1909 Seed and Plant Annual, which we will mail to you free. Please mention this paper.
Trumbull Seed Company
Successors to Trumbull & Beebe
61 California St., San Francisco

TREES We have a full line of Nursery Stock, including citrus and deciduons fruit and nut trees: Also eucalyptus trees, 15 varieties.
ROSE BUSHES, ORNAMENTAL, SHADE AND STREET TREES.
We publish a price list, a descriptive catalogue. and a special Eucalyptus pamplet.
Orange County Nursery & Land Co.
Main office and Nursery
Riverside Branch, Cor. Market and 7th, Sts.
Corcoran Branch, Whitely Ave.
Fullerton, Cal.

THE "BOSS"
Tree Protecter

Made of Yucca Palm
Is cheap, durable and quickly put on the tree. It prevents Rabbits from destroying your trees. A sure protection against frost, sun-burn, grasshoppers or dry winds. Can be easily removed; will last for years.
Send for samples.
Prices

12 inch long,	$ 9.00	per 1000
14 inch long,	10.00	per 1000
16 inch long,	11.50	per 1000
18 inch long,	12.50	per 1000
24 inch long,	15.00	per 1000
30 inch long,	17.50	per 1000

Agents Wanted Everywhere
YUCCA MANUFACTURING COMPANY
1380 Willow Street Los Angeles, Cal.

E. H. Learned, Tropico, Cal.
GROWER of STRAWBERRY PLANTS
Plants now ready. ***Brandywine, Klondike*** and ***Excelsior.*** Price $2.50 per thousand. Of the very best selected stock. Reduced rates in quantities a matter of correspondence.
Address mail R. F. D. No. 5, Los Angeles

AGENTS WANTED
GOPHER DOPE to exterminate gophers, ground squirrels, rats, mice.
KILLS A BUG Moths, Mosquitoes. Bed Bugs Ants, Roaches, Fleas, Lice and Mites on Fowls, Disinfectant and Germicide.
PUROLINE A Powerful Antiseptic and Deodorizer. Odorless, non-poisonous. For use in hospitals, homes, public institutions, boards of health and ranches. ***B. & G. Disinfecting Co.,*** 417 Laughlin Building, Los Angeles, Calif.

Kill the Gophers and Squirrels
You can rid your ground of hundreds of them in a week with my device; No experiment, a sure thing, the best thing ever invented; Bank guarantee; Send postal for descriptive circular.
Peerless Rodent Destroyer Co.
P. O. Box 307, Santa Cruz, Cal.

SEED GRAIN
Black and Red Oats, Wheat, Barley, Bean Screenings, Etc.
constantly on hand and for sale at lowest market rates
Bray Brothers Buyers of Grain and Beans Members Merchants Exc.
220 Clay St., San Francisco, Cal.
Established in 1855. Correspondence Invited.

Improved Berry Plants
Strawberry, Blackberry, Raspberry, Loganberry, Himalaya, Phenomenal Berry and Dewberry Plants in variety. You will save money by getting our catalog before ordering.
G. H. HOPKINS & SON
Burbank, Cal.

The Ornamental Garden

SHADE TREE PRUNING.

IN the matter of pruning, each tree presents a special problem, depending upon the species of tree, its location, and the ideals of its owner. It is possible, therefore, to give only the principles that should govern the process. Certain things should be kept in mind in trimming any tree. First, the removal of a large part of the top tends to give rise to many slender branches, usually in bunches, while the stubs of large branches often die back some distance and make an unsightly top. If possible, a tree should be pruned so as to appear pleasing when the leaves are off as well as in summer. If it is necessary to cut back large branches, this should be done just above a smaller side branch, or they should be entirely removed. The severe heading back of large trees is usually disastrous unless plenty of small branches are left to bear foliage and enable the tree to recover quickly. Tall growing kinds should be cut back when young if the top is wanted low and some attention given each year to pruning.

Second, the formation of crotches or forks is to be avoided, as the tree is apt to split at such places with strong wind. Cutting off one branch of the fork while small will prevent this.

Third, remember that a small branch may become a large one, if the part above is to be removed. Furthermore, such shortening of a branch will cause the thickening of the part left on and consequent strengthening of the branch.

Fourth, if a branch is shaded too much, it is killed, while the opposite is true where sunlight is abundant. For this reason weak branches, if in desirable places, can be encouraged by cutting out those that shade them. Thinning the top of a tree by taking out some of the largest branches will tend to thicken it in time without making an unsightly top.

Fifth, study each tree carefully before cutting it and try to retain its characteristic natural grace and beauty.—B. O. Longyear, Associate Professor of Botany, Colorado Agricultural College.

ROSE CLIMBERS.

In plant life in California the rose is a staple article. In street decoration in general the climber roses are certainly staple. Almost any desired effect may be attained with roses. Blossoms and good rose foliage may be had throughout the year. For such purpose I would first name that generous blooming, rapid grower, the banksia, yellow or white, hardy and an almost endless grower. Also that large family, the ramblers, red, pink, yellow and white. For richer foliage and choicer blooms we have the beautiful single Cherokee, recently, through the genius of Burbank, propagated also in pink. Among the best I would class the Beauty of Glazenwood — known to many of us as the Hester. In yellow, one of the hardiest, climbing, ever blooming roses of exceedingly rapid growth even when given scant care, is the Per d'Or. The La Marque and Niphites are good examples in white—good and sensible. In pinks, Hermosa and the Emperor of China.

I know a landscape gardener of wide reputation who warmly recommends the homely potato vine for public use. I have seen some very unsightly bridge approaches made very attractive by its liberal use. Seemingly the potato vine will struggle along, roaming over ugly woody surfaces just for the love of struggling, while in gratitude for trivial attention in the way of a little water it will climb by leaps and bounds.—Exchange.

WATER-LILY POND.

We find lily ponds the most attractive features of the floral display in our public pleasure grounds. In nearly all large parks these ponds are found, filled with beautiful lilies of pink, blue, white and yellow. It seems to be the general impression that these lily ponds are appropriate only for these extensive pleasure grounds or the broad lawns of a large estate; also that only experienced gardeners and florists can successfully cultivate water-lilies, says a writer in Country Gentleman. Mistaken ideas, both of them! All flower-lovers may enjoy these beautiful flowers this summer, and for many summers to come, with very little care or expense. No matter how small the yard, choose a pond in proportion, and make your plans for the summer beauty.

It will be unnecessary to prepare the large cemented ponds similar to those noticed in the parks. A half barrel will do, or a wooden cistern, four, six or more feet in diameter. Whether you decide on the large cemented pond, a wooden one, or simply the small affair made from a half-barrel, it will be well to make your plans early, especially if you are to raise your plants from seed.

The half-barrel pond, which is easily constructed, will be described first, and the same principles may be carried out in the larger ones. Select a large, strong barrel, or rather a cask with iron hoops, and have it sawed directly through the center. Sink half of it in the ground (or both halves if you have room for the two ponds) to within an inch or two of the rim. If possible, use the soil from a natural lily pond—pond muck, as it is called; but if this cannot be obtained, leaf mold or light garden soil, mixed with manure and sand, will be satisfactory.

If it is possible to obtain the natural pond muck, you may also be able to secure a few roots of the common white water-lily, and it may be well to experiment with these before buying the more expensive varieties. After the tub or half-barrel is sunk in the ground and in position, fill in the natural or prepared soil to a depth of 6 or 8 inches; lay the lily roots carefully on the soil, placing each small fiber in its proper position, and cover with two or three inches of fresh soil, pressing it firmly about the roots, so that they will not be washed away; then pour in the water slowly and carefully, watching to see that the plants are not disturbed.

In filling the pond with water after planting the lilies, do not fill it full at first; simply keep the water a few inches above the growing plants, until at last the pond will be full of water, with the large, shining green leaves floating on the surface.

HE DIDN'T MEAN THAT.

Marks—"Say, old man, did I ever tell you about the awful fright I got on my wedding day?"

Parks—"S-s-h-h! No man should speak that way about his wife!"—Clover.

CALIFORNIA FRUITS AND HOW TO GROW THEM.

A book which may prove to be an epoch maker in California horticultural history is possibly a distinction which may be earned by the work written by Professor E. J. Wickson of the State University. The work is the revision of "California fruits and how to grow them," brought out first by the Dewey Publishing Co. in 1889, reproduced by them in revised form in 1891, a third edition issued in 1898, and now reprinted by the Kruckeburg Press of Los Angeles. This book therefore is a fourth edition of this useful work. It is, as one would expect, a vast improvement over any of the former editions and the improvement is great both in reading matter and in mechanical make-ups so that it is a most pleasant surprise.

Typographically it is a complete change from the former editions in shape, eight by ten and a half inches. Instead of the single column it is put up in wide measure and two columns to the page. There are four hundred aud thirty-three of these large pages and a vast number of half-tone illustrations, together with two three-color plates of figs and of plums. It is divided into ten parts, namely: "General; Agricultural; Orchard; Fruits; The Grape; Semi-Tropical Fruits; Small Fruits; Nuts; Fruit Preservation; Fruit Protection and Miscellaneous.

The first six chapters which make up Part One, treat of the climate, its modifications and effects upon the growth of fruit; also of the soils and the early introduction of fruits by the Mission fathers and the later introduction of newer varieties. This part is very much the same as in the original edition. The changes in the book come in the later parts, speaking of cultural methods, and giving most up-to-date ideas of handling orchards and fruits. Regarding the advantage which California holds in fruit production we note the following: "The three great advantages of the California climate—abundant heat, continuous sunshine, and dry air—taken in connection with the fitness of the soil and the great length of the growing season, insure the characteristic excellence of California fruit, and the early maturity, great growth and abundant fruitage of our trees and vines. Heat, sunshine, dry air, and a rainless summer also minister directly to the curing of fruits in the open air. All things considered, it is doubtful whether any area in the world excels California in possession of natural adaptation to fruit production and preservation."

The book is good value at $3.00, but it will be sent postpaid with the Cultivator for one year, for $3.50.

THE CENTURY MAGAZINE.

A series of articles ou Lincoln's life and character--to include hitherto unpublished documents from his own pen and that of one of his secretaries, will be one of the stroug features of The Century in 1909. Frederick Trevor Hill has written of "The Lincoln-Douglas Debates," the fiftieth anniversary of which occurs this year; and there will be later papers on "Lincoln as a Boy Knew Him," "Lincoln as a Peace Negotiator," "Lincoln and the Theater," etc.

The olive crop about Winters will be much lighter than usual.

Wood Soled Boots and Shoes. Boots, $3.25; Shoes, $2.00. O. J. Weber Co., 555 South Los Angeles St., Los Angeles, Cal.

DRY FARMING.

Continued from Page 507.

ty of profitable returns from farming by irrigation, as against the uncertainty under a system of dry farming, makes the former in every way desirable.

Then, too, it would not be practicable to produce many of the fruits and other products grown in this state, if only the natural precipitation was to be had, no matter how carefully and scientifically it was conserved.

Many fruit growers in this state, without claiming to follow any scientific system, do in practice adopt the Campbell system pretty closely in some respects without knowing it. [In fact, long before there was any so-called Campbell system, California orchardists were practicing arid farming, many of them scientifically. Ed.] In other words, experience has shown them that the minimum of water and the maximum of cultivation give the best results. Instead of applying all the water to their orchards and vineyards that the land will take, as was done some years ago, the tendency now is to use only sufficient water to keep the land in good productive condition by faithful and continuous cultivation through as long a period in the year as practicable.

Irrigation the Important Feature In This State.

It does not seem to me that in this state the question of how crops may be grown profitably under the Campbell system has much importance. The greater interest seems to lie in the direction of continued effort to develop water for irrigation, and until the limit of development of water, at a cost which permits its profitable use for farming purposes has been reached, the science of dry farming may properly be left to the semi-arid districts east of the Rocky Mountain range.

In California, perhaps as conspicuously as in any part of the United States, soils of all descriptions respond readily to good treatment and the lesson of careful cultivation may therefore be taken to heart and put to practical use. It is not a secret that cultivation at proper times conserves moisture. The knowledge of this has not, however, caused much improvement in grain farming, nor is it likely to do so while farmers are able to secure large areas and to get in the aggregate from poor farming, fair returns for their labor at the minimum of cost.

A HORSE TRADE.

"Hello!" says I.
"Hello!" says he.
I never see the man afore.
"Swap?" says I.
"Dunno," says he.
"Mebbe. I ain't shore."
"Th' bay?" says I.
"Th' gray?" says he.
"Swap!" says we, an' both unhitched.
"Fine horse," says I.
"Of course," says he.
An' in a minute we had switched.
"Git up!" says I.
"Git up!" says he.
And both them horses stood stock still.
"Balk?" says I.
"Yep," says he.
"Mine, too!" We laughin,' fit to kill.
"Say!" says I.
"Hey?" says he.
"Guess that's a horse apiece," says we.
"Good day," says I.
"Good day," says he.
Best joke, b'gosh, I ever see!

—Live Stock Journal.

Every roof-leak makes a pocket-leak.

Genasco Ready Roofing

stops both. It stays waterproof, and does away with needless expense-bills. It is made of Trinidad Lake Asphalt—Nature's one perfect waterproofer.

Guaranteed by a thirty-two-million-dollar company.

You want to be money in pocket, so insist on Genasco. Look for the trade-mark. Mineral or smooth surface. Write for Book 35 and samples.

THE BARBER ASPHALT PAVING COMPANY

Largest producers of asphalt, and largest manufacturers of ready roofing in the world.

PHILADELPHIA

New York San Francisco Chicago

Malthoid Roofing

Saved the lumber, coal and building plant of A. I. Schowalter & Co., of Halstead, Kan., from fire last March. The south wind blew the flames from a barn filled with hay directly on the sheds of this company. These sheds were roofed with Malthoid, while the sides were covered with corrugated iron. The heat was so intense that it ignited the wood back of the corrugated iron and it was only with difficulty extinguished. The fire-resisting qualities of Malthoid Roofing saved the roof, which was subjected to the most heat.

Malthoid Roofing is fire-resisting and durable.

The Paraffine Paint Co. San Francisco California

E. G. Judah, General Representative, Security Bldg, Los Angeles

The Seed House OF THE Great Southwest

1909 Seed Catalogue We are now mailing 45,000 copies of the most complete Manual of Garden, Field, Flower and Tree Seeds, Nursery Stock, Eucalyptus, Incubators and Poultry Supplies.

If you do not receive yours by the 20th of December, write for it and get your name on the list.

Aggeler & Musser Seed Co.

Successors to Johnson & Musser Seed Co.

113-115 No. Main St. Los Angeles, Cal.

Don't be sidetracked by using inferior Fertilizers, but use the best - - - - - - **Tom Lewis' Fertilizers**

Unequaled for Field, Garden, Orchard, Vineyard, and All Kinds of Vegetation. For catalog and prices write

Thomas Lewis, 1916 Tenth St., Sacramento, Cal.

EUCALYPTUS

Growers of Commercial and Ornamental Eucalypti

EKSTEIN & EKSTEIN, Modesta Euc. Nursery, Modesta, Cal.

EKSTEIN BROS., Vignolo Euc. Nursery, Anaheim, Cal.

Marshall's Nurseries..

Growers of

Fruit Trees, Grape Vines, Shade and Ornamental Trees and Plants.

Catalog sent on application

S. W. MARSHALL & SON

Fresno, California.

SECOND HAND PIPE AND CASING

All our pipe and casing has newly cut threads with new couplings attached and dipped in asphaltum. Guaranteed good as new. Prompt delivery on carloads or less. Small orders receive same attention as large ones. All sizes of pipe, also fittings and valves.

WEISSBAUM PIPE WORKS

133 Eleventh St., San Francisco

Walnut growers of Contra Costa county are having such success that planting of walnut trees will be materially extended this season.

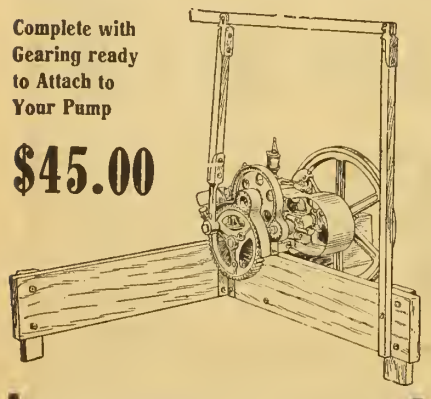
Creamery Supplies

Cream Separators — Milk Cans
Combined Churns — Milk Bottles
Babcock Testers — Brushes
Butter Moulds — Wrappers
Engines and Boilers — Milk Coolers
PASTEURIZERS
MILKING MACHINES
Creamery and Dairy Supplies and Machinery of all Styles and Sizes
Send List of Goods Wanted and we will Quote Prices
O. J. WEBER CO.
555-57 S. Los Angeles St.
LOS ANGELES, . CALIFORNIA

Aermotor Gasoline Engine

Complete with Gearing ready to Attach to Your Pump

$45.00



Will pump all the time, wind or no wind, and deliver as much water as an 8 ft. Aermotor in a good wind.

From 225 to 1600 gallons per hour, depending on height water is to be raised.

Air cooled, uses Gasoline or Distillate.

A reliable, durable engine at a very low price. Can You Afford to be without one.

Send for Special Circular.

Tanks Towers Pumps Distillate Engines

Smith-Booth-Usher Co
Machinery and Supplies
Successors to
S. J. Smith Machinery Co. and L. Booth & Sons
212-214 S. Los Angeles St., Los Angeles
Home, Ex. 1090—Sunset, Main 1090

Rhoades & Rhoades
Expert Live Stock AUCTIONEERS
Sales conducted in all parts of California and adjoining States. Write for dates and terms. Twenty-five Years' experience.
830-32 South Main St., Los Angeles

PASPALUM DILATATUM
King of dairying and fattening grasses. The great Australian drouth resister. Primest heavy seed direct from the grower, 4 lbs. (ample for trial) post free, $2.00. Full information.
C. F. JULIUS
Central Bucca, Coffs Harbor, New South Wales

HOLSTEINS
We Have For Sale a Number of Registered Young Bulls and Heifers $100
All our stock comes from the celebrated herd formerly owned by the Pierce Land and Stock Co., the premium herd of Holstein Friesians in California. Oakwoods Stock Farm Co., Lathrop, Cal

John Lynch Breeder of Registered **Shorthorns**
MILK STRAIN
Box 321 Petaluma, Cal.

Berkshires--Shorthorns
My Berkshires took 9 First, 6 Second and 4 Third Prizes and both Gold Medals. 50 Head For Sale.
C. A. MURPHY, PERKINS, CAL.

THIRTY THOROUGHBRED
Poland China Hogs and Pigs
FOR SALE
W. R. McCaslin, R.F.D. No. 1, Roosevelt Ave, Sacramento

The Whiting Jersey Stock Farm Company
Is making the very best strains of blood fresh from the island of Jersey a specialty.
Whiting Jersey Stock Farm Co. Heber, Imperial Co., Cal

When writing advertisers, mention Cultivator.

Live Stock and Dairy

By Mrs. Minna E. Sherman

VALUE OF GREEN FORAGE FOR HOGS.

Corn meal with rape, alfalfa, red clover and blue grass was fed in comparison with corn meal and ship stuff 3:2, and corn meal and skim milk 1:3 in a test made with 6 lots of 6 pigs, weighing about 50 lbs. each. The test covered 102 days and is chronicled in a bulletin of the Missouri Station. The lots were kept in separate pens with a shed for protection and the green forage was given twice daily in a separate trough immediately after cutting.

It was not expected that in ordinary farm practice the green material would be cut and fed to the hogs in this manner. At the time the experiment was undertaken, however, it was not feasible to fence off areas of each of these forage crops and graze them."

"On corn meal and middlings the average daily gain was 0.61 lb. per head, the cost of a pound of gain 3.99 cts., and the grain eaten per pound of gain 4.89 lbs. On corn meal and skim milk the average daily gain was 1.53 lbs. per head, the cost of a pound of gain2.17 cts., and the grain eaten per lb. of gain 1.86 lbs. On the corn meal supplemented by green crops the gain ranged from 0.58 lb. per head on rape to 0.74 lb. on alfalfa. Of these rations, the gain was cheapest on the alfalfa, costing 2.59 cts. per pound, and most expensive on the rape, costing 3.34 cts. per pound. The greatest range in grain per pound of gain was also noted with these lots, being 3.43 lbs. with the alfalfa ration and 4.41 lbs. with the rape ration.

"It is believed to be possible to grow enough alfalfa for hog pasture at least on practically every farm in Missouri. Until, however, alfalfa is an assured success on every farm the farmer ought to arrange for a clover pasture for his hogs every year without fail.

"It is not safe or even desirable to rely upon a single crop, excepting alfalfa where it is an assured success, to furnish pasture for our hogs throughout the entire season. It is better to arrange for a succession of pastures from the beginning of the season until the hogs are ready for market, making the feed richer and more concentrated toward the close of the season and as we approach the finishing or fattening period. For this purpose the following crops are recommended: Red clover or alfalfa, cowpeas, soy beans.

"To provide a crop of cowpeas in the best condition for the hogs, it will be necessary to select some very early maturing sort and sow rather earlier than is advised for a general crop.

"For the best results the hogs should not be turned on the peas until the first pods are turning yellow. They will, however, make good pasture before this time, and if the hogs are needing pasture it is not advised to wait until that stage of maturity.

"As a grain crop to use in connection with corn for crowding the spring crop of pigs to market, the soy bean is a very valuable crop. It is essentially a grain plant, very rich in protein, and while the hogs are running on soy beans they should have access to corn to balance the ration."

The author recommends that medium early corn, which ripens about the same time as soy beans, be fed with them, the two crops being sown together and harvested by the pigs. The pigs should be turned into the field when the first soy bean pods begin to ripen.

"The soy bean is regarded as somewhat better adapted for finishing a bunch of hogs than the cowpea; at the same time if one does not care to bother with so many different crops, the cowpea may be used instead with satisfactory results.

"For brood sows in winter and very early spring, it is always advisable to give them access to a piece of early sown wheat or rye, and to let them have a limited amount of nicely cured clover, alfalfa or cowpea hay by way of variety of feed. Sorghum stalks grown as is customary for the production of sirup, in limited quantity, make an excellent addition to the ration. The main thing to be avoided in carrying hogs of this sort through the winter is a straight corn diet. The greater the variety of cheap materials like these, the better the sows will do."

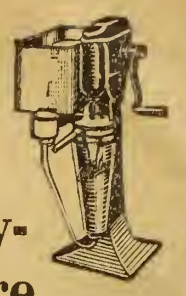
CHECK-REINS.

In recent years there has been a falling off in the habit of using the check-rein on horses, at least to extremes. People with good taste have come to realize that a horse is more beautiful in its natural state and that high checking will ruin any animal. There are some principles governing the use of the check-rein which everybody who is humane agrees to. Draft horses should have the free use of their heads, unhindered. Driving horses should only be checked when necessary for their proper control. Check-reins cause more stiff shoulders and weak knees than all other causes combined. Colts should not be made to endure the bitting bridle over fifteen minutes at a time. To keep it on half a day, as some do, is to inflict one of the worst punishments possible. Some colts are permanently injured by it.—Journal of Agriculture.

THE HORSE'S FOOT.

In considering the diseases to which horse flesh is heir, there are two things that should always be considered as of special importance: the teeth and the feet. The average period of usefulness of the horse is curtailed several years by the inadequacy of the teeth. In most horses at the age of fifteen the teeth have become rough and uneven, and from that time on the horse is a hard keeper and the real cause is not known by the owner. In buying horses the teeth and the feet should receive most careful examination. Ordinarily, in speaking of the feet of the horse, we mean the part inclosed by the hoof wall. Looking at it from a standpoint of comparative anatomy, the foot includes all below the knee and the hock. The artificial conditions under which the horse is placed and the unusual demand exacted of him result in almost every case in diseased conditions which render him incapable of doing the work he would otherwise do. Shoeing, which places him under artificial conditions, combined with the hard roads, over work, and improper feeding, soon produces inflammatory conditions which may result in side bones, ring bones, cof-

Anywhere and Everywhere



no matter where, or the conditions prevailing in that locality, you can rest assured that the

Tubular Separator

will meet the requirements easily and well—because it has been proven to meet dairy requirements under all conditions; not only in your locality, but all over the world.

The Tubular's careful and scientific construction assures clean skimming, easy filling, turning and cleaning.

Its saving of oil, labor, time and attention are also worth looking into.

For full particulars write for Catalog 260 Sent free.

THE SHARPLES SEPARATOR CO.,
West Chester, Penna.
Toronto, Can. San Francisco, Calif. Chicago, Ill.

CEMENT PIPE

Irrigation lines installed anywhere Skilled mechanics, work guaranteed. Estimates furnished. Main lines for Irrigation Companies a specialty.
Information cheerfully furnished.
Ben. F. Thorpe
Covina, Cal.

CUTTER'S
Anthrax and Blackleg
VACCINES
Are given the preference by 80% of California stockmen because they give better results than others do.
Write for prices, testimonials and our NEW booklet on Anthrax and Blackleg
The Cutter Laboratory
Berkeley, California

Live Oaks Farm
Frank A. Meacham, Proprietor.
Importer and breeder of RED POLLED CATTLE, SHROPSHIRE SHEEP, RAMBOUILLET SHEEP, HORNLESS AMERICAN MERINO SHEEP. Both sexes for sale. Take electric car at Petaluma or Santa Rosa for LIVE OAKS STATION. Address all mail to
Petaluma, Sonoma Co., Cal.

VENADERA HERD
OF REGISTERED JERSEYS
I have for sale a number of richly bred young bulls, some of them from cows that have high official yearly records.
GUY H. MILLER,
Route 3, Modesto, Cal.

Hay For Sale. Buy your hay in car lots. Special attention given to supplying alfalfa to dairies.
E. R. LONG
Bakersfield, California

Geo. C. Roeding, Fresno, Cal., breeder of
Thoroughbred Holstein Bulls and Heifers
Thoroughbred Berkshire Boars and Sows

Thoroughbred Poland China Swine
Black Minorca and Barred Rock Poultry
High Grade Stock of Best Strains.
Young Stock For Sale
W. Bassett Hanford, Cal

PURE BRED BERKSHIRES
Young Stock For Sale
Wm. H. Bird Box 6, Compton Cal.

When writing advertisers, mention Cultivator.

fin-joint, lameness, cracks in the hoof wall, contracted heels, and a great many more diseases too numerous to mention. In many cases the horse must be shod; but there certainly is far too much shoeing done. It is surprising how much work the horse can do under most conditions without shoes, if he be brought gradually to the work, and a little care and judgment be exercised in this matter during the first three or four years of the colt's life. There are three things especially to be remembered if you wish to give this subject a little extra thought: first, as long as you use horses that have weak, defective feet for breeding purposes, just so long will you have horses with a predisposition to these things and you will lose money on them accordingly; second, do less shoeing, a horse with fairly good feet will not need to be shod unless he be worked on the pavement, race track, or in mountainous districts; third, do not allow any horseshoer to use the buttress on the soles of the feet, nor the rasp on the outside; do not leave the shoes on longer than four weeks without resetting.

In substance, remember that the foot is the weakest part of the horse; that the service of the horse is worth money to you. Take good care of the horse's feet!—G. H. Glover, D. V. M., Colorado Agricultural College.

HORSE BREEDING TO TYPE.

Farmers, and others, for that matter, as well, must breed to type. They must know what kind of horses they wish to produce and strive to that end. To do this, they should know what kind of material is at hand, and how it can be used. Here is something that the United States Department of Agriculture should do. And the War Department might also assist, for proper cavalry remounts are difficult to secure. In European countries, where great standing armies are maintained, there are not only governmental breeding farms, but the farmers are encouraged to breed army horses by the giving of prizes, and by permitting government-owned stallions of proper breeding to stand to approved stock at merely nominal fees. In Austria I have seen a whole regiment of cavalry mounted on horses so true to type that it would take study and acquaintance to tell one horse from another. In Germany the government has been breeding for the cavalry since the time of Frederick the Great, and with most satisfactory results. In these continental countries much enterprise is shown in securing the best blood that may be had in other countries, not omitting the Desert of Arabia, whence comes the best and purest equine in all the world. In this matter of horse-breeding the Italians are not the least enterprising, nor, by the way, are the Italians by any means inferior in their horsemanship.—John Gilmer Speed's "About Horse Breeding" in the November Century.

EXERCISING THE BULL.

I saw a good bull the other day which was being spoiled by kindness. He had not been out of his little pen for more than a year, his feet were all out of shape and naturally he was crabbed and surly. Who wouldn't be under such treatment? It is simply inhuman, but it's common. A day or two later I saw another in a well-fenced enclosure, with an overhead wire firmly attached to strong posts, set 40 feet apart at the ends of the pen, and a chain connecting the bull's nose to the wire. Here he traveled day after day, the fence too high for him to see other cattle, but with plenty of room for exercise. The good nature of the animal told of the success of humane treatment. It is not only cruelty to keep a bull closely chained day after day and year after year, but more than that, it will ruin the disposition of an otherwise kind animal. The law of environment holds here, and the bull suffering for exercise cannot be as good a breeder as his neighbor made comfortable in every way. Try it.—Dr. George M. Twitchell in Maine Farmer.

OUR FRIEND THE DOG.

First—Don't leave him without a basin of clean water, renewed each day, or oftener, if necessary. The tortures of thirst should be inflicted on no living creature under our care.

Second—Don't incite him to bad habits of fowl-killing and garbage-hunting by keeping him short of food. The appetites of dogs vary, just as do those of human beings; and what is sufficient for one dog may not be for another.

Third—Don't overfeed him or give him tid-bits at meal times. The former habit is the cause of many distressing complaints and the latter makes him a nuisance when strangers are present and you have no attention to spare for him.

Fourth—Don't blame him if he howls at night if his sleeping quarters are not comfortable; it is not reasonable to expect him to sleep quietly in a kennel improvised out of an old tub or barrel, where his limbs will be cramped and numbed. He should have room to stretch himself and a comfortable rug or straw to keep him warm.

Fifth—Don't condem him to a damp kennel. Rheumatism, or "blotch"—a painful skin disease which is difficult to cure—is likely to be the result if you do.

Sixth—Don't pet him one day and ignore him the next. Dogs are as sensitive as human beings—often more so—and resent injustice every bit as keenly.

Seventh—Don't fail to notice signs of illness when these appear. A dull and "mangy" coat always means something wrong, and prevention is better than cure.

Eight—Don't doctor him yourself, unless you are quite sure what you are about. It will cost you less in the long run to obtain the services of a veterinary at once, and your dog may be spared much suffering.—Globe Democrat.

KEEP CALVES WELL BEDDED.

The stomach of the little calf is very sensitive and is easily ruined. Nothing will do it quicker than keeping the animal confined in a wet, dirty pen. Clean the calf pen often and bed it with a liberal supply of dry straw oftener. It is no little labor to keep a stall where several calves run clean and dry, but there is no other way if you want to raise good calves. Eternal vigilance is the price of everything good in the stock line.

Sheep men of Douglas county, Washington, are rejoicing at the fall rains which have given good grass on the ranges which will last until the colder weather covers it with snow.

For Mehring Foot-Power Milking Machines see O. J. Weber Co., 555-557 S. Los Angeles St., Los Angeles, Cal.

Anthrax Cure, Milk Fever Outfits. See O. J. Weber Co., 555-557 S. Los Angeles street, Los Angeles.

THE TALK OF THE
Cream Separator World
The Improved De Laval

"It can't be beaten." "It's peaches and cream." "Nothing like it." "Ten years ahead of all others." "A triumph in separator construction." "Perfect in every feature."

These are but a few of the expressions one hears on every hand this year in praise of the new Improved DE LAVAL Cream Separator. From the Atlantic to the Pacific the Improved DE LAVAL has simply swept the field of all separator honors.

Well informed dairymen once they investigate the new DE LAVAL will have nothing else at any price or under any condition. In one instance 32 Wisconsin dairy farmers were forced to buy hand separators on account of their branch creamery closing down and 31 of them bought DE LAVAL machines, notwithstanding all would-be competing makes of separators were hot after the business. Like instances can be pointed out in almost every section of the country.

The Improved DE LAVAL represents thirty years of manufacturing experience and the expenditure of many thousands of dollars in experimental work. It represents the knowledge gained from nearly a million DE LAVAL machines in practical use by dairymen throughout the world. It represents the best ideas and brain work of the world's most skilled separator and mechanical engineers. It is the product of the largest and finest equipped separator factory in existence.

Surely the 1908 DE LAVAL is ten years ahead of all others. If you havn't bought yours write today for a DE LAVAL catalogue and any desired information.

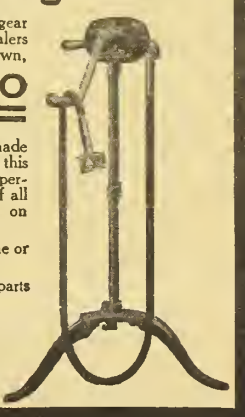
DE LAVAL DAIRY SUPPLY CO.

108 So. Los Angeles St. LOS ANGELES
42 E. Madison Street CHICAGO
74 Cortlandt Street NEW YORK
General Offices: 101 Drumm Street, SAN FRANCISCO.
107 First Street PORTLAND, OREG.
1016 Western Ave. SEATTLE
Box 1052 VANCOUVER, B. C.

Clip Your Horses

with this superb Stewart No. 1 Ball Bearing Clipping Machine

The great enclosed gear machine at your dealers all complete, as shown, only $8.50



No machine ever made at any price equals this one. It is the most perfect in every way of all clipping machines on the market.

It turns easier, clips faster and lasts longer. If you have but one or two horses it will pay you to have this splendid machine.

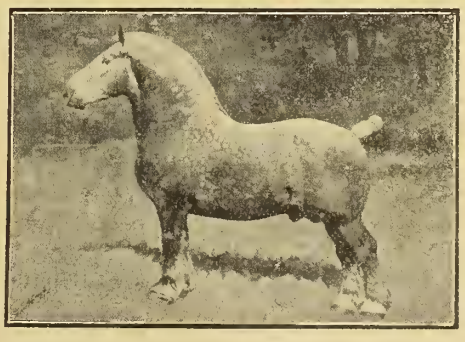
The gears are all cut right out of the solid bar, and all wearing parts are file-hard. It will last a lifetime.

If your dealer hasn't it, write us direct. GET ONE NOW

Chicago Flexible Shaft Co. Dept. H, Chicago

The Lafayette Stock Farm

Lafayette, Indiana — J. Crouch & Son, Props.



Percheron, Belgian German Coach Stallions and Mares

Our last importation of Percheron, Belgian and German Coach stallions and mares arrived in our barns August 1st, among them the prize winners of France, Belgium and Germany, and we can show buyers over 200 head of high class stallions, which we will price as low as any reliable importer can, and give liberal guarantee & terms. If your locality needs a stallion, write us.

J. Crouch & Son
1309 J St. Sacramento, Cal.

SECOND HAND PIPE

We will sell you pipe that can be used for any purpose. Satisfaction guaranteed or money returned. We handle all sizes of standard pipe and casing. Shipments made on same day as order is received. Price of pipe is low now. Write for our prices.

Pacific Pipe Company
S. W. Corner Howard and Main Streets, San Francisco, California

California Cultivator

ESTABLISHED 1889

Subscription Price One Dollar per year, payable in advance. Dates of expiration of subscription accounts appear each week on the address label. John Jones 7-08 means July 1, 1908. Notify us by mail if you desire to discontinue.

Thursday, November 26, 1908

Address All Communications to

CULTIVATOR PUBLISHING CO.
115½ No. Broadway, Los Angeles.
733 Merchants Ex. Bldg., San Francisco.

Copy for Change of advertisement must be in office on Saturday preceeding date of issue. New advertising copy should reach the office not later than Tuesday to insure insertion.

CULTIVATOR PUBLISHING COMPANY
H. A. PERKINS, EDITOR AND GEN. MGR.

C. B. MESSENGER - - - - Associate Editor
FRANK H. THOMAS - - Advertising Manager
H. G. HUTCHINS - - Subscription Manager

EDITORIAL CONTRIBUTORS:

J. W. MILLS - - Deciduous and Citrus
JOHN ISAAC - - - Horticulture
J. B. NEFF - Walnut Culture and Irrigation.
Mrs. M. E. SHERMAN - Live Stock and Dairy
Q. A. LOBINGIER - - Vegetable Garden
RALPH E. SMITH - - Plant Pathology
S. A. PEASE - Plant Diseases and Injurious Insects

Entered at the Post Office at Los Angeles, California, as Second-class matter.

Contents

FAVORITES OF THE POULTRY YARD, Cover.
DRY FARMING, 507.
CITRUS.—Pruning Lemons; Tulare Citrus Fair; Resources Become a Menace, 508, 509.
DECIDUOUS.—Care of a Vineyard; Crown Gall, 510, 511.
ORNAMENTAL GARDEN.—Shade Tree Pruning; Rose Climbers; Water Lily Pond; California Fruits, 512, 513.
LIVE STOCK AND DAIRY.—Value of Green Forage for Hogs; Check Reins; Horse's Foot; Horse Breeding to Type; Exercising the Bull; Our Friend the Dog; Keep Calves Bedded, 514, 515.
EDITORIAL.—Parcels Post; Centralized Agricultural Schools; Big Corn Crop; Tuberculin Test Reliable; Farm Stationery; What Agriculture Needs, 516.
AGRICULTURAL NOTES OF THE PACIFIC COAST.—Northern, Central, Southern, The Coast, 517.
POULTRY.—Chicken Chat; Raising Turkeys; Pigeon Breeding House; Hard Crop; San Jose Poultry Show, 518, 519, 520.
STATE FRUIT GROWERS' MEETING, 521.
QUERIES.—Wire Worms; Mildew on Pumpkins; Destroying Stumps; Raisin Stemmer; Green Manuring; Seedless Dates; Calf Shed; Artichokes; Lime Solution on Roses; Failed to Come to Her Milk; Bran for Cows; Peanut Butter; Pruning Malagas; Chestnuts Will Not Keep, 522, 523, 527.
VETERINARY.—Stringhalt; Sheep Poisoned, 527.
LEGAL QUERIES.—Trees on Line, 527.
HOUSEHOLD.—Recessional; Romance of the Desert; A Process in Ouster; Homely Hints; Garbage; Rubbish from the House; How to Carve a Turkey, 524, 525.
PRODUCE MARKETS.—Los Angeles Market; San Francisco Market; Citrus Markets, 526, 527.

PARCELS POST.

Last week's paper was not yet off the press in which we had a short editorial inspired by a letter from a subscriber at Stockton regarding parcels post, when another from our good friend Berwick of Pacific Grove came. Mr. Berwick says that the visit of the Country Life Commission appointed by President Roosevelt gives an opportunity to the farmers which they should avail themselves of. But here are Mr. Berwick's own words in his letter: "Farmers sometimes complain that they cannot make their voices heard in politics, and that their wants are therefore unheeded. Now is their time to talk out in meeting! The 'meeting' will be in Los Angeles this week, Wednesday evening, November 25. The opportunity will be with the President's Commissioners on Farm Life, who are now traveling over the country, especially to ask farmers what their needs are. I am writing this to ask all dwellers in the country to remember parcels post and postal savings banks, and in unanimous chorus to loudly demand both these public boons of inestimable value alike to merchant and farmer."

The Cultivator agrees with Mr. Berwick in the advantage which the postal savings bank might be to the country, but believes that now is the proper time to holler loudest and longest and strongest for the one thing which would be of greater value and that one thing we believe is parcels post. The bank proposition will keep and does not cause the loss and in some cases real suffering which we believe our lack of parcels post does cause. To use an illustration which we have heard Mr. Berwick himself use in various state conventions; where the college boys at the boarding hall for a college yell at the dining-room table united upon "We-want-pie," and as he said when this yell was produced with a vim as it always was the pie was promptly forthcoming. In this case it was secured quicker than had the boys yelled for pie, pudding and cake all at once.

CENTRALIZED AGRICULTURAL SCHOOLS.

A writer in the Spokesman-Review of Spokane, in touching on making farm life more attractive so that young men and women will remain on the farm instead of flocking to the cities, makes a strong point in favor of more attractive country schools with neater surroundings which shall give all possible advantages to the youth of the rural districts. He maintains that lawns and shrubbery, attractive homes, high bred stock, are all strong factors in making the country more attractive. But the longings of the young for better education has more to do with their leaving and acquiring a liking for city life than any other one factor. He urges that many country districts may be centralized into one school which will have all the advantages of the best schools of the city. They should be surrounded by large parks fitted with libraries, auditoriums, gymnasiums and other attractions as good as the best city schools can provide.

He says that as it is at present the farmer is taxed to build fine buildings and maintain a force of instructors at the State University and this taxation is so burdensome that often the poor farmer is compelled to pay taxes for its support and then have no money left for sending his own children. Of course, as a rule this is not strictly true, but may be in some cases. In any case, we believe there is wisdom in the suggestion that more effort be put upon attractive schools and surroundings in the more remote country districts.

BIG CORN CROP.

The Bureau of Statistics in the report dated November 10, states that the crop of corn of the United States this year will aggregate 2,642,687,000 bushels, or about 100,000,000 bushels more than last year. Also about the same amount more than the average for the last five years. Its quality is 86.9 as compared with 82.8 of last year, or as compared with 84.3, the average. The production of winter wheat is likewise in excess of last year, also considerably in excess of the average. The total this year aggregates 425,940,000 bushels. Oats, barley, rye, potatoes, hay, rice, all show greater production than last year, and most of them in excess of the average.

It sometimes looks as if the newspapers were needlessly hollering for returning prosperity but when this report of an enormous crop is considered we believe the country may be reasonably assured that the recent panic is passing away and conditions on the farm and in commercial life will soon resume a normal tone.

TUBERCULIN TEST RELIABLE.

It has been charged that the tuberculin test has at times been made, the reaction showing the animal to have tuberculosis; slaughter afterward proving that there was no disease present. This has often been used by those not in favor of making this test as an argument against it. It has been proved to be true but in such limited degree that it only proves the worth of this test. In a recent address by Dr. Melvin of the Department the following facts were given:

"The accuracy of the tuberculin test has been confirmed in a remarkable way, by post mortem examinations. Out of 23,869 reacting cattle slaughtered, lesions of tuberculosis were found in 23,585, a percentage of 98.91."

FARM STATIONERY.

Of the many letters which come to the Cultivator office, but few are upon printed stationery. This is no reflection by any means upon those who write, because but few farms the country over have ever felt that there was any necessity, or advantage even, in this little extravagance. That there is no necessity the Cultivator grants, but we do believe that there is or may be an advantage in neatly printed farm stationery. Some have written to the Cultivator office on stationery of the very highest grade with the name of the home and its owner embossed, which makes far more expensive stationery than the business house often uses. Such expensive stationery is demanded by those of expensive tastes and the means to gratify them. And it must be confessed it attracts attention in a way which has a certain value to the farm, especially to one which markets its own products and is endeavoring to build up a reputation for a brand. But at least the ordinary printed stationery on good stock has an appearance which cannot help but give the ranch a place in the estimation of the reader of the letter which the scrap of paper often used in correspondence does not give.

WHAT AGRICULTURE NEEDS.

Agriculture must rise to meet the college man. The leading agricultural colleges are now so well established and are teaching in such direct and applicable ways, that they are creating a body of ability and sentiment touching country life that has never been known before. This ability and sentiment is bound to express itself. The influence of these colleges and experiment-stations will surely remake agriculture and redirect it.

This redirection will not show itself in increasing the productiveness of the earth only, although this must be the fundamental effort and result. It must consist as well in reorganizing the business or commercial interests of agriculture, and in a radical change in the ideals and modes of living. We shall be able to increase the profitableness of farming when we have learned to apply our science, and to organize it as part of good business systems. We are now in the epoch of the laudation of science itself, as if the mere knowledge of the laws underlying good crop and animal production can make a good farmer.—Prof. L. H. Bailey's "College Men as Farm Managers" in the November Century.

The condition of the corn crop on October 1 was 77.8, as compared with 79.4 last month, 78.0 on October 1, 1907, and 79.7 the ten-year average on October 1. The decline in condition during September was thus about 2 per cent., compared with a decline in September last year of 2.7 per cent., and an average decline in September of the past ten years of 1.6 per cent.

Farming at the present time is entirely different from what characterized the farming of our forefathers. Brawn is no longer at a premium on the farm. It is skill in the art and science of the farm that wins instead of hard labor. Of course the farm will always demand labor from the farmer, but it is the labor from the skilled hand directed by the trained mind that will best succeed. —James Withycombe, Oregon Agricultural College.

Shop Talk

RENEWALS—12-08—If these are the figures after your name on the address label of your paper, it is a pretty good indication that your subscription to the Cultivator will expire December 1, 1908. It means that you should take advantage of the clubbing offer as advertised last week and have the figures changed to 12-09, with but little or no charge, or in some cases even at a profit, including the Cultivator.

If you have destroyed last week's issue, write for our special clubbing list, as it will not appear in the paper again.

It is a wonderful opportunity to obtain the best magazines at greatly reduced prices. Look it up. Do it now.

CHANGES OF ADDRESS—Many requests to change address of the Cultivator are received which fail to give the old address to which the paper has been sent. Our lists are indexed according to postoffice and it is next to impossible to find a subscriber's name in it without knowing at what office it is received. Kindly bear this in mind when making such requests, so as to avoid the necessity of our writing for the information.

WICKSON'S CALIFORNIA FRUITS—We have a correction to announce in the price of California Fruits as advertised in our clubbing list last week. The rate as quoted there with a year's subscription to the Cultivator was $3.75, but we are now able to announce that the price will be $3.50 instead. The regular price of the book alone is $3.00, which is the amount to remit when not including a subscription to the Cultivator. It is now ready and orders can be promptly filled.

Agricultural Notes of the Pacific Coast

Northern California

Threshing of the rice crops at Biggs, Colusa county, is under way.

Alfalfa seed threshing in Lassen county has been quite extensive during the past season.

The State Health Office is after some stock men for selling veal under four weeks of age.

Dairy men at Ukiah, Mendocino county, have been introducing some high grade dairy stock.

Contractors in charge of the repair work on the levees near Yuba City are finishing their contracts.

A Placer county orange grower shipped 1500 boxes of oranges to Australia on October 23.

Quite extensive plantings of Bartlett pears will be made in Sutter county the coming season.

Coyotes are proving a serious nuisance to poultry and sheep men near Weaverville, Trinity county.

A large tract of land in Sutter county near Terra Buena, is being divided into 10 acre orcherds.

W. A. Beard of Sacramento has been appointed a member of the Country Life Commission by President Roosevelt.

Arrangements have been made for a State Fair Futurity Stakes of $5000 for trotting and pacing two and three-year-olds.

The present indication is that hay will advance very materially, some predicting that it will be higher than ever before.

The Ukiah cannery has had good demand for its output of canned fruits, all of which were grown in Ukiah valley.

The California Pigeon Club will hold its third annual exhibition of fancy, utility and homing pigeons at Oakland December 10-13.

Petaluma poultry men are planning for a big show of poultry to be held December 16-19. A special list of prizes has been arranged.

A Cultivator representative now working at Orland reports a small orchard of oranges in that section which are remarkably well colored.

Work is progressing on the big irrigation project west of Orland which the government is constructing at a cost of nearly three-quarters of a million dollars.

Experts with the Farmers' Demonstration Train which visited Arbuckle, Colusa county, discovered that many of the old vineyards of that section are infested with Phylloxera.

The California Creamery Operators' Association has decided to inaugurate a movement to induce the United States Department of Agriculture to assist in forming cow testing associations.

The Sacramento Valley Development Association has just forwarded an exhibit of products of that valley to Omaha, Nebraska, where it will be installed at the Pure Food Exposition which began on November 4.

State Engineer Ellery has conferred with property owners along the Mokelumne River on the proposition of making the river navigable on condition the property owners put up $6000 to match an equal amount put up by the state.

Central California

A dairyman at Los Banos, Merced county, was seriously if not fatally injured by a pet bull.

The opening of a 10,00 acre tract in Kings county is drawing many settlers to that rich land.

The fifth annual flower show of the Menlo Park Horticultural Society was recently held at Palo Alto.

Large quantities of Egyptian corn will be planted on the California alfalfa colony, Stanislaus county.

The Kerman Melon Growers' Association has been re-organized and is planning to ship July cantaloupes.

Exeter people are arranging for football, baseball, and other games to take place in the coming citrus fair.

The California Fruit Canneries Company says that everything points to a great demand for California fruit next season.

It is claimed that over half a million sacks of beans have been harvested this season on the delta lands of the San Joaquin river.

Those who have observed the prune market and know of the stock in hand say prices are sure to advance in the near future.

Tulare county grape growers are endeavoring to get together under the guidance of the California Grape Growers' Association.

Grape growers of Turlock recently held a meeting to consider the possibility of securing better returns from their next year's crop.

Exeter packing houses are busy places these days, and the Sun of that city says that the town is full of nice looking "packing ladies."

San Jose claims to be some on pumpkins, having recently sent two to the State Board of Trade at San Francisco, weighing 161 and 164 pounds.

The Woman's Club of Bakersfield is discussing the advisability of offering prizes for the best home garden which may be shown in that section.

The recent Farmers' Institute at Rosedale was given large attendance and interesting talks were made by local people as well as by talent from abroad.

Seed growers of the Santa Clara valley say that the seed industry of this state is yet in its infancy and in time will be one of our greatest industries.

Grape growers of Lodi who sold their lower grade grapes to the unfermented grape juice factory will receive from $10 to $12 per ton for their grapes instead of the $6 which the wineries offered.

Tulare Grange at a recent meeting resolved that the Board of Supervisors of that county should take immediate steps to preserve the large oak trees in the delta lands of the Kaweah River. They ask that a hundred acres be preserved as a natural park.

Democrats of Tulare county, which has always been Democratic until recently, claim that the change to a strong Republican majority in the county is due to the fact that Secretary Miot of the Tulare County Chamber of Commerce has done all his promotion work in northern states rather than Texas and Mississippi.

Southern California

Orange county reports almost a million orange trees and 110,000 lemon trees.

One train load of 550 head of cattle was recently received by the Imperial Valley farmers.

Orange county has 35,685 acres irrigated by gravity system and 51,670 acres irrigated by pumping plants.

Up to the first of this month Commissioner Pease of San Bernardino had treated 23,437 citrus trees for scale.

Owing to the large orange crop, tree props are already being placed under many Southern California trees.

Several creeks of Southern California have been stocked with trout by the State Fish and Game Commission.

Horticultural Commissioner Pease of San Bernardino county reports that Yucaipe valley will produce over 1200 tons of apples.

Southern California farmers are bitterly complaining of the drought which it is hoped will soon be broken by heavy rains.

The Ventura county output of beans this year will aggregate 825,000 bags. This is the largest output the county has ever shown.

Imperial Valley turkey growers are somewhat disappointed over prices received; f. o. b. Imperial being about 15 cents a pound.

The estimates for the coming crop of oranges for Southern California hover close to the 30,000 mark. Some put it as high as 31,000 car loads.

The Redlands Golden Orange Association is preparing for greater business by building an extensive addition to its already large packing house.

The Lytle Creek Water Company has added to its supply of water and will be able to supply lands under its system with an increased water supply.

The Pacific Fruit Exchange, owner of the great pre-cooling plant at Colton, is pushing work on the house which will be 270 by 180 feet and 35 feet high.

A meat packing house is in contemplation to be somewhere between the national boundary line between the United States and Mexico in the Imperial Valley.

Stock holders of the Water Company Number One in Imperial Valley are discussing the advisability of acquiring the California Development irrigating plant so that the property owners of Imperial valley may own and control it entirely.

The Riverside Groves and Water Company recently organized and capitalized at $250,000 announces that it will take over 80,000 acres of land on which 700 inches of water will be piped and the land may be afterwards planted to oranges.

Orange county Board of Horticultural Commissioners have reported to State Commissioner Jeffrey that Scutellista cyanea have greatly decreased the black scale, in fact almost exterminated it. The report also showed that red scale is somewhat increasing and calls for a more energetic campaign against it.

The Coast

Rentals for farming land near Walla Walla, range from $4 to $25 per acre.

Wenatchee, Washington, poultry fanciers are planning for a big show in January.

The Tacoma, Washington, Poultry Association holds its annual show December 5-10.

The dairy industry of Oregon has increased about $5,000,000 every year for the past five years.

The Payette Poultry and Pet Stock Association holds its annual show December 16-19 at Payette, Idaho.

A fruit cannery will be established at Albany, Oregon, and ready for handling fruits the coming season.

Spokane is about to establish a free market to which the farmers may drive and dispose of their produce.

Creston, Washington, recently held an apple show at which there was a showing of remarkably fine fruit.

Over 2,000,000 bushels of wheat were shipped from Portland, Oregon, during the month of October by water.

The best display of apples ever made in the upper Willamette valley was that at the recent Albany apple fair.

A farmer near Montesanto, Washington, is proud of his record this year of a yield of 61 bushels of wheat per acre.

Farmers near Canyon City, Oregon, especially stockmen, are facing a serious range shortage on account of drouth.

Walla Walla, Washington, farmers are making the most extensive planting of fall wheat which they have made in several years.

Grain growers at Athena, Oregon, are protesting at the recent advance in freight rates. They claim the rate to tide water is almost prohibitive.

The first prize to the county making the best exhibit of agricultural products at the recent Albany Fair was awarded to Marion county, Oregon.

At a recent fair at Walla Walla, a monster parade was made and speeches given in honor of "Farmers' Day," which was a new feature at the fair.

A Lewiston, Idaho, cattle raiser predicts that cattle raising of that section will soon be a thing of the past and that hog raising will take its place.

The National Apple Show which will be held in Spokane December 7-12 is attracting attention from all parts of the country. Some big cash prizes and many gold medals are to be given.

Farmers at Wenatchee ,Washington, who have been exasperated by the depredations of coyotes have decided upon a raid or drive to round up as many of the pests as possible. It is estimated that a thousand people will be on the firing line when the signal to start is given.

George Severance, Professor of Agriculture of the Washington State College, is out with a strong protest against the present custom of dumping numberless tons of stable manure into creeks and gullies as has been done in the Palouse country. He says it is nothing more nor less than a crime against the commonwealth that so much fertility is wasted.

PER 2 BUSHEL SACK **$1.90** PER 2 BUSHEL SACK

Buy the World's Famous Egg Food No. 4

MIDLAND

IF YOU WANT EGGS
YOU WILL FEED NO OTHER.

Used by the largest and best breeders in the country. Thousands of poultrymen are using it, and it is the acknowledged standard of the world. Haphazard feeding is no longer profitable. Try Midland Food and be convinced.

Petaluma Incubators and Brooders

The acknowledged standards of perfection. All poultrymen who have used those machines have supreme confidence in their ability to hatch and breed. Hence their ever increasing popularity. Winners of the Gold Medal at the St. Louis World's Fair for the greatest hatch, with 40 different makes of incubators in competition. How's that?

St. Louis, Mo., Dec. 8th, 1904.—Petaluma Incubator Co., Petaluma, Cal.: My Dear Sir—The awards have been held up owing to a controversy between the Exposition officials and the national commission, but today I am able to state the award of a gold medal on your Petaluma Incubators has been confirmed. You are at liberty to make use of this in any way you see fit and in due time the diploma will be issued and the medal obtainable. Congratulating you upon this evidence of the merits of your incubators, in which there was very great competition, I beg to remain, yours very truly, J. A. Filcher, Commissioner.

And Now Comes New Reward for Merit

Read the following telegram received from the Lewis & Clark Exposition at Portland:
"Petaluma Incubators and Brooders just awarded Gold Medal at Lewis & Clark Exposition."

WRITE FOR CATALOGUE 47—A BEAUTY

Petaluma Incubator Co.

Main Office and factory, Petaluma, Cal., Box F.
Los Angeles, 113-115 North Main Street.
San Francisco Office and Salesroom, 83 Market St.

Egg-More

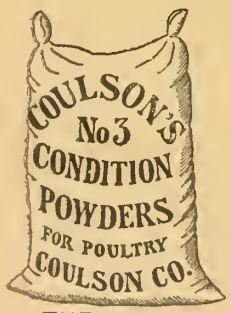
is not a strong tonic and stimulant, but, a highly nitrogenous, concentrated Poultry Food, very rich in protein. A little fed with good grains will keep hens healthy and make them lay lots of eggs. Have you tried it? Many have and are pleased. Here is just one:

F. W. Healy, the well-known banker and fancier of Pasadena, writes: "After hearing others praise Egg-More, I determined that if there was anything to keep hens laying through the fall and winter months, I wanted it. I bought a package of Egg-More and fed it and the improvement was very marked. Keeping on with it I soon proved the truth of your statement that 'you can't put all your eggs in one basket if you feed Egg-More.' I have raised poultry nearly all my life and for twenty years in California, but never did my hens lay so well as since I began to use Egg-More. I consider it the best egg producer on the market, and I do not intend to be without it."

You better try it. For sale by many dealers at 12½ lbs $1.00; 25 lbs., $1.90; 50 lbs., $3.60. If not by yours we will prepay freight on sack within 400 miles.

West Coast Mill

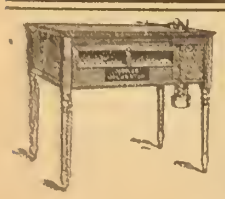
707-709 So. Griffin Ave., Los Angeles, Cal.



Coulson's No. 3 Condition Powder

THE BEST AID IN GETTING THOSE HIGH-PRICED EGGS.
It acts as a tonic and digestive. Enables hens to lay more eggs during fall and winter.
Our FREE booklet, "THE RIGHT WAY," gives full particulars.
SOLD BY DEALERS EVERYWHERE.
Manufactured only by

Coulson Poultry & Stock Food Co., Petaluma, Cal.
Germain Seed Co., Distributing Agents, Los Angeles, Cal.



WHY?

Do All Prosperous Poultrymen Use

Jubilee Incubators and Brooders

Our Catalogue A Will Tell You. It Is Free.

Jubilee Incubator Company *Sunnyvale, Cal.*

Profit in the Poultry Yard

We solicit short articles of a practical nature from the fancier and utility breeder, giving their experience with poultry. All inquiries pertaining to feed, management, disease and its prevention will be answered through these columns.

CHICKEN CHAT.

TO have unexpected company walk in at the front door between ten and eleven o'clock in the morning, while the spring chicken you intend to fry for their dinner, (which, on account of the school children, must be served at noon) is still scratching in the back yard in happy unconsciousness of its impending fate, calls for quick movements; and my method of dressing a chicken quickly may help some other housekeeper in a like dilemma.

"Why have a chicken at all?" Some one asks.

Well, I had been bragging to these people about the excellent taste and flavor of my beloved "Buckeyes," and had promised them a fried one when they came to see me, and it wasn't their fault that the letter they sent me didn't reach me until noon that day, so it was "up to me" to make good my word.

Showing them into the "spare room" to remove their wraps, I started the gasoline stove and put a kettle of water on to boil. Then beguiling them into the orchard, I left them to help themselves to fruit off the trees, while I whisked the head off a saucy cockerel with a cleaver, and left him to flop while I got the water. Assuring myself that he was dead, I scalded him thoroughly, grasped him by both feet and while I was going back of the barn, pulled off the tail feathers, and wingflights on the way. Keeping these in my hand, I caught the bird by the neck, and quickly rubbed him from head to tail with the bunch of feathers in all directions, front, back and sides, being careful to rub the way the feathers grow, never against them. This removes all pinfeathers, and a few quick motions frees the neck, after which I take a wing at a time between the thumb and forefingers and pinch out the feathers the way they grow in these. It really is done much quicker than I can write it.

Then the bird is singed, and the carcass well washed in warm water, using soap, if necessary, to get it perfectly clean before cutting up. Laying a newspaper upon the table or sink board saves the necessity of washing up after jointing the fowl, as all offal can be gathered up with the paper and either burned or put out where the cat can pick it over.

By the time my guests had returned from the orchard, the chicken was simmering on the stove, and I had time to prepare my vegetables and visit by spells, and serve dinner at half past twelve, after all.

But the very nicest way to cook chicken for company, or for Sunday dinner when you want to attend church, is the following, which was invented by a bachelor, I understand.

For a young fowl, allow two hours, for an old one four, to begin with, so in case an old one is used, prepare and partly cook on Saturday, or at least get it ready for the oven on Saturday.

In using an old fowl, soap and warm water are absolutely necessary to get it clean, of course thoroughly washing the soapy water off afterwards. A hen never takes a bath, you know, and the skin certainly does get a sight of dirt upon it in a year or two, which only a thorough washing will remove. If carefully done there will be no scum arise to speak of, so let that be the test of thorough work.

After the fowl is jointed, prepare a covered baking dish, or roaster, by melting a tablespoon of butter, and letting it run over the bottom. Then roll each piece of chicken in flour, and lay in the dish, sprinkling salt and pepper over each layer, and adding sufficient water to cover, being careful to pour the water in one end and not wash the flour off the pieces.

Cover closely and put into the oven, and arrange for a steady, gentle heat, and go about your business serene in the consciousness, that your chicken will be cooking, and the gravy made in the required time, without any further attention excepting the fire. Too much heat will sometimes dry up the gravy, in which case water, or better still, cream, may be added just before serving, allowing it to heat well, of course. Sometimes, I have made a batter as for dumplings, and poured over the top a half hour before serving, which makes a delicious chicken pie of it, but my menfolks object to chicken pie, on the ground that it is "such a lottery, one never knows what piece one is getting, when covered with crust." And it does take up the gravy shamefully.

And as chicken is never complete in my mind without "cabbage and cream" I will give you "Aunt Nancy's" receipe for this salad. Chop your cabbage fine and season with salt, a little sugar, and pepper, then shut your eyes, and dip several tablespoons full of your thickest cream onto the cabbage (I say, shut your eyes, but I mean your economy) and add sufficient vinegar to make it just right, stir until it foams, and you have a salad to tempt an epicure, and it just fits right with the chicken.—Mrs. Frank Metcalf.

RAISING TURKEYS

Great deal has been written in regard to turkey raising in California. Many insist that they cannot be raised in large numbers unless they have free and unlimited range. We recently had the pleasure of a visit to the Stuhr-Williams Poultry Co., at Riverside, and found a flock of over 200 as fine Bronze Turkeys as we ever saw. This flock has the range of 14 acres, 10 of which is alfalfa and four in oranges. The combination, orange grove and alfalfa, makes an ideal place for turkey culture. The alfalfa furnishes the green and the orange orchard furnishes shade.

This firm certainly has been successful with their stock as all were healthy and vigorous. To see such a flock will make anyone feel that they would like to engage in turkey culture.

As soon as the young rooster begins to crow, you should either feed him to the threshing gang or sell him in the market catalogued as the "old rooster" variety. Rooster flocks should be constantly culled and those which do not meet the standard from a breed standpoint should be promptly disposed of in some way. From the roosters our flocks develop and by constant weeding out the flock gradually improves in standard.

PIGEON BREEDING HOUSE.

For a breeding pen it is not necessary to build a house for this especial purpose. If you have an old poultry house, shed or barn loft or an attic, which is available, it can be remodeled at a slight expense and used until such time as your flock has increased so greatly as to necessitate the building of a new house. In this way you get a start in the business without any big expenditure, which is usually necessary when new buildings must be erected.

It is best to have the breeding pens have a somewhat southernly front, but if you are unable to arrange the house in this respect for some reason or other, you need not get anxious, as an eastern front is considered almost as good as a southern front by many breeders of squabs. We would advise you to try and not have your flying pens face the direct north or northwest in an open country, but if your houses are well protected in these directions very little harm will result.

The main points in the construction of your breeding pens are that they should be as nearly rat and damp proof as possible and arranged so as to get the benefit of the sun, which means that it is best that the houses face east or south.

For a rat and a damp proof house it is best to select a high and dry place for your building. You should also have a double floor made of a lower layer of hard pine. Spread two thicknesses of tar-paper over this and finish up with matched lumber about one inch thick, or to doubly protect your house from either rodent or dampness, you can have a layer of asphalt or cement under the floor. A floor of this kind will last a life time. The roof may be shingled, or you can use three-ply tar paper with just as good effect as shingles, but care should be taken to give the roof drain.

The sides of the house may be built of plain matched lumber and clapboard or shingled with a layer which will act as a protection against dampness and frost coming through the walls. At the present price of lumber a house of this sort would be quite expensive and for those who cannot meet this expense, I will say that tar paper will replace clapboards or shingling well enough, but you should see to it that all seams are covered with tar or pitch to avoid the cold air getting in between the tar-paper and the siding.—Melrose Squab Bulletin.

HARD CROP.

Overfeeding is generally responsible for hard crop, says a writer in Journal of Agriculture. Irregularity of meals, dried grass or straw, sudden change of feed, constipation, lack of green food and stoppage of entrance to gizzard are also frequently responsible for it. To empty crop, give hen a tablespoonful of olive oil and place her where she has only water. If reduced within twenty-four hours, follow with a teaspoonful of oil, and when empty give two five-grain capsules of Venetian red. If a failure, take a funnel, insert down past opening of windpipe and fill crop slowly with water, having care not to smother hen. Then turn hen with head down, slowly knead crop, but be careful that contents do not gush out too fast and see that hen has chance to breathe, or she may smother. This filling and gradually reducing contents is often a success and may be used for soft crop if simply turning hen with head down does not work.

The dry, prepared animal foods, such as beef scraps and animal or meat meals, if of good quality, are cheaper and safer feeds than cut fresh meat and bone and can be so used as to produce an equal egg yield.

Pioneer Rubber Sanded Roofing

The Roof that "proves," sun-proof and rain-proof; needs no paint or repairs. Following are a few "Wont's" about Rubber Sanded Roofing:

Won't chip. Won't warp.
Won't tear. Won't crack.
Won't rust. Won't decay.
Won't shrink.
Won't crumble.
Won't need repairing.
Won't absorb moisture.
Won't attract electricity.
Won't need any paint to preserve it.
Won't be affected by any climatic changes or conditions.
Won't cost as much, in the long run, as other roofing.

What Rubber Sanded WILL do is told of in our booklet "ROOF TALK," which will be sent free upon request, together with samples of the Roofing itself.

Pioneer Roll Paper Co
Makers of Rubber Sanded Roofing and Refiners of Asphaltum
Department 11, Los Angeles, Cal.

You Get the Most for Your Money

When buying ***"Quality S. C. White Leghorn Chicks"*** from us at 10c each, because we give you ***FREE*** the "Chick Book," containing full instructions for raising them; with every order for 200 or more.

Rancho Los Encinas
R. F. D. 76, Glen Ellen, Cal.

SAWS ANY WOOD IN ANY POSITION ON ANY GROUND 4 in to 5 ft. Through
1 Man with a Folding Sawing Machine Beats 2 MEN with a Cross-cut Saw
6 to 9 cords daily is the usual average for one man.

Our 1909 Model Machine saws faster, runs easier and will last longer than ever. Adjusted in a minute to suit a 12-year-old boy or the strongest man. Send for catalog showing latest improvements. First order gets agency.
Folding Sawing Mach. Co., 158 E. Harrison St., Chicago, Ill.

GUTTING'S SUPERIOR WHITE ROCKS

Won 9 firsts out of a possible 10 and all specials and many other prizes at the great L. A. C. P. A. and Pomona Shows last winter. Place your order now for exhibition birds for the winter shows. Eggs now $3 per setting. Send for circular.

E. GUTTING 134 W. SLAUSON Los Angeles, Cal.

F. E. Baldwin's WHITE LEGHORNS

THEY LAY
THEY PAY
At Every Pop
THEY SHOW
THEY GO
To the Very Top

Cup for Best Display, Petaluma, '07. Trophy for best display, San Jose, '08. Send for Prices and Free Booklet.

46 Washington Ave. - San Jose, Cal.

Buff Orpingtons

Sullivan's COMMONWEALTH STRAIN is bred for egg production, has won the cream of the prizes at leading shows, from Seattle to the World's Fair. We did not show at the State Fair this year but have better stock than ever, and want you to send for our Prize Record and watch the later shows that we win.

Mr. & Mrs. W. S. Sullivn,
AGNEW, SANTA CLARA CO., CAL.

White Wyandottes The best fowl for all purposes. After years of experiment they prove it. Eggs for setting from great laying strain $1.50 and $2.00 per 13. No incubator lots furnished. Orders booked now for delivery after Dec. 1st. A few choice males for sale. ***Wm. C. Parker, 111 Pacific Ave., Santa Cruz, Cal.***

Now is the time to hatch **BANTAMS**
Golden Sebright, Buff Cochin, and Light Brahma Eggs, $2 per 15. Prize winners.
M. E. Dillingham Box 67, San Gabriel, Cal.

Get Your Share
OF THE
High Priced Eggs
BY FEEDING
Coulson's Egg Food

IT TURNS FAILURE INTO SUCCESS, by enabling you to secure eggs in the fall and winter while prices are high.

Improvements have been effected in the composition of the EGG FOOD during the past year so that it is now richer in the various nutrients required by the laying hen, and is a better feed than ever before. Proof of this is had in

Actual Results

By Lewis Herbert of Penn Grove, (near Petaluma, Cal.). Began feeding 1900 hens COULSON'S IMPROVED MASH EGG FOOD April. Profits for each month over cost of feed:

May	$125.00
June	125.00
July	200.00
August	240.00
September	170.00

October 15th was clearing over $6.00 a day. Feeds 1¼ sacks IMPROVED MASH and 1¾ sacks of wheat a day.

COULSON'S BALANCED RATION POULTRY FOODS ARE GUARANTEED to contain nothing but wholesome ingredients. OUR GUARANTY IS BACKED BY A $500.00 BOND deposited with the Petaluma National Bank.

We have agents selling our Poultry Foods in nearly every town in California. If you can not obtain what you want from your dealer, write us and we will tell you where to get it.

Manufactured only by

Coulson Poultry and Stock Food Company *Petaluma, California*

GERMAIN SEED CO., Distributing Agents, Los Angeles, Cal.

60c—EGGS—60c
MIDLAND POULTRY FOOD
Makes Hens Lay

400 Sacks will be here next week. Get your orders in early.
Price $2.00 per Sack

Aggeler & Musser Seed Co.
113-115 North Main St. Los Angeles, California
Southern California Agents for Petaluma Incubators and Brooders and Midland Poultry Food

Trap Nested White Leghorns

I trap nest every bird one year before I put them in my breeding yards, and no bird that has not made a record of 13 dozen or better per year as pullet is used. I cannot afford to breed neither can I afford to sell eggs from a hen that has not made this record as a pullet. I mate 15 hens to a well matured cockerel or yearling cock bird. My breeders have roomy yards, thus assuring strong fertility. A few choice cockerels for sale.

Eggs $1.50 per 15; $7.50 per 100; $60 per 1000.

S. E. Gregg East Adams St. Riverside, Cal.

Ranch Mirasol
EGGS FOR HATCHING—WHITE LEGHORNS—MITCHELL STRAIN
Large birds, heavy layers, bred for highest utility only. Order book now open for season 1909
Carl C. Curtis, Owner Cor. Lincoln Ave. and Ventura St., Pasadena, Cal.
North Fair Oaks Altadena Cars

Trap-Nested White Wyandottes
Eggs for hatching now ready from fall matings.
MISSION VIEW POULTRY RANCH, MRS. C. D. HUBBARD, SAN FERNANDO, CAL.

Investigate

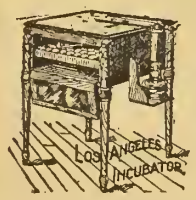
The Famous
"Success"
Incubator

Sold on Free Trial to Anyone Anywhere
130, 260, 340, and 612-Egg Size

This high class incubator before you buy any other at any price. We own our own building, pay no rents, and can undersell by many dollars all other dealers in incubators and brooders. All incubators are made from first grade clear redwood, wool padded tops, double walls, lined with heavy felt paper, hot water heating system, 14 oz. cold rolled copper heater, special long lever automatic self regulator. Our machines will hold an exact even temperature, no watching them at night. See them hatching thousands of chicks here any time. Our heater is better than any other used on any incubator at any price. Automatic in admitting fresh air. Investigate this machine and save many dollars and get the best at any price. Free 32 page book contains lectures on chick raising, etc. Its free, send for it today.

E. E. McClanahan, 112 East Eighth St., Los Angeles, Cal.

Stop That Guessing



The
Los Angeles Incubators

Are now equipped with a moisture guage that will accurately register the moisture; relieves the operator of all guess work and assures better hatches than ever.

Henry Albers Co., 534 So. Main Street Los Angeles

WHITE LEGHORNS

The Business Hen of California

Ours are a Standard Laying strain bred from the best American and Imported Stock. The kind that Lay and the kind that Pay.

We have more hens with a high record for egg production, and more birds that have actually won first prizes in the show ring than any other breeder on the Pacific Coast.

The cream of 4000 choice birds to select from.

Eggs, Stock and Chicks for sale. Send for descriptive circular.

Buff Orpingtons— A few select Pens from which we can furnish eggs or chicks, no stock.

The Model Poultry Farm

Box H, Irvington, Cal.

When writing advertisers, mention Cultivator.

Pacific Egg Food

Just the thing for making hens lay lots of 60 cent eggs.
Special price for one week $2.00 for a 90-lb. sack.
Some egg foods weigh only 75 lbs. Just try "Pacific."
It will please you and the hens, too.

West Coast Seed Co.

115 W. 7th St., Los Angeles

SAN JOSE POULTRY SHOW.

The Poultry Show which recently closed at San Jose was held under the auspices of the Santa Clara Valley Poultry and Pet Stock Association and was by long odds the most successful show ever held by that organization. Nearly every class was full and President Sealy and Secretary Harper both express satisfaction at the success of the show. Eastern judges were present and complimented the class of the birds, saying some of the very finest birds they had ever judged were on exhibition.

The Dog Show in connection was one of the finest ever held on the coast.

The awards in the poultry class are as follows:

Dark Brahmas.—William A. French, all awards.

Light Brahmas.—J. Russel, 1 pen and 2 cock, 3 hen; Mrs. Emma Reid, 1, and 3 pullet, 3 pen, 3 cock, 3 cockerel; V. E. Smith 2 pen, 1 hen, 2 pullet; W. R. Struther, 1 and 2 cockerel and 2 hen.

Rose Comb Rhode Island Reds.—Manuel Roberts, all awards.

Barred Minorcas.—August Schwarz, all awards.

Rose Comb Black Minorcas.—Dr. C. N. Chamberlain, all awards.

White Minorcas.—H. C. Scrutton, 1 and 2 pullet, 1, 2 and 3 hen, 1, 2 cockerel, 2 and 3 cock, 1 pen; Dr. C. W. Chamberlain, 3 cockerel.

S. C. Brown Leghorn.—Walter Curry, all awards.

Buff Leghorns.—Manuel Roberts, all awards.

Columbian Wyandottes.—George Leaman, 1, 2 and 3 pen, 1, 2 and 3 cock, 3 cockerel, 3 pullet, 1, 2 hen; C. G. Hinds, 1 and 2 pullet, 1 and 2 cockerel, 3 hen.

Buff Wyandottes.—Henry Berrar, all awards.

S. C. Black Minorcas.—J. M. Nelson, all awards.

Barred Rocks.—Moore & Mann, 1, 2 and 3 cockerel, 1, 2 and 3 hen, 1, 3 cock, 1, 2 and 3 pen; L. N. Cobledick, 2 cock.

Golden-Pencil Hamburgs.—Rev. W. E. Crouser, all awards.

Silver-Spangled Hamburgs.—Rev. W. E. Crouser, all awards.

White Plymouth Rocks.—Mrs. D. A. Robertson of San Jose, 3 pullet, 1 and 2 hen, 2 and 3 cockerel, 3 cock, 2 and 3 pen; Mrs. F. E. Bemis, 1 and 2 pullet, 3 hen, 1 and 2 cock, 1 pen.

Silver-Laced Wyandottes.—Jas. Mitchell, all awards.

Silver-Penciled Wyandottes.—Mrs. George Grindell all awards.

White Wyandottes.—Mrs. C. D. Hubbard, 2 and 3 cock, 1 cockerel, 1 hen, 1 cock, 1 and 2 pullet; Mrs. Clara Smith, 3 cockerel, 2 pen; Mrs. Buergemeister, 2 cockerel; Lewis & McKean, 1 pen.

Rhode Island Reds.—J. D. Canney, 1 pullet, 3 hen, 3 cockerel, 1 and 3 cock, 1 pen; Sanitary Poultry Farm, 1 and 2 hen; W. R. Alexander, 2 pullet, 2 cockerel; F. H. Thompson of San Jose, 3 pullet, 1 cockerel, 2 cock, 2 and 3 pen.

Black Langshan—J. A. Johnson, all awards.

W. F. Black Polish.—Mrs. D. A. Robertson, all awards.

Buff Orpingtons.—W. S. Sullivan, all awards.

S. C. Black Orpingtons.—J. D. Canney, 1 pen; Henry Berrar, 2 pen, 1 and 2 cock, 1, 2 and 3 cockerel, 1 hen, 1, 2 and 3 pullet; V. G. Huntley, 3 cock, 2 hen; A. J. Welch, 3 hen.

S. C. White Orpingtons.— W. R. Bassick, all awards.

S. C. White Leghorns.—Rancho Los Encinas, 1 pen; C. B. Carrington, 2 pen, 2 and 3 cock, 2 cockerel, 3 hen, 1 and 3 pullet; F. E. Baldwin, 3 pen, 1 cock, 1 and 3 cockerel, 1 and 2 hen; Lewis & McKean, 2 pullet.

Cornish Indians.—Alex Aikeman, 1 pen, 1 and 2 cock, 1, 2 and 3 cockerel, 1, 2 and 3 hen, 1, 2 and 3 pullet; William K. Krieg, 3 cock.

Houdans.—Mrs. Emma F. Reid, 1 and 2 pen, 1 cockerel, 3 hen, 1 pullet; Henry Midgley, 3 cockerel, 3 pullet; Carl Gregory, 2 cockerel, 1 and 2 hen, 2 pullet.

Bronze Turkeys.—Herbert Stockton, 1 cock, 2 hen; Rancho Los Encinas, 2 cock, 1 hen.

White Holland Turkeys.—Mrs. W. C. Bogen, all awards.

Pekin Ducks.—John A. Evans, 1 drake, 1 duck; Rancho Los Encinas, 2 drake, 2 duck.

Aylesbury Ducks.—H. C. Scrutton, 1 old drake, 3 young drake, 2 old duck, 2 young duck; V. G. Huntley, 2 and 3 old drake, 1 and 2 young drake, 1 and 3 old duck, 1 and 3 young duck.

COULSON'S POULTRY FOODS
MADE IN PETALUMA
GUARANTEED
SOLD EVERYWHERE

Excelsior Egg Food

Mr. W. W. Howard, the White Leghorn expert, is feeding Excelsior Egg Food exclusively. Mr. Howard's flock is noted as an egg producing strain. If you are not getting satisfactory results, try Excelsior Egg Food.

Excelsior Scratch Food

Is just what you have been looking for. Give it a trial and you will never be without it.

EXCELSIOR

None Others So Good

No others "just the same." Insist on **Excelsior** or write to us direct. Mention Cultivator.

Excelsior Cereal Milling Co.

242 Central Ave.
Los Angeles, Cal.

State Fruit Growers' Meet

Commissioner Jeffrey has sent to us his announcement for the convention to be held at Sacramento Dec. 1-4. From it we quote:

The subjects to be discussed at this meeting will be of more than ordinary interest to the fruit growers of the state. In view of the fact that there is to be a tariff revision early next year, every fruit grower should awake to this matter. The market questions concerning the disposition of many fruits should be thoroughly discussed, and the fact that the state insectary is to be dedicated at this meeting will lend added interest to the convention. Besides these, there will be many subjects of paramount interest to be considered.

The subject of noxious weeds is one of burning interest over a large portion of the state, and it is hoped to bring this subject to the attention of the fruit growers in time to prevent the spread of some of these new pests in other territories, and to recommend legislation regarding their control.

Another topic of great interest is the threatened invasion of the thrips, a small creature that has already rendered abortive hundreds of acres of deciduous fruits, and is now infecting some of the citrus territory. Dr. Howard and his associates will have papers on this subject. The fitting of the soils to the crops will be discussed by a government expert, and one of the chiefs of the Forestry Service will speak upon the protection of our water sheds, together with the State Forester. A special feature will be Northern California walnut growing, papers being presented by both a scientific man and a practical grower.

Judge Peter J. Shields will address the convention upon a subject relating to farm life that is being considered by the whole nation.

The convention will also consider at one session the horticultural laws of the state. It is expected that the committee appointed one year ago will have its report ready, and recommendations embodied leading to the revision of the horticultural laws of the state. One meeting will be devoted entirely to the consideration of county horticultural commission matters. There will be papers on the apple and other fruits; a paper on the tariff, and special prominence will be given in another session to the grape-shipping business. The Chambers of Commerce of Stockton and Lodi have united in presenting the topic of the Tokay grape in a valuable paper to be prepared by a writer chosen by these associations.

The number of papers will be fewer this year than ever before, owing to the general demand of the growers for more time for discussions at these conventions. In view of this fact, every fruit grower is invited to come to this convention prepared to present any ideas he may have for the betterment of the industry, and we hope to have ample time for this part of the work.

The usual low railroad rates will be available. It will be necessary in purchasing your ticket at your home office to secure a receipt for the same and present it to the secretary at the convention for his signature; you can then secure one-third fare on the return trip, making a one and one-third fare for the round trip.

California Promotion Committee

CALIFORNIA PROMOTION COMMITTEE.

The Counties Committee of the California Promotion Committee at its recent meeting in Los Angeles discussed from all sides the subject of the tourist in California. The question was not only handled from a general standpoint but each section had its own representative who gave papers touching upon the attractions of their section from a tourist standpoint. Sacramento valley, San Joaquin valley, the coast counties and Southern California, all were spoken of in the very highest terms.

Mr. Frank Miller of Riverside maintained that the one great factor in attractiveness which should be made more of in this state is the historical or sentimental side. That is, he said, much as we need good hotels, advertisements of them were of secondary importance compared with historical features such as the old missions which are most attractive to all comers from the East. Many people consider these attractions lacking in California, but from his standpoint we have sufficient of them if we made of them as much as possible. These, with our wonderful scenery, should be sufficient to attract our portion of the travel which now goes to European countries if we only advertised them properly. We are today receiving less than two per cent of the travel of the tourists of this country, the great bulk of it going to Europe.

The one factor which attracted most attention and livened up the meeting more than any other was the resolution introduced urging the establishment of a government line of steamers from Pacific coast points to the Panama railway, to connect at the eastern terminus with a government line to New York. This was warmly supported by Isidore Jacobs of San Francisco and opposed by Mr. Pierce and others from the northern end of the state. As a rule, southern people favored it and those from the north opposed it. In voting upon the question a division of the house was called for: 34 voted to table the resolution, 25 against tabling.

Walla Walla, Washington, hay buyers are taking in large quantities of timothy hay, hoping to secure government contracts which call for delivery of 9000 tons.

IRRIGATING HOSE

12 oz. canvas, coated or plain; good for several seasons. 1¾ inches, 2½ inches, 4 inches, 6 inches, 9 inches, 13 inches. Galvanized or brass couplings.

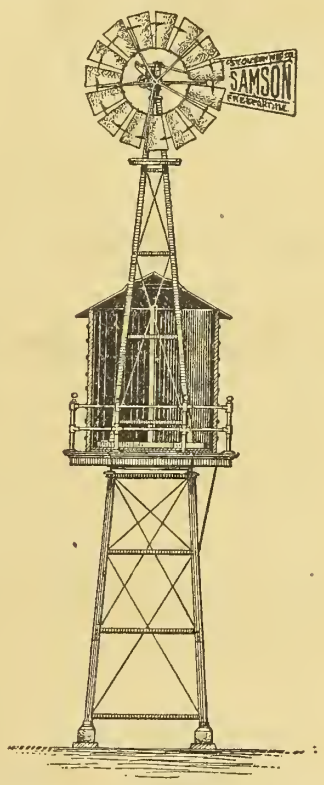
Tents, Tarpaulins. Picking Sheets, Picking Bags, Stack Covers

Our Tent Catalogue, mailed free, gives full information.

The Wm. H. Hoegee Co.
INC.
138-140-142 So. Main St., Los Angeles

SAMSON WIND MILLS

Have double gears, removable bearings and center lift, which double the life of the mill. They will last longer, pump more water and give better satisfaction than any other WIND MILL.

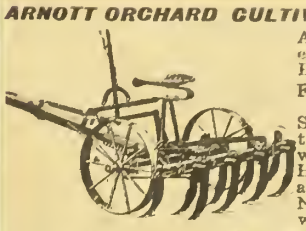


This is an up-to-date Sub-structure, Tank and Wind Mill outfit complete; substantial, economical and attractive. We build all kinds. Write us or our general agents for full information and prices, description &c., before purchasing.

The STOVER MFG. CO.
FREEPORT - ILLINOIS
California Avenue
CRANE CO., LOS ANGELES and SAN FRANCISCO
General Agents for California

EVERYTHING FOR THE FARMER

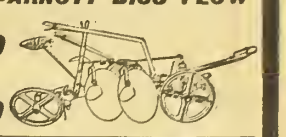
ARNOTT ORCHARD CULTIVATOR



Acknowledged the BEST
Five feet wide.
Spring teeth if wanted.
Horizontal lift, No neck weight.
Steel and Malleable Iron. Dust proof wheels..... **$45.00**

SANDERS-ARNOTT DISC PLOW

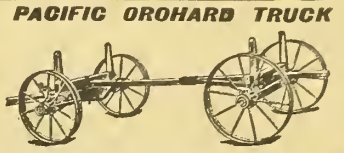
SINGLE **$60.00**
DOUBLE **$80.00**



COLUMBUS WAGONS

Three inch Skein.
Four inch Tire. Brake and Pole.
$80.00

PACIFIC ORCHARD TRUCK

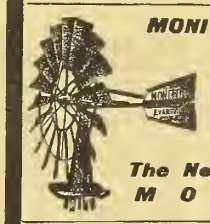


3¼x10 Skeins. 28x30 in. wheels.. **$32.50**

LEATHER TRIMMED

Guaranteed Twelve Months
$65.00

MONITOR WINDMILL

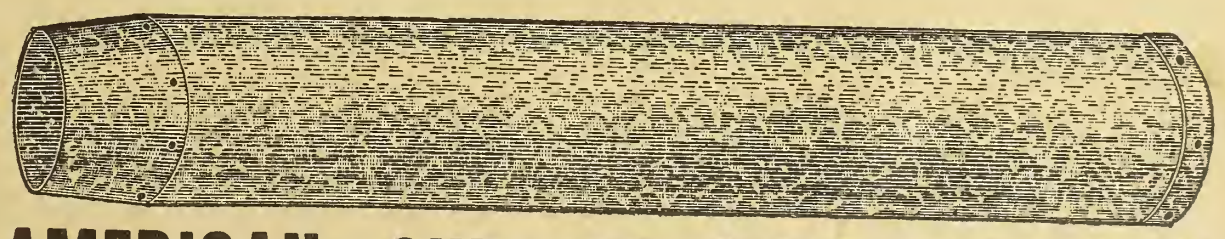


8 ft..... $30.00
10 ft..... $45.00
The New 8 and 10 Foot MONITOR

MONITOR ENGINE
Simple Economical
2 H. P....$130
4 H. P. $250
6 H. P. $350

Catalogue No. 9 Sent Free on Application
Address Department G.
ARNOTT & COMPANY Inc.
112-118 South Los Angeles Street
QUALITY ARNOTT GUARANTEED
Los Angeles California.

All young animals require plenty of exercise.



AMERICAN SURFACE IRRIGATION PIPE

SAVES WATER, GRADING AND TIME

The **only** way to **irrigate Alfalfa. Cheaper** than **Flumes.** This is only **one** of our **specialties.** We make **Riveted Water Pipe** in lengths of **ten feet** from **single sheets.** Let us **prove** to you that we make **Pipe** and **Tanks right.** WRITE FOR CATALOGUE.

AMERICAN STEEL PIPE & TANK COMPANY
FORMERLY TALLERDAY MANUFACTURING COMPANY
636-7 Pacific Electric Building Los Angeles, Cal

Queries and Replies

Questions to be answered in this department should be received at this office one week before reply is expected. Write plainly on one side of the paper and sign full name and address. Unsigned communications receive no attention.—Ed.

Wire-worms.

I have a letter and specimens from Santa Barbara asking how to rid the soil of wire worms.

This is a difficult question to answer, and anything that I can say will, I fear, prove unsatisfactory.

Wire worms are the larvae of click beetles. They are probably as hard to exterminate as any of our known pests. Various remedies have been tried with varying degrees of success and failure—(principally failure). Probably the best remedies are gas lime and carbon bisulphide.

The killing property of gas lime soon passes away, so it must be used fresh to be of any avail, and it must be used in large quantities (say 20 to 40 tons per acre), and then it is only partially successful.

Carbon bisulphide may be used in a limited space by making holes in the ground with a picket pin 14 inches apart and pouring an ounce of the liquid in each hole and covering immediately with earth. Care must be taken not to let the liquid touch the roots of any growing plant, as it will surely kill the plant.

The ground may also be sterilized by means of hot water pipes laid underground and close enough together to heat all of the earth.

A dozen or fifteen other methods have been tried, but the effective ones are prohibitive by reason of expense. —S. A. Pease.

Wire-worms.

"Will you give me advice as to the best treatment for getting rid of wire-worms? One bed in the greenhouse is alive with them. They destroy nearly every plant I have planted. As the location is very hot I had to mulch the ground in order to keep the soil cool."—J. R., Santa Barbara.

These wireworms are the pest of every gardener's life and the hardest to handle of any which he has to deal with. They are the larvae of the click-beetle, a worm like creature with a very hard covering, usually brownish or yellow white. There is scarcely a cultivated plant they do not attack. Continually spading and breaking up the ground especially in the dry season when it can be allowed to dry out and harden is the best remedy. This of course compels you to lose the use of the ground for a year or more. Some have endeavored to treat them with bisulphide of carbon but this is not entirely satisfactory. Fertilizing the soil with nitrate of soda and other mineral fertilizers is to a certain extent helpful but the only really effective way is the starvation plan of letting the ground go fallow.

See also Mr. Pease's reply to a Santa Barbara subscriber asking same question.

Mildew on Pumpkins.

A subscriber whose name we have mislaid inquired as to pumpkin vines which ceased to grow and half grown pumpkins would not ripen. They were covered with a whitish substance similar to mildew.

The letter was referred to Prof. Ralph E. Smith of the Pathological Laboratory and he writes:

Your correspondent's question in regard to pumpkin vines is scarcely definite enough to warrant a reply. It may be, however, that the vines are affected by the pumpkin mildew, which is not uncommon on this crop. This mildew appears as a white, frosty growth upon the leaves, similar to the mildew of the rose, grape and many other plants. These troubles are most apt to occur during moist weather, particularly when the difference in temperature between night and day is great.

The pumpkin mildew is not usually considered very serious or destructive enough to warrant any treatment. Other troubles of the same sort, however, are commonly controlled by the use of sulphur dusted on the leaves when they are wet with dew. If this seems worth while and the trouble is the one which I have described, your correspondent might try it.

Destroying Stumps.

Can you tell me of any acid mixture which will kill out stumps?—C. C. & M. E., Lemoore.

We do not know of any acid solution, but some have claimed that by boring large holes in the tops of stumps and filling with saltpeter, if done as soon as the tree is cut, the saltpeter is absorbed through all the stump and makes it far more combustible so that by the time it is dry setting fire to it consumes it to the very tips of the roots. Others say that by filling holes bored in the tops of seasoned stumps with coal oil the entire stump is saturated so that it readily burns out. If any subscriber has experience, will he kindly inform our Lemoore subscriber?

Raisin Stemmer.

Kindly let me know if there are any stemmers of raisins on the market for small quantities. I have about 500 pounds Thompson Seedless which I would like to stem.—Subscriber, Chico.

We do not believe there is any stemmer which could be had which would pay to buy for small lots of raisins like this.

Green Manuring.

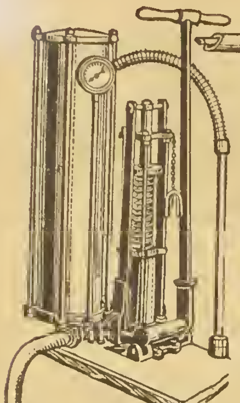
I had wished to plant vetch for green manuring this fall, but as the rains have held off and it is now so late I have thought of putting in barley for hay, and after taking off the hay irrigating and planting vetch. In case that would be best, when should that vetch be turned under?—F. G., Greenfield.

If you have water at this time to irrigate with, we imagine you could do well still in growing vetch this season, as it grows very well during the cold season, better, in fact, than the field peas. You do not say what you wish to prepare the land for ultimately, or when you wish to have it ready for the planting. If you should plant the barley now and then plant a spring crop for green manuring, we think you would find better results from planting cow peas. They are a better summer grower than the vetch. You must bear in mind, however, that any summer crop for green manuring will require an immense amount of water. If you have sufficient water to wet the ground before plowing you could plow at any time when the plants have reached sufficient bulk to make a heavy covering of the ground. If not, then it would be necessary to wait until the rains come to enable you to do the plowing.

Seedless Dates.

I have a three-year-old date palm which has two large bunches of dates. These dates are of fine flavor, but seedless. Is a date without seed common?—W. B. Richards, Holtville.

The Corning Irrigation Company will send a representative to Washington in the endeavor to prevail upon the Reclamation Service to assist in securing water for lands in Tehama county.



See That Patent spring?

It means much to the fruit grower who realizes the need for effective spraying, but deplores the ordinary pump with its exhausting labor, its unsatisfactory spray and its continual clogging and bother. This spring is found only in

Bean Magic Spray Pumps

It would be found in others, but the Bean Patents prevent it. This spring divides the work, permitting the operator to do half the work at each stroke of the handle. And he works against but half the pressure indicated on the gauge. It saves just one-third the labor. Two sizes of Bean Magic pumps; both have Bean patent spring, non-clogging ball valves, and other exclusive features.

Our illustrated catalog No. 21 describes ten sizes of hand pumps, and contains much valuable spray information, and formulas. Catalog No. 22 describes Power Sprayers. Both books sent free. Write for our special offer; state number of acres and kind of fruit.

Bean Spray Pump Co.
212 West Julian Street
San Jose, Cal.

Bank by Mail at 4%

It is an advantage to have your money in a large Institution, located in a large centre of population. We have special banking facilities for out-of-town depositors. Write for information.

German American Savings Bank
Spring & 4th Sts., Los Angeles

Milch Goats

For Sale, 250 head American Milch Goats, bred to Swiss bucks. Will sell cheap if taken soon.

J. F. Zion
Lock Box 43 Phoenix, Arizona

300,000 Feet Water Pipe Cheap

ALL SIZES

150,000 feet of this shipment is second-hand pipe, practically as good as new, and is now on sale at a big discount by the Adams Pipe Works, 2025 Bay street. Sizes and prices: ¼-inch 2 cents per foot; ⅜-inch, 2 cents per foot; ½-inch, 2¼ cents per foot; ¾-inch, 3 cents per foot, 1-inch, 4¾ cents per foot; 1¼-inch, 6 cents per foot; 1½-inch, 7 cents per foot; 2-inch, 9¾ cents per foot; 2½-inch, 15 cents per foot; 3-inch, 19 cents per foot; 3½-inch, 24½ cents per foot; 4-inch, 30 cents per foot.
Oil well casing prices and sizes: 2-inch. O. D. 7 cents per foot; 2-inch, I. D. 9 cents per foot; 3-inch, 13½ cents per foot; 3¼-inch, 16 cents per foot; 3½-inch, 17 cents per foot; 4-inch, 20 cents per foot. All pipe is carefully inspected, new couplings and new thread are put on every piece, every joint is guaranteed to be first class, serviceable pipe. Mail orders promptly filled. To reach the Adams Pipe Works in Los Angeles, take car marked Pacific Boulevard, starting east on Seventh street from Broadway. Ask conductor to let you off at Bay street and go east half a block. Phones, F1917, Broadway 1264.

PLUMBING
Plumbing Materials
WATER SEWER PIPE
ALL PLUMBING REPAIRS
We contract to furnish all the materials and do the work or furnish the materials only.
GET OUR PRICES
JAMES W. HELLMAN
Hardware, Stoves, Etc.
157-161 NORTH SPRING STREET
LOS ANGELES, CAL.

Peckham Says:

Buy Sugar Beet Land

for profits—buy our Corcoran land, the best sugar beet land in the State of California. Every acre of our land will net you from $70 to $90 an acre—clear profit and we will farm it for you if you wish. Call, write or phone

George C. Peckham & Company

Phones: Main 3221, F5392.
203-4-5 Union Trust Bldg., Corner Fourth and Spring Sts., Los Angeles Cal.

We are not sufficiently informed on date culture, but take it this is a freak in the date family. It is possible it is a very valuable one. At least, we would give it every possible attention and care to secure its perfect growth.

Calf Shed.

Is it necessary for a calf to be under shelter these nights, or is it best to leave in corral? Some think the nights too cool for the calf to be out. —A. L. H., San Bernardino.

We have seen farmers who felt that the "hardening process" of short feed and exposure to the elements was a good thing for young stock. But without question the more successful farmers believe in protecting youngsters from storm and from the night chill. You must bear in mind that the heat given off by stock exposed to weather can only be made up by extra feed. If feed is of value, it is worth while to protect the stock. In addition, we believe healthier, quicker growing stock will be given to you if given a reasonable degree of protection. This does not mean they are to be pampered and kept unduly warm in a close house.

GOMBAULT'S
CAUSTIC BALSAM

A safe, speedy and positive cure for

Curb, Splint, Sweeny, Capped Hock, Strained Tendons, Founder, Wind Puffs, and all lameness from Spavin, Ringbone and other bony tumors. Cures all skin diseases or Parasites, Thrush, Diphtheria. Removes all Bunches from Horses or Cattle.

As a **HUMAN REMEDY** for **Rheumatism, Sprains, Sore Throat,** etc., it is invaluable.

Every bottle of **Caustic Balsam** sold is Warranted to give satisfaction. Price **$1.50** per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars, testimonials, etc. Address

THE LAWRENCE-WILLIAMS COMPANY, Cleveland, Ohio.

FARMERS' BOOKS

Order Through the Cultivator

THE BOOK OF ALFALFA.—By F. D. Coburn. Most thorough treatment of this most important subject by its leading authority. The book is printed on fine paper and illustrated with many full page photographs that were taken with the especial view of their relation to the text. 336 pages, bound in cloth, with gold stamping.
Price..... ....$2.00

FEEDS AND FEEDING.—By Prof. W. A. Henry. Is a thorough, accurate and reliable handbook for students and stockman, giving most practical and useful knowledge on plant growth and animal nutrition, feeding stuffs, feeding animals and every detail pertaining to this important subject, indispensable to every owner of live stock. 653 pages. 6x9 inches.
Cloth $2.00

AMERICAN GRAPE GROWING AND WINE MAKING.—By George Hussmann of California. With contributions from well known grape growers, giving wide range of experience. The author of this book is a recognized authority on the subject. Illustrated. 269 pages. 5x7 inches.
Cloth $1.50

STANDARD OF PERFECTION.—By the American Poultry Association and used as the standard for judging all shows. The thing for dealers in fancy stock.
Cloth $1.50

PERFECTED POULTRY OF AMERICA.—This is the most recent publication, and is one of the finest poultry books ever issued. It contains full page illustrations of all breeds and varieties of poultry, turkeys and water-fowl. On many of its pages are represented the feathers from each section of the fowl. Gives the information necessary for the selecting of the best specimen in your flock.
Cloth $2.50

A. B. C. AND X. Y. Z. OF BEE CULTURE.—By A. J. and E. R. Root, the leading authority on Bee Culture Its reputation is known to all Beekeepers. 536 pages.
Cloth $1.50

CAMPBELL'S SOIL CULTURE MANUAL.—By H. W. Campbell. The originator of the "Campbell System of Dry Farming." A complete guide to scientific agriculture as adapted to the semi-arid regions. Of great value to all Western ranches. 320 pages.
..... $2.50

THE NEW AGRICULTURE.—By F. Byard Collins. A new and authoritative work dealing with the changing agricultural conditions. Why "Back to the Soil" is calling millions from the cities to the farm. The debt which agriculture owes to science. Irrigation, fertilization, machinery, etc. Illustrated, 374 pages, cloth.....$2.00

Cultivator Publishing Company

Artichokes.

Kindly inform me concerning the care of artichokes (Alcachofa), and whether they can be raised on a small scale for family use in this section?—F. H. P., Pomona.

We take it you mean the globe artichoke, Cynara scolymux, or the plant which yields its flower buds for our consumption. This plant will thrive on any well prepared garden soil; even on the heavier adobe it has been known to do well if cultivated so as to retain moisture. It is benefited by heavy manuring. The plant grows from seed, which are usually started in boxes in the fall, or where dependence is placed upon the rain, as soon as heavy rains come. The seedlings may then be transplanted to their permanent location in the garden. Or if you have old plants they may be subdivided and the suckers removed and used for new plantings. The plants will bear and do well, if given good care, for many years. In field culture the rows are usually 4 or 5 feet apart and plants 3 feet apart in the rows. Gather the buds for use before the well formed scales open. If you should mean the Jerusalem artichoke, plant and treat the same as you would potatoes.

Lime Solution on Roses.

Some time ago I saw an article under the head "The Ornamental Garden," on the tendency of rose buds to blight at this season meaning insects at the roots. It said to dissolve a peck of fresh lime in a barrel of water and give the ground a good soaking with the solution, using only the clear water on top. But it did not say how often to repeat. Will you please inform me how often? My roses bud, but won't open, just die.—A. B. N., Gardena.

Two applications at intervals of 4 or 5 days will be sufficient.—Q. A. L.

Failed to "Come to Her Milk."

My cow was fresh middle of September, but her milk did not come for two weeks, and she gives only half what she should. She gets all she wants to eat. We give her the best alfalfa and pumpkins, which are salt so she'll drink, but she drinks very little. What can we give her to start the flow of milk?—New Subscriber, Chino.

The time to start the milk flow is within ten days of calving. The only thing I could suggest would be to chop up some alfalfa hay and pile it up well wet, turning it two or three times to be sure it is wet all through, then cover it up and let it heat. Feed it at the rate of twenty pounds a day in two feeds. I would not try to force the cow to take salt except you do it by giving her it in a soft slop of bran. Cows have their off years, sometimes, and the cow may come out all right next year. Whenever a cow's milk does not come within forty-eight hours after she freshens it is time to do something, as there is usually fever. Most of these cases are from incomplete cleaning.—M. E. S.

Bran for Cows.

My cows run on green alfalfa, also have all the alfalfa hay they can eat, and have free access to a straw rack. I would like to ask you if it would pay to feed them grain or bran, and how much per cow a day?—C. L. J.

I should not advise buying other feeds, as the grains are out of sight in price. The ordinary dairyman cannot uusually afford to buy mill feeds when they go above $15 a ton. If you had some corn, the cows would give more milk. Better plan to grow it next year for fodder. In a few years you will have it in a silo—corn silage with alfalfa hay makes more butter than anything that can be grown at the price.—M. E. S.

Peanut Butter.

In the issue of the Cultivator of Nov. 19, I notice a request signed "F. K. H.," for information regarding the manufacture of peanut butter, and as I was formerly in the wholesale confectionery business and have made a great deal of this preparation, I gladly give "F. K. H." the benefit of my experience.

Peanut butter is made by grinding blanched roasted peanuts as fine as desired. An ordinary food chopper will do it satisfactorily if they are put through it several times.

After they are thoroughly ground, some preparation of a "fatty" or oily nature should be mixed with them to make them into a paste. This should be something that has a melting point of about 70 degrees Fahrenheit in order that it will not congeal in cool weather. I usually used a preparation called "Nut Lard," or another one called "Konut." Both of these are made from cocoanut oil and do not grow rancid either with age or warm weather. Any confectioner's supply company handles them. Cocoa butter is very satisfactory but is more expensive.

Hoping this information will be of some use to the inquirer and expressing my appreciation of your very valuable paper, I am very truly yours.—T. E. Wilson, Ceres.

Pruning Malagas.

What course shall I pursue in pruning Malaga vines planted this last March on adobe soil, surface irrigated. Grapes are intended for table use, so would have to be free of the sticky soil. My intention is to cut away all but one cane, leaving that one 26 inches long and tying to a four-foot stake standing 30 inches above ground. Tied-up cane to remain permanently. Also please state if you can recommend a book on pruning table grapes. —R. W., Lindsay.

We know of nothing on pruning better than Prof. Wickson's book on California fruits. You are simply pruning your Malagas in the regular way. We all prune them to the half high crown—20 to 24 inches for the upright cane, cutting above a good bud. Next season cut back to one or two buds on each spur coming from this first bud, and after five years the stakes can be removed and the vines will stand up all right. It is doubtful if you can tie up all the vines this season. We then prune them back and during July or August stake up the leader without pruning it. Better run one deep furrow for irrigation two or three feet from the vines—it is cheaper, and the vines will send their roots down better.—M. E. S.

Chestnuts Will Not Keep.

I am a grower of chestnuts, but

Continued on Page 527.

Classified Liners

Rates 1½ cents per word per issue. No ad accepted for less than 25 cents. Our classified columns are the clearing house for the readers of the Cultivator. Here you can insert an ad for the small sum of 1½ cents per word per issue, and be sure that it will be read by thousands.

MACHINERY.

FOR SALE—MEHRING MILKING MAchine with extra parts and covered pail, all in good order. WM. H. BIRD Box 6, Compton, Cal.

FOR SALE—COMPLETE PUMPING PLANTS gasoline engines and centrifugal pumps. Also steam engines and motors. Bargains in machinery. See us before buying, we can save you money. BAILIE & BRANDT CO., 943 N. Main St., Los Angeles, Cal.

FOR SALE—RENT OR EXCHANGE, BOILers and engines, gas engines, pipe and oil well casing, pumps, all sizes and makes; get our prices before you buy. A. CANNALY & CO., 691 N. Main st., Los Angeles, Cal.

FOR SALE—MUST BE SOLD QUICK, OTTO distillate engine in good running order, cheap for cash. N. W. Cor. Main and Bruno Sts., Los Angeles, Cal.

FOR SALE—WE HAVE A VERY COMPLETE stock of both A. C. and D. C. motors and prices are right. BAILIE & BRANDT CO., 943 N. Main St., Los Angeles.

FARM LANDS FOR SALE.

$7.50 FOR THIS AD.—WE WILL MAKE A special offer to the readers of the Cultivator. Bring this advertisement and we will refund $7.50, if you engage us to locate you on the finest Government land in the Southwest. Come and see us, you will learn something. LORS LAND COMPANY, 204 Bradbury BLDG., Los Angeles.

AN 80 ACRE FRUIT, VEGETABLE, AND Poultry Farm. A good home, well equipped, $6000 takes everything $3000 Cash, bal. easy terms. WM. MANTZ, Santa Maria, Cal.

FIFTEEN ACRES IN KINGS COUNTY, sandy loam, good house, water, trees and vines; ¼ mile from town. Drop me a card. G. C. O. Box 175, Lemoore, Cal.

I make a specialty of orange and alfalfa ranches, and exchanges. 826 MAIN St., ROOM 9, Riverside, Cal., N. R. BELL.

RANCHES WANTED.

WANT TO PURCHASE A WELL IMPROVED orange or lemon ranch of 15 or 20 acres, not particular as to location if soil, water and climatic conditions are favorable. Our party will pay up to $15,000 for a suitable property in a high-class Los Angeles industrial corporation, free from debt and making money. This interest would not require your time, is not subject to taxation and should grow to be worth double its value today. Address J. N. WILLIAMS & CO., 304 I. W. Hellman Bldg., 411 S. Main St., Los Angeles Cal.

POULTRY

BLUE ANDALUSIANS—MRS. GRIFFITH'S Blue Andalusians are still in the lead; noted for their utility and show records, layers of large white eggs weighing from 26 to 28 ounces per dozen. Eggs for hatching $2.50 per 15 guaranteed; also few trios $7.50 to $10. MRS. GRIFFITH, 3957 HALLDALE AVE., Los Angeles, Cal. TEL WEST 841.

CHAS. E. SMITH—BREEDER OF BARRED Rocks exclusively. Winners of the blue wherever shown. Eggs $3.00 per 15, stock for sale. GARDENA, Cal.

FOR SALE—MAMMOTH BRONZE TURkeys, one eighth wild, but very tame. Strong stock having free range. Price reasonable. Mrs. H. E. Guthrie, BUENA PARK, Cal.

FOR SALE—100 S. C. WHITE LEGHORNS, twenty months old, good layers, strong and healthy. Ten dollars per dozen. D. CLAYTON, Colusa, Cal.

WHITE MINORCAS—SETTING EGGS $2 for 15; $3 for 30. Incubator lots, $6 per 100. C. S. LANE, Santa Barbara, Cal.

TREES.

A LARGE STOCK SEEDLINGS AND GRAFTed Walnuts, Elberta, Muir, Lovell, Phillips cling and all other peach, Apple, Pear, Plum, Apricot trees. All varieties trees, grapes and roses. A thrifty well rooted stock and will please you.—A. R. MARSHALL, BOX 64, Santa Ana, Cal.

WALNUT TREES—5000 LARGE, STOCKY seedlings. Seed from grafted trees of Placentia Perfection variety. Will sell very cheap if taken before Jan. 1st. as land must be cleared. G. W. SHERWOOD, Fullerton, Cal.

WANTED A THOUSAND PEACH SEEDlings one year old and 3000 to 5000 orange seedlings two years old, and some Ficus australias 2 feet and up. IMPERIAL VALLEY NURSERY, El Centro, Cal.

FRUIT TREES AND FIELD GROWN roses. The very best at H. L. BAUER & SONS, 737 S. Spring St. Write for Catalog.

SHOPPING BY MAIL.

SAVE MONEY AND GET A BETTER choice by shopping in a large city. We will do your shopping for you. Send for our free book. It tells you how. LOS ANGELES PURCHASING CO., 506 Bradbury Bldg., Los Angeles, Cal.

BEES. WANTED.

WANTED—A BEE RANCH AND BEES located in Ventura county, Chatsworth Park, or Newhall district. GEO. LARINAN, 144 West Green St., Pasadena, Cal.

HOGS.

REGISERED BERKSHIRE AND POLAND China hogs, both sexes. C. A. STOWE, Stockton, Calif.

The Oldest Savings Bank in California

FOUNDED IN 1857. CAPITAL FULLY PAID $1,000,000.00

The Savings and Loan Society

101 Montgomery St., Cor. Sutter St., San Francisco

Exclusively a Savings Bank whose policy is for ***Conservatism*** and ***Safety,*** the result of ***Fifty-One Years' Experience.***
Deposits may be made and withdrawn by mail.

San Francisco Savings Union

Founded June 18, 1862 **Northwest Cor. California and Montgomery Sts., San Francisco**

Conducts a Savings Bank Business Exclusively

Capital Paid Up, $1,000,000.00 Surplus, $1,183,632.00

Total Assets, $27,508,850.00

E. B. POND, President.

W. C. B. de FREMERY AND C. O. G. MILLER, ... Vice-Presidents
LOVELL WHITE, Cashier. . . . . R. M. WELCH, Asst. Cashier.

Directors: John F. Merrill, Wm. A. Magee, W. C. B. de Fremery, H. C. Breeden, Jacob Barth, Fred H. Beaver, Wakefield Baker, C. O. G. Miller, E. B. Pond.

Every facility afforded for opening accounts and making deposits and withdrawals by mail. Correspondence invited.

LEARN

Plumbing, Electricity, Plastering or Bricklaying

Our graduates make $6 per day after three months instructions
You can enter at any time.—No previous knowledge required.

NO BOOKS—TOOLS TAKE THEIR PLACE

Day and Night Classes. Our Scholars are from 15 to 50 years old

Positions Secured and Experience Given on Outside Work

Write for Free Catalogue

COYNE NATIONAL TRADE SCHOOL Inc.

233 8th Street, San Francisco, Cal.

Angle Lamp

The Light That Never Fails

Thousands in use all over the country. A good light is the greatest pleasure and the first necessity of every home.
The only lamp on the market that is sold under an absolute guarantee.
Remember, the light from Kerosene is the light science has agreed upon as being the purest and best, because it is soft and mellow and restful to the eyes.
Here are a few of The Angle Lamp Merits:
NO UNDER SHADOW. NO SMOKE, NO ODOR, LITTLE HEAT.
GREAT ECONOMY—COST LESS TO BURN than an ordinary lamp. As easy to operate as gas or electricity, and better than either. ABSOLUTELY SAFE under all conditions. Lighted and extinguished like gas. Burned HIGH or LOW like GAS without a trace of odor. And a BRILLIANT, soft, steady, shadowless light—but this you will have to see to appreciate.
The lamp as shown in cut burns 22 hours on 3 quarts of oil.

Send for Illustrated Catalogue with Prices

Boesch Lamp Co., (Est. 1869) 1135 Mission St., San Francisco

When writing advertisers, mention Cultivator.

$16.30 buys this handsome six-hole Nickle-Trimmed Cast Range direct from the Manufacturer

without high shelf. With high shelf, just as shown in the cut, $19.97; large oven, six cooking holes, best quality of Iron. Burns coal or wood. Handsome nickle trimmings. OUR TERMS are the most liberal ever made. You can pay after you receive the range. You can take it into your own home and use it 30 days. If you don't find it exactly as represented, the biggest bargain you ever saw you won't have to keep it.

Write today for our beautifully illustrated Stove Catalogue No. 101-C. A postal card will do it. Don't buy until you get it.

P. F. Ross & Co.

268 Market St. San Francisco, Cal.

Make Yourself and Family the finest Christmas Present on Earth. My Portable Billiard Table means worlds of undiluted enjoyment for all. A postal will bring catalog showing many styles and sizes, at prices easily within your reach.

C. Ridderhof, Laughlin Bldg., Los Angeles

Absolutely Safe 6% Bonds

We sell strictly safe Oklahoma school, county Municipal and Street Improvement Bonds. We pay 4% on deposits. Guaranteed by State Laws of Oklahoma. Capital $200,000.

Write for Bond Circular A 49

OKLAHOMA TBUST CO., Muskogee, Okla.

Household Department

RECESSIONAL.

Composed at the Queen's Jubilee and Naval Review, 1897.

God of our Fathers, known of old,
Lord of our far-flung battle line,
Beneath Whose awful Hand we hold
Dominion over palm and pine—
Lord, God of Hosts, be with us yet,
Lest we forget—lest we forget!

The tumult and the shouting dies;
The captains and the kings depart;
Still stands Thine ancient Sacrifice,
An humble and a contrite heart.
Lord God of Hosts, be with us yet,
Lest we forget—lest we forget!

Far-called, our navies melt away;
On dune and headland sinks the fire;
Lo! All our pomp of yesterday
Is one with Nineveh and Tyre!
Judge of the Nations, spare us yet,
Lest we forget—lest we forget!

If, drunk with sight of power we loose
Wild tongues that have not Thee in awe,
Such boasting as the Gentiles use,
Or lesser breeds without the Law—
Lord, God of Hosts, be with us yet,
Lest we forget—lest we forget!

For heathen heart that puts her trust
In reeking tube and iron shard;
All valiant dust that builds on dust,
And guarding, calls not Thee to guard;
For frantic boast and foolish word—
Thy mercy on Thy People, Lord!

—Rudyard Kipling.

ROMANCE OF THE DESERT.

OLE Swanson and Miss Tillie Hanson, both of Imperial county, came diffidently into the office of O. R. W. Robinson, Receiver of the Land Office, yesterday, says a report in a Los Angeles Daily paper. Ole was smiling, Miss Hanson blushing.

"Way ban wan' gat married." said Swanson.

"No objections," replied Mr. Robinson, "but you're at the wrong place. This is the United States Land Office. You want to see the County Clerk at the court house.

"Ay know," replied Swanson, "but my gal. she tal me we have to see Uncle Sam fairst and mak sure on land.".

Miss Hanson quit blushing, and at once proved that in their household she won't be simply Mr. Swanson's wife, but that he will be Mrs. Swanson's husband.

"We have," she told Mr. Robinson, "homestead claims next each other in Imperial valley. Both together, we take up a whole section. Now Mr. Swanson he ask will I marry him. I say yes. But before I do so I want to know if, when we make final entry, both of us can take the land we file on—yes or not?"

Mr. Robinson looked up the law. It said plainly not. He told Miss Hanson so.

"Then Ole," she said, turning toward her sturdy pioneer beau, "we will wait four years until we both have homesteads for keeps. Then we will have this big farm anyhow.

But Mr. Swanson was at that fervid stage of love which ill brooks delay.

He turned appealingly to Receiver Robinson.

"Ain't there ban no way to gat them lands togather?" he inquired.

"None," said Mr. Robinson. "I am sorry I can't oblige you, but the law is strict on that point. You can't get an extra half section by marrying the claimant."

Here Mr. Swanson asserted himself.

"Dan," he announced, "Ay'll tak' 160 acre and may gal."

He gathered Miss Hanson in his big, long arms. She didn't resist.

"We gat married. Those other 160 acres bay hang!"

And Swanson winked and grinned at the receiver as he backed out of the door, his sweetheart still close in his hearty embrace.

A PROCESS IN OUSTER.

WHEN the Thortons moved into their new home, Mr. Willis Thorton, the young man of the family, took great satisfaction in the sole possession of a big hall closet. He had never before had ample accommodations for the proper putting away of his belongings, and it was a real pleasure for him to be able to arrange his coat hangers and trousers stretchers in neat, uncrowded rows, says "Youth's Companion."

"Willis," said his younger sister one morning, shortly after they were settled in the new home, "Mme. Brazee sent my new visiting gown home yesterday, and I havn't got my wardrobe in very good order yet, so if you don't mind I'll just hang the dress up in your closet. You have such lots of room."

"All right, sis. I guess I can spare you a hook."

It was somewhat of a surprise to Willis when he opened his closet that evening to find not only the new gown, but a voluminous party cloak hanging there. Thinking that the demands upon the hospitality of his closet would be temporary only, he made no comment, even when a few days later he observed that his handsome spring overcoat had been hung on the same hook with his old raincoat to make room for a most feminine-looking riding-habit. But the evening that he discovered all his clothes crowded into the small end of the closet and the rest of the space occupied by two fluffy dancing frocks, a tennis skirt, golf suit, walking dress and several outdoor wraps, even his easy-going spirit rebelled.

He carefully took down all these articles and laid them on the chairs in his room, and re-arranged his own apparel once more in its original order in his own closet.

The next night at dinner his sister said, severely, "I've just seen, Willis, how you've treated my clothes. If you do such a thing as that again I just won't let you hang any of your things in that closet."

HOMELY HINTS.

If you will, get one ounce of oil of sassafras, and then use it every time you scratch or cut yourself. Apply it four or five times a day. It will also relieve the soreness of cankers which come in the mouth if applied from four to six times the first day you feel them. Don't forget to try it.

We note the following in an exchange which may be good if it does not injure the clothes. It looks like a labor saver.

The following is an excellent washing fluid: One can of lye, 5 cents worth salts of tartar, 5 cents worth powdered ammonia. Place an iron pot or earthen vessel upon the stove and put a quart of water into it, then put in the ammonia and salts of tartar. When they have dissolved fill the vessel to contain two gallons, then add the can of lye. After all the in-

gredients are thoroughly dissolved pour mixture into a jug and set in some unused place where no one will use it by accident. Assort your clothes on the day previous to washing them, place them in tubs or boilers, where they are to be soaked. Heat sufficient water to cover the clothes and add one-half cup of the fluid to each five gallons of water, also soap enough to make a good suds. Pour this over the clothes, cover with pieces of carpet or any thick material to keep the steam in. Next morning put enough warm water into the tubs so the water will not seem cold to the hands. Rinse the clothes, boil in water prepared as before, stirring occasionally, rinse blue and hang out to dry. You will find your clothes clean without rubbing. The fluid is so cheap any one may have it.

GARBAGE.

In what matters is there a special demand for this neatness? On the farm there is the garbage, the rubbish or waste matter from the house and the general litter scattered about the grounds. The barnyard needs attention to prevent the all too prevalent helter-skelter disposition of the farming machinery and implements. Then neatness calls for prompt and efficient repairs on our farm buildings and their appurtenances.

With regard to garbage, which is offal or refuse matter from the kitchen, on the real farm the most of it is of service for the pigs or for the poultry. Yet there must be some place where it can be kept until it is wanted for such use. A pail or garbage can may serve for this temporary storage. Of course these receptacles should be emptied frequently. The pail or the can should be kept outside of the house and should preferably be placed in a box or some light covered structure built for the purpose. This should be convenient to the kitchen door and should be sightly in appearance. Such an arrangement removes all temptation to cast the garbage about the yard. It provides a sanitary and convenient method of disposing of the offal. Then it tends to do away with an important source of ugliness in our surroundings.

RUBBISH FROM THE HOUSE.

Rubbish or waste matter from the house such as empty tin cans, broken dishes, old boots and shoes, ashes and the like are much more troublesome sources of annoyance than garbage. How common a sight it is to see discarded boots and shoes lying about the dooryard, or to see ashes piled up here and there or spread about on the drives and walks in a purposeless manner. The tin cans and broken dishes, if they have gotten beyond the back door step, are probably reposing by the side of the highway, making known our untidiness to all the passer-by. How bad this all is! How inconvenient! How ugly! How fundamentally wrong!

There should be a temporary receptacle for our ashes. There should be another for the cans, the broken dishes and the cast-off garments. These should be convenient, neat in appearance and inconspicuously placed. From time to time their contents should be removed. The final resting place for this rubbish should be selected with care. It ought to be in some out of the way place where it is not likely to intrude upon the surroundings. Very often it happens that there is some hole that requires filling. This is the very spot for our rubbish. If there is no place of this nature, it is really worth while to make an excavation in some out-of-the-way corner and reserve it for the burial of waste matter. By all means keep yourself from depositing it by the side of the highway. If you are shameless in this respect or take delight in vaunting your own slovenliness, please consider the rights of others. The public has a right to a neat and attractive highway. This right you are bound to respect.

HOW TO CARVE A TURKEY.

Not a bone of the bird should be scratched by the knife or touched by the fork. I shall take off the joints, slice the breast and cut out the oyster pieces, and the carving-knife will not so much as rub against a bone.

I place the turkey on one side, and secure the leg and second joint with my fork. With one stroke I put the knife beneath it in such a position that when I raise the fork the path of the knife will clear the joint completely from the bird and separate the ligaments, with the bone showing firm and appearing without a blemish. I put it on the edge of the platter, and later I will divide it without any difficulty at all. Look at this second joint. There is not a bit of flesh left on the bird that should have come off in the carving.

The next move is toward the wing. I get a good hold on that with the fork, then with the knife placed carefully beneath it I lift the fork slowly and firmly, while the knife does its work well.

The taking off of the joints I consider the most important part of the carving. A carver can spoil a dinner by not knowing his business. He can make everybody feel uncomfortable and sorry they came; or he can take away their appetite by letting the bird flop in a greasy trail half over the platter or seem perilously near landing in the guest of honor's lap.

Now I am ready to slice the breast. I lay the turkey on its back and put the fork in, so. Then above the wing I cut through the thickness of the breast so when I slice it the pieces fall off abruptly. I cut them very thin and remove all the meat with the utmost care. When it is all done it is arranged about the platter so the matter of giving each guest what he or she fancies is a most simple one.

Here I have come to the real test of every carver. It is time to remove the oyster piece. You will see it is whole and comes out with one stroke of the knife, leaving the bone without a fragment of covering and with nothing to show a knife has been near the surface. The other side, of course, gets the same sort of treatment, and the bird is stripped.—New Idea Woman's Magazine.

ASKING TOO MUCH.

I believe there's a story told of Mark Twain that in youthful days, being sent out by his mother to weed a certain flower bed, and finding more weeds than flowers, he came back in and asked if he might not "flower the weed bed."

Our little Alfred probably has as great an aversion to work as had the youthful Clemens. Admonished to pull some rather large weeds in the back yard, after a faint-hearted lift on one of them, he shouted:

"Mama, how do you think I'm going to pull these weeds when the whole world is hitched onto them?"—November Woman's Home Companion.

Mayer

WORK SHOES

Tough stock, heavy soles, solid counters, double leather toes, double seams and high-grade workmanship are what make Mayer Work Shoes last longer than any other kind.

Farmers, miners, lumbermen, mechanics and all classes of workmen can get double the wear out of

MAYER WORK SHOES

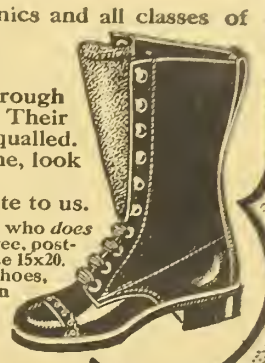
They are honestly made—solid through and through. They are *"built on honor."* Their strength and wearing qualities cannot be equalled.

To be sure you are getting the genuine, look for the Mayer Trade Mark on the sole.

Your dealer will supply you; if not, write to us.

FREE—If you will send us the name of a dealer who *does not* handle Mayer Work Shoes, we will send you free, postpaid, a beautiful picture of George Washington, size 15x20.

We also make Honorbilt Shoes, Leading Lady Shoes, Martha Washington Comfort Shoes, Yerma Cushion Shoes and Special Merit School Shoes.

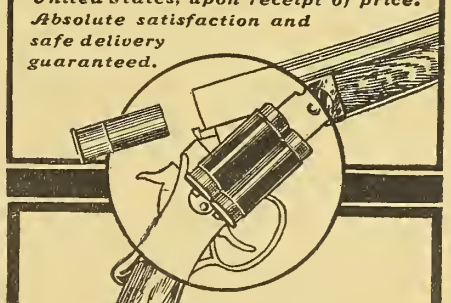


F. MAYER BOOT & SHOE CO.
MILWAUKEE, WISCONSIN

WESTERN BRANCH: Washington Shoe Mfg. Co.—Seattle.

This quick-firing "three-shot" gun is the handiest and most up-to-date article ever made in the shot-gun line. It's yours for $8.00

Sent by express, prepaid, to any address in the United States, upon receipt of price. Absolute satisfaction and safe delivery guaranteed.



The HOPKINS & ALLEN "Three-Shot" Gun

is unequalled for quick shooting. The three shots, one in the gun and two in the clip, can be fired with the rapidity of a repeater. No more missing good shots because your ammunition isn't with your gun. There are always two shells in the clip. No need of keeping a loaded gun in the house—a shell is slipped into the breech at a second's notice. Your gun is always ready for a shot at hawk or game, and you don't have to hunt for shells while the game gets away.

You were never offered a gun as good as this for the price.

Fine decarbonized steel barrels bored full choke for close shooting and deep penetration. Frame case-hardened. Stock and fore-end fine walnut. Top snap action, locks automatically, and joint takes up its own wear. Rebounding hammer, rests in safety notch after firing, eliminating danger of accidental discharge. Hard rubber butt plate. This gun is guaranteed to shoot factory-loaded nitro powder shells. 30 or 32 inch barrels. Automatic ejectors.

1908 GUN GUIDE, FREE!

Our Gun Guide and Catalog for 1908 describes in full 11 styles of double guns, 8 styles of singles, 10 styles of rifles and innumerable kinds of revolvers. Gives lowest prices and offers most complete line. No sportsman or gun lover should be without it. Write for it now.

THE HOPKINS & ALLEN ARMS CO.
Chestnut Street Norwich, Conn.

PIANOS Slightly used Steinways; 1909 Models Lyon & Healys, and other remarkable Bargains. Lyon & Healy, 80 Adams St., Chicago.
World's Largest Music House
Our Great Re-Building Sale is Now in Progress!

EDISON PHONOGRAPHS, VICTORS, ZONOPHONES
Records and Supplies, delivered at your nearest railroad station upon receipt of full retail price. Write for particulars and ask for catalogue. Peter Bacigalupi & Sons, 1113-15 Fillmore St. San Francisco

Oldest and Largest in the Southwest

SECURITY SAVINGS BANK

Los Angeles, California

CAPITAL AND RESERVE $1,200,000.00
TOTAL RESOURCES OVER $20,000,000.00

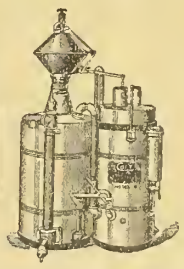
We Pay Interest

4% on Term Savings and on Six Months Certificates of Deposit

3% on Ordinary Deposits

By special arrangement 'Ordinary' accounts may be checked against without presentation of a pass book, and 3 per cent. interest will be paid on the minimum monthly balances.

Light and Cook WITH COLT TRADE MARK Acetylene



Favor us with an inquiry concerning Colt Acetylene. We shall take pleasure in sending you free of charge our excellently compiled 44-Page Catalogue containing complete and instructive matter regarding piping, fixtures, stoves and burner pertaining to this wonderful and inexpensive lighting system.

Fowler Shankland, Pacific Coast Distributor
204 Severance Building
Cor. 6th and Main, Los Angeles
Phones: F7514; Main 4830

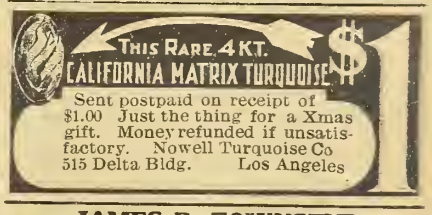
6% Interest Paid

ASSETS $2,002,111.

No Admission or Withdrawal Fee, Only 30 Days Withdrawal Notice.

Send For Booklet and Statement

STATE MUTUAL BUILDING & LOAN ASS'N.
223 S. SPRING ST. LOS ANGELES CAL.



Sent postpaid on receipt of $1.00 Just the thing for a Xmas gift. Money refunded if unsatisfactory. Nowell Turquoise Co 515 Delta Bldg. Los Angeles

JAMES R. TOWNSEND
Solicitor of American and Foreign Patents Copyrights, Trademarks and Labels Registered. Rooms 428-433 Bradbury Blk. Los Angeles, Cal. Phones: Home. A4619; Sunset, Main 347

Portland, Oregon, reports a shortage of Thanksgiving turkeys.

The Produce Markets

Los Angeles Markets

LOS ANGELES, Nov. 24, 1908.

Butter.

Butter indicates no change. The market is firm with the regular demand absorbing the offerings.

Produce Exchange wholesale quotations are:

Creamery ex per roll 72½
Firsts 62½
Dairy 25
Eastern extra 62½
Ladles 24
Cooking 24
"Butterine" ....16@20

Cheese.

Southern California Anchor......17@19
Northern fresh ....16@17
Longhorn ....18@18¾
Eastern singles ....16@17
Cheddars 17
Swiss ....17@17½
Imported Swiss ....27@29
Daisy ....17@18
Oregon 16½
Limburger ....16@17½

Eggs and Poultry.

Eggs have been in the lime light this week. First, there was an attack on them that pounded the price down several pegs, then on Monday one buyer appeared with large purchases which shoved prices soaring again. They are now slightly in advance of last week.

Eggs local candled ....49@51
Eggs case count buying price......46
Firsts fresh ....40@42
Storage selected ....30@32
Eastern storage short time......40@42

Poultry is strong and is being sold rapidly with only a moderate stock and with small importations from the middle west.

Wholesale prices:

Hens per pound ....12@14
Young roosters per pound..........16
Fryers 16
Broilers per lb 20
Roasters ....15@16
Old rooster 7
Turkeys ....16@20
Geese ....12@13
Ducks ....11@13
Squabs ....1.25@1.75

Live Stock.

The following quotations are f.o. b., Los Angeles, on all stock.

Hogs from 175 to 200 pounds 6½
Prime steers 4½
Heifers ....3½@3¾
Calves per pound ....4½@5
Sheep ewes per head ....3.25@3.75
Lambs per head ....2.50@3.00
Wethers ....4.00@4.50

Potatoes.

Wholesale prices are:

Sweets per ctl 1.25
Northern Burbanks fy 1.45
Local Burbanks 1.50
Highland fancy ....1.15@1.20
Coast 1.60
Salinas ....1.75@1.90
Oregons ....1.50@1.60

Onions.

Wholesale quotations:

Silverskin new ....1.00@1.25
Australian Browns ....1.00@1.05
Danvers ....1.00@1.25
Garlic ....9@10
Lompocs 1.25

Vegetables.

Asparagus per doz 75
Artichokes per doz Northern.......1.10
Beets per doz ....25@35
Bell peppers per box large ....60@75
Beans string ....5@6
Beans limas per lb 5
Brussels sprouts per lb ....9@10
Cabbage sack ....1.00@1.25
Cabbage red per lb.....................3
Celery per crate ....2.40@2.50
Chili per lb ....1½@2
Chili dried ....9@11
Corn per lug box 40
Chicory per doz 45
Cucumbers per box ....1.00@1.10
Cauliflower per doz ....40@60
Carrots per doz ....35@40
Egg plant per lb ....2½@3
Green onions per doz bunches 10
Lettuce per crate ....75@1.00
Okra 7
Peas sugar per pound 7
Parsley 30
Parsnips ....35@40
Rhubarb per lug box 1.75
Rutabaga per doz 40
Radishes per doz ....15@20
Salsify 40
Summer squash per box ....40@60
Spinach per doz ....15@20
Turnips doz bunches ....25@35
Tomatoes lug box ....25@40

Citrus Fruits.

New Crop Navels ....2.50@4.50
Tangerines 2.00
Valencias 4.00
Grapefruit seedlings 4.00
Lemons fy 3.00
Lemons choice 2.00

Fresh Fruits.

Wholesale prices on the market are:

Baldwins 4 tier 1.35
Bellflowers ....80@85
Newton Pippins 1.25
Fall Pippins 1.10
Alexandria 4-tier ....1.00@1.10
California Jonathans 1.75
Skinners 4-tier 1.15
Red Pearmains ....80@1.25
Spitzenberg 2.25
Cantaloupe locals large crate..1.50@1.75
Casaba doz ....1.65@1.75
Christmas melons per crate ..1.65@1.75
Figs per fig box ....1.00@1.25
Figs black per fig box.............1.00
Guavas per lb 6
Muscats per lug box 1.00
Grapes Tokay 1.25
Grapes Red Emperors 1.25
Cornichons 1.25
Pears lb 6
Pears Winter Nellis per box........1.75
Peaches per box ....75@1.50
Persimmons per lb ....5@7
Pomegranates per box ....1.00@1.50
Quinces 1.25
Raspberries per box 12
Strawberries per box ....8@10
Extra fancy........ 10
Blackberries per box 8
Watermelon per lb...... 1

Dried Fruits.

Wholesale prices are:

Apricots 8
Evap. apples fy per lb..........6¼@8
Figs loose white 5
Figs blk 5
Peaches 7½
Pears ....9@10
Nectarines ....9@10
Prunes ....4@4½

Beans Dried.

Wholesale prices:

Limas per ctl ....4.50@4.75
Pink No 1 ....3.00@3.15
Lady Washington ....4.40@4.45
Small white ....4.75@4.85
Black eyes 3.50
Garvanzas 3.30
Lentils 9.00
Bayou 3.50

Nuts.

Almonds IXL per lb 13½
Almonds choice 13
Pecans polished ....16@18
Peanuts Virginia 8
Peanuts California 7
Walnuts No 1 SS 13
Walnuts No 1 HS 12
Walnuts No 2 both hard and SS..8½
Walnuts all less1½ per cent to trade

Honey.

Wholesale quotations:

Extracted Water White 8
Extracted Light Amber 7
Comb W W 15
Comb white 14
Beeswax...... 30

Hay.

Prices paid to producers f. o. b. Los Angeles are as follows:

Barley No 1...... ....15.00@17.00
Barley No 2.... ....12.00@14.00
Alfalfa northern per ton....11.00@13.00
Alfalfa local...... ....12.50@14.50
Plain oat No 1...... ....15.00@18.00
Wheat No 1...... ....14.00@16.00
Wheat No 2........ ....12.00@15.00

Grains.

Wholesale selling price f. o. b., Los Angeles.

Wheat new per ctl.................1.90
Kaffir corn 1.80
Corn Eastern sacked 1.90
White oats 1.85
Seed Rye...... ....1.75

Feed Stuff.

Wholesale selling price F. O. B. Los Angeles as follows:

Cracked corn 1.95
Shorts 1.80
Bran 1.65
Oil cake meal 2.50
Feed meal 2.00
Rolled barley 1.65

The Citrus Protective League of California has appointed a committee composed of the following: B. A. Woodford, of the California Fruit Exchange; C. C. Teague, of Santa Paula; C. C. Chapman, of Fullerton; A. F. Call of Corona, and A. G. Kendall, of San Bernardino, to proceed to Washington in the interests of protection of citrus fruits.

The Redlands orange packing houses will many of them open on Dec. 1st for the regular season's run.

San Francisco Markets

SAN FRANCISCO, Nov. 23, 1908.

Butter.

Butter advanced then declined during the week. It now stands at 32½ for extras or ½ cent above last week.

The official quotations of the San Francisco Wholesale Dairy Produce Exchange for yesterday are as follows:

California extras per lb............32½
California firsts 27
California seconds.. 24
California thirds...... 20
Eastern extras.... 27
Ladles extra 22
Firsts 21
Storage Cal ex........ ....26½

Cheese.

California young American fy......17
Firsts...... 16
California flats fy 14½
Firsts 12½
Young America fy 16
Eastern N. Y. Cheddars fy 17
Eastern fy...... ....16½
Oregon fy 13½

Eggs and Poultry.

Eggs were advanced 1 cent on extras and firsts Saturday. Easterns also advanced a cent and holiday demand seems able to absorb all offerings.

Official quotations of the S. F. Wholesale Dairy & Produce Ex. are:

Fresh ranch extras.... 55
Eggs firsts per doz 51
Eggs second 40
Cal Storage 35
Firsts 32
Eastern Storage ex 28½
Eastern firsts 27
Hens per doz ....3.50@6.00
Hens extra ....7.00@9.00
Young roosters ....6.00@7.00
Old roosters ....3.50@4.50
Fryers per doz ....5.00@6.00
Broilers per doz ....4.00@4.50
Geese per pair ....2.00@2.50
Goslings per pair...... ......1.75@@2.00
Ducks young ....6.00@8.00
Live Turkeys large ....19@22
Live Turkeys small ....16@18
Dressed Turkeys ....22@26
Pigeons young...... ....2.00@2.50

Live Stock.

San Francisco prices gross weight:

Steers No. 1 ....3¾@4
Do second quality...... ......3¼@3½
No 1 cows and heifers.................3
Second quality...... ....2¾
Hogs 100 to 150 ....5¾
Hogs 150 to 250......................6¼
Rough heavy ....4½@5
Calves per lb ....3½@4¾
Lambs spring 4
Wethers No 1 ....3¾
Ewes No 1.......... ....3¼

Potatoes.

Wholesale market quotations:

River whites fy ....50@75
River whites poor ....40@65
do per box........... ....1.00@1.15
Salinas Burbanks ....1.25@1.55
Sweets per lb ....1¼@1½
Sweets sks 1.50
Oregon Burbank.. ....1.15@1.30

Vegetables.

Wholesale quotations:

Bell peppers per lb ....12½@15
Brussels Sprouts 46
Celery per crate ....1.75@2.00
Cucumbers per box ....1.00@1.25
Cucumbers pickle No 2..............75
Chili peppers per lb ....5.00@6.00
Corn per sack.... ....1.50@1.75
Egg plant per lb 5
Green peas per lb ....6@9
Lima beans ....6@8
Marrowfat squash per ton ..10.00@15.00
Squash per box Southern .....75@1.50
Onions green per box..........70@75
Okra per box ....1.25@1.50
Rhubarb per lb..... 5
Tomatoes River large box........25@65
String beans ....5@8
Wax beans ....8@9
Garlic new ....8@9

Onions.

Onions yellow per sack ....65@75
Brown Australian ....65@75

Citrus Fruits.

New Navels ....2.25@3.00
Valencias fy.... ....2.50@4.00
Tangerines crates ....1.00@1.25
Grapefruit seedless ....3.00@3.50
Grapefruit seedlings ....1.50@2.00
Lemons ch ....1.75@2.25
Lemons fy ....3.00@3.50
Limes.... . ...4.00@5.00

Fresh Fruits.

Apples per 4 tier box ....90@1.25
Apples per 4½ tier box..........65@75
Apples unwrapped.... ....60@75
Bellflowers 85
Bellflowers No 2 ....40@65
Spitzenberg ....1.00@1.25
Newton Pippins ....90@1.00
Crabapples........ ....50@60
Blackberries per chest...... ....3.00
Figs per crate one layer........50@1.00
Grapes Muscats ....1.00@1.50
Grapes Tokay ....75@1.25
Grapes Isabellas crate ....1.00@1.25
Grapes Cornichon ....75@1.00
Huckleberries per lb...... ....12@15
Loganberries........ ... .4.00@6.00
Cantaloupe River nutmegs ......25@60
Muskmelons.. ....75@1.00
Nectarines white... ....50@60
Winter Nellis ....75@1.50
Persimmons ....50@75
Pomegranates per box ....1.25@1.75
Aligator pears per doz.......7.00@9.00
Quinces per box ....75@85
Raspberries per chest ....5.00@9.00
Strawberries per chest ....5.00@8.00
Longworths per chest.........6.00@8.00
Watermelons per doz...... ..1.25@2.00

Dried Fruits.

Prunes 4-size basis ....3¼@3½
Santa Clara ....3½@3¾
1908s contracted for.... ....4@4½

New crop contracts, 25-lb. lots—Apricots per lb.: Choice 6½@8; fancy 9@10½.

PEACHES—Choice 5@5½; fancy 6@7.

Apples evaporated ....5½@6
Pears ....5@8

RAISINS—1907 crop f. o. b.; Clusters and layers. 30-lb bxs—Imperial Clusters, 6-crown, $2; Dehesa Clusters, 5-crown, $1.75; Fancy Clusters, 4-crown, $1.40; London Layers, 3-crown, $1.10; do, 2-crown, $1.05. Seeded, 25-lb bxs—Fancy bulk per lb, 6½@7c; Choice bulk, 6½@7c. Loose Muscatels, 50-lb bxs— Standard, 4-crown, 5½c; do, 3-crown. 4¾c; do, 2-crown, 3¾c; Seedless, 4¾c. Seedless Sultanas— Unbleached, 4¾@5c. Thompson Seedless—Unbleached, 5½@6¼c. Dried Grapes, 4c.

New Crop Raisins—Preliminary prices are named as follows: Cluster—Imperial 6-crown, $2@3; Dehesa, 5-crown $2.50; London Layers, 2-crown, $1.25; 3-crown, $1.35; 4-crown, $2. Thompson's Seedless, 5¾c. Loose Muscatels, 5¾c. for 4-crown, 5c for 3-crown, 4½c for 2-crown and 4¾c for seedless.

Nuts.

Walnuts S S No 1 new crop.......12½
Walnuts No 2 ....8½
Almonds nonp 11½
Almonds IXL ....10½@11
Ne Plus Ultra 9½

Beans Dried.

Limas ....4.35@4.40
Pink ....2.30@2.50
Small white ....4.40@4.65
Large white ....3.60@3.85
Lady Washington ....3.45@3.50
Black eyes ....3.00@3.50
Red Kidneys 3.60
Garvanzas ....1.60@2.25
Bayo ....3.00@3.15
Horse beans ....1.75@2.25

Hops.

Hops new crop ....6@9

Honey.

White comb ....14@15
Amber ....10@12
Extracted W W ....6@7
Extracted light amber ....6½@7
Beeswax No 1 per lb ....25@27
Beeswax No 2 per lb ....24@25

Hay.

Shipments of hay to market continue to increase, the total for the week amounting to 3750 ton in comparison with 3570 last week and with 2210 ton for the week preceding that. There is somewhat of a tendency on the part of many operators to withhold their shipments anticipating still higher prices but as the car situation is easier, many back orders for hay shipments are now being filled which has resulted in the increase in arrivals. Many consumers are still impressed with the advisability of putting away a good supply of hay so all arrivals have been absorbed very readily.

Choice wheat hay ....20.00@22.00
Good wheat hay ....18.00@19.50
Other grades same ....16.00@17.50
Wheat and oat ....15.00@20.00
Tame oat ....15.50@19.00
Wild oat ....14.00@18.00
Stock hay ....11.00@13.00
Alfalfa ....11.00@15.50
Straw per bale ....60@95

Grains.

Wheat No 1 ....1.67½@1.72½
Barley new ....1.45@1.47½
Corn large yellow 1.77½
Oats white ....1.70@1.75
Oats gray.... ....1.65@1.70
Rye new crop ....1.42½@1.50

Feed Stuff.

Bran per ton ....28.50@31.50
Feed cornmeal per ton ......39.50@40.50
Cracked corn per ton ......40.00@41.00
Rolled barley per ton ......30.00@31.00
Oil cake meal per ton........38.00@39.50
Cocoanut cake per ton ......25.50@26.50
Middlings ....32.00@35.00

Many sheep in the flocks of sheep owners near Colusa have been poisoned by eating of acorns under trees in the pasture. The sheep began dying soon after being turned into the pasture and the cause could not be determined for some time. It was finally found to be caused by the acorns.

Citrus Market

Oranges are going forward slowly as yet. Tulare and Butte counties are carrying the bulk of the shipments. Southern California is shipping approximately 4 to 6 cars per day. Tulare county about 25 to 35 per day and Butte county 4 to 8 per day.

Shipments.

Total shipments from Southern California to date this season since Nov. 1.59 oranges, 258 lemons. To same date last season 217 oranges, 281 lemons.

Northern points, 551 cars of which 31 were lemons.

NEW YORK, Nov. 23.—One car Valencias, eight cars lemons and two cars nevels sold. One car Mexican oranges also sold. Market steady on Valencias and lemons. The market is very steady on fancy grade lemons but easier and lower on ordinary grades. Weather mild; heavy fog.

NAVELS—	Avge.
Golden Eagle C C Chapman	$3.25
Mariposa C C U Vent	3.40
Cobbler or Shoemaker Jr	2.50
LEMONS—	**Avge.**
Highland Growers Ft Co	$2.75
LaBelle Red M O Co	2.30
Independent Growers Ft Co	3.45
Independent Growers Ft Co	2.75
X X X ST Ft Ex	4.00
E E E ST Ft Ex	3.15
Hibiscus Sweetwater Ft Co	3.00
Montecello Sweetwater Ft Co	3.00
Lemon Cove TCC Ft Ex	2.95
MEXICAN ORANGES—	**Avge.**
Matador (iced)	$2.20
Golden Rule Riv Ft Ex	2.55

BOSTON, Nov. 23.—Five cars sold. Two cars on track. Weather favorable. The market is easier.

NAVELS—	
Cobbler R H Shoemaker Jr	2.60
LEMONS—	
Rey Ft Ex Fernando	3.15
Tunnel Ft Ex Fernando	2.05
Artillery Cal Cit Union	2.45

CINCINNATI, Nov. 23.—Weather cool. The market is steady. One car sold. The next sale will be on Friday, November 27.

LEMONS—	
Family Ft Ex Corona	2.60

PITTSBURG, Nov. 23.—Two cars sold, one car on track. The market is steady on oranges and lemons. Eight cars of Florida oranges sold, averaging $2.10 per box.

NAVELS—	
Orchid Altland Ft Co	2.55
Buscada Altland Ft Co	2.30
LEMONS—	
Orchid Altland Ft Co	2.75
Buscada Altland Ft Co	2.25
Big R Ft Ex Rialto	2.85

CLEVELAND, Nov. 23.—Weather warm. The market is strong on navels and lemons. Three cars sold, three cars on track.

NAVELS—	
Blue Label Ft Ex Lindsay	3.25
Golden Orchard Independent Ft C	3.25
LEMONS—	
Whittier Ft Ex Whittier	3.80

ST. LOUIS, Nov. 23.—Weather cloudy. The market is weak on lemons. Market is weak on account of the other varieties of fruit being offered. The market is also weak on small sizes navels. Three cars sold, two cars on track. Three cars Florida oranges sold, average $2.05.

Planet Ft Ex Orange	2.30
Searchlight Ft Ex Orange	2.30
Standard Fair Oaks F C F Oaks	2.50
VALENCIAS—	
Searchlight Ft Ex Orange	2.70
LEMONS—	
Arab Ft Ex San Dimas	2.70
Duck Ft Ex San Dimas	2.10
Greyhound Ft Ex San Dimas	2.25

Cream Separators, all sizes, all prices. O. J. Weber Co., 555-557 S. Los Angeles street, Los Angeles.

Queries

Continued from Page 523.

fail to keep the kernel of the nut from decaying—that is, after picking same. I do not spray with any mixture, but have tried drying, both in ovens and by the sun—both prove failures. Please give me a remedy, if any.—B. B. C., Vacaville.

Try spraying your trees with Bordeaux mixture in the late winter and when you gather the nuts dip them in a solution of formaldehyde, one ounce to about 5 gallons of water, then dip in clear water and dry. This last dip is not necessary, but removes any doubt as to any formaldehyde remaining on the nuts.—J. W. M.

Veterinary

Dr. R. T. Whittlesey, veterinarian, of 714 East Seventh street, Los Angeles, will answer questions in this department. In writing of sickness or injury to any animal be explicit in giving symptoms and particulars. Always enclose full name and address, but if assumed name or initials are preferred they will be used.

If an immediate mail reply is wished enclose $1.00 for such service, but for replies in paper only, no charge is made if the answer will be of general interest.

Please address all questions that are to receive gratuitous replies through these columns to California Cultivator, 115½ N. Broadway.

All communications to Dr. Whittlesey direct should contain a great big dollar.

Stringhalt.

I have a fine large horse which has a "catch" on one hind leg when starting to walk. Some people call it "stringhalt." Is there any relief or cure for such trouble? Please reply in your magazine.—Subscriber, Brawley.

There is an operation, cutting out a section of the peroneal tendon, which is usually successful in curing the stringhalt. But you will have to have a man who knows how to perform the operation.—R. T. W.

Sheep Poisoned.

I have pastured 1,000 sheep on barley stubble for a week; then changed to another barley stubble field, and next morning found a good many with very loose bowels. When they commenced to die they did not bloat. What is the cause and remedy, if any? —E. H. H., Holtville.

There are many things that might make your sheep have loose bowels, but barley stubble alone never would. There is something you have overlooked. I think you had better call on your county veterinarian, Dr. Douchy, and have him look the matter over thoroughly.—R. T. W.

We note in recent Northern California papers that bands of sheep turned into fields where many oak trees are which have dropped many acorns have often died from eating the acorns. We presume this is not the case with the enquiry above, but it may indicate the many ways the sheep man has to look to protect his stock.—Ed.

Legal Queries

Edw. L. Payne, attorney, 301-304 Douglas Building, Los Angeles, will answer legal queries in this department.

Immediate mail replies cannot be given except where fee to Mr. Payne is paid. When replies are wished in Cultivator address query to 115½ N. Broadway, Los Angeles.

TREES ON LINE.

There was a row of trees near the line between a neighbor and me. He supposed they were on his land, and he cut them down and made stove wood out of them, about four years ago. We had the land surveyed last month and the line ran so as to leave the trunks of the trees on my land about four feet. Now can I get anything back or not?

You have a right of action against him for the value of the trees severed from the land, and a right of action also for damages for the loss sustained by the removal of the trees, the value of the trees as they stood. You might avail yourself of one or the other of these rights.

Of course, you should have used reasonable diligence to ascertain your rights, and it may be that your claim is outlawed, but that is another question.—Edw. L. Payne.

AN ENTERPRISING SEED COMPANY—THE SEED HOUSE OF THE GREAT SOUTHWEST.

We have before us the 1909 seed catalogue of the Aggeler and Musser Seed Company, who have heretofore been doing business under the name of Johnson and Musser Seed Company. Although E. A. Aggeler became a member of the firm soon after Mr. Johnson's death in 1903, the name had not been changed until a recent meeting of the stockholders.

The catalogue is the most complete manual, of seeds, plants, nursery stock, a special eucalyptus department with complete cultural instructions, also a comprehensive catalogue of Petaluma incubator and poultry supplies, ever published on this Coast.

But the greatest attention is given to the ranch and garden seeds, as this house has made a specialty of seeds for field crops and vegetables peculiarly adapted to the climatic conditions of the great Southwest, both on the Coast and in the interior valleys, as the conditions of each place require different varieties of crops for each season of the year.

Some of the great leaders that originated in Southern California and were discovered and introduced by this house are the three best watermelons in the world, shown on page fifty in natural colors: the Oregon evergreen sweet corn that excluded all other varieties from this market: the Anaheim chile pepper, now the most famous in the world: The Hybrid casaba, the best of the seven most popular casabas pictured in natural colors on the cover page; also on the front page cover is painted in natural color and size the largest lima bean in the world and more than twice as productive as any other lima bean yet propagated. It is undoubtedly a world beater.

The business will continue under the capable management of H. L. Musser, who has been at the head of the company for the past twelve years. By keeping in close touch with the great Los Angeles produce market, and also with the market gardeners and ranchers throughout the Southwest, he has gained the reputation of being the most thorough seedsman on the Coast.

Forty-five thousand of these catalogues will be mailed before the twentieth of December. If you have not received yours by that time, be sure to write for it. The address is 113-115 N. Main street, Los Angeles.

THE AMERICAN SQUADRON ABROAD.

The departure of the United States fleet on a world-wide cruise to the nations of the earth was an occasion of no small importance to our country. No such errand was ever undertaken by any nation before in the history of the world.

This act may justly be regarded as a master stroke of diplomacy.

One curious incident has recently come to our notice by the receipt of a photograph from far-away New Zealand. It pictures Admiral Sperry, commanding the American squadron, upon his arrival at Auckland. There, amid the throng gathered to do him honor, he stands receiving this British dependency's welcome under a roof covered with Genasco Ready Roofing, that great American product, made by the Barber Asphalt Paving Company, Philadelphia. It reminds us that the world is not so large, after all, when we can travel to the antipodes and there find our old home friends—tested and true.

NOT AFFECTED BY DEPRESSION.

When a manufacturing establishment reaches out in a year of depression and increases and expands its business, while others in the same line diminish their outputs or stand still, it is because there must be some unusually good reason for it. In this instance a splendid reputation and a more-than-ordinary meritorious product were responsible for the showing made.

The Mayer Boot and Shoe Company, Milwaukee, the largest shoe establishment in the Northwest, has just closed its fiscal year and reports an increase in sales over the corresponding period of last year. This exceptional showing speaks volumes for the genuine merit of Mayer shoes, and is directly attributable to their high standard, and because of the fact that Mayer shoes have become universally and popularly known as "shoes of quality."

Most of our readers, no doubt, have become familiar with the shoe advertisements of this enterprising firm, that have been appearing in the columns of this publication for a number of years past. To those who have not yet become familiar with the extraordinary wearing qualities of Mayer shoes, we would recommend a closer acquaintance by a purchase of a pair at the first occasion.

The leading brands are "Honorbilt" fine shoes for men. "Leading Lady" fine shoes for women. "Yerma" cushion shoes for both men and women (these are exceptionally fine shoes for people troubled with tender feet;) the popular "Martha Washington" comfort shoes, which have the largest sale of any shoes of their kind in the world, and the "Special Merit" school shoes (a strong and sturdy line of seamless school shoes that wear like iron.) In addition to these brands, the Mayer Boot and Shoe Company make a complete line of every-day and Sunday shoes for all purposes. In fact, there is a Mayer shoe for every purpose and for every member of the family.

A CHICKEN FOR HIM.

Once upon a time a youth who had commenced to navigate the sea of matrimony went to his father and said, "Father, who should be boss? I or my wife?" Then the old man smiled and said:

"Here are 100 chickens and a team of horses. Hitch up the horses, load the chickens into the wagon and wherever you find a man and his wife dwelling stop and make inquiry as to who is the boss. Wherever you find a woman running things leave a chicken. If you come to a place where the man is in control, give him one of the horses."

After 79 chickens had been disposed of he came to a house and made the usual inquiry.

"I'm boss o' this ranch," said the man.

"Got to show me."

So the wife was called and she affirmed her husband's assertion.

"Take whichever horse you want," was the boy's reply.

So the husband replied, "I'll take the bay."

But the wife didn't like the bay horse and she called her husband aside and talked to him. He returned and said, "I believe I'll take the gray horse."

"Not much," said Missouri, "you'll take a chicken."—Philadelphia Ledger.

Louisiana rice men visiting the Butte county rice growers have refused to unqualifiedly indorse the methods of culture in that section. They think that thus far too much water has been used.

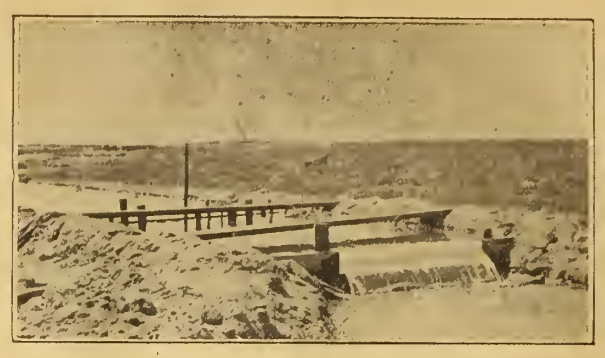
The Popular

Western

Built In the West **Best** For the West

FACTORY AT YOUR DOOR

LONGEST LIFE LEAST FUEL FEWEST PARTS ALWAYS GOES



Weir of the Iowa Meadow Company

Irrigation Plants

Designed Constructed Installed

Note results obtained with a 40 H. P. **"WESTERN"** at Ontario, Cal.

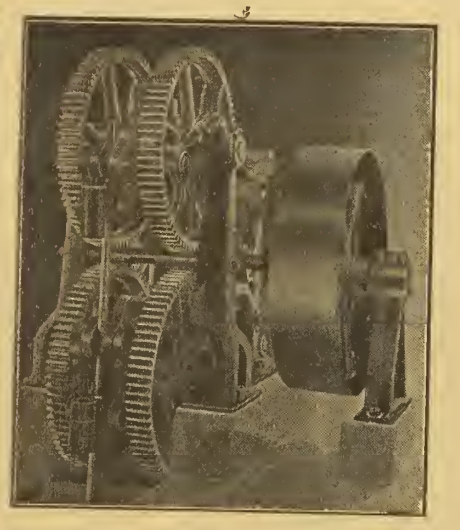
"We are lifting 175 inches of water against a head of 46 feet above pump; vacuum guage stands at 13, with a shade over 3¾ Gallons No. 2 Distillate per hour."

IOWA MEADOWS COMPANY
(Signed) S. J. Ulrey, Manager

Western Gas Engine Co.

Works and Office:
908-932 No. Main St. - Los Angeles, Cal.
Send for Catalogue

New Pomona Double Plunger Deep Well Pump Head



Most Efficient Deep Well Pump in the State

It Is Made in California

Built in Three Sizes—from Ten to Forty Horse Power

It is the smoothest running deep well pump because there are no dead centers, no jerk or jar, and no danger of breaking the pump rods. Be sure and write for our big catalogue. Watch this space for further information.

Pomona Manufacturing Co.
Pomona, Cal.

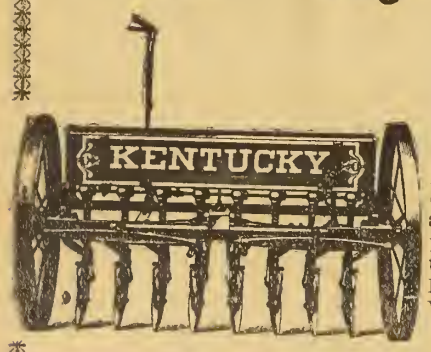
This is the pump with which we delivered 20 per cent more water than promised for a certain head and horsepower. The customer says in a letter that he desires to express to us his great satisfaction upon the result achieved.

Byron Jackson Iron Works

Main Office and Works: West Berkeley, Cal.

Sales Rooms: San Francisco, Cal. Los Angeles, Cal. Portland, Oregon.

Kentucky Disc Drills



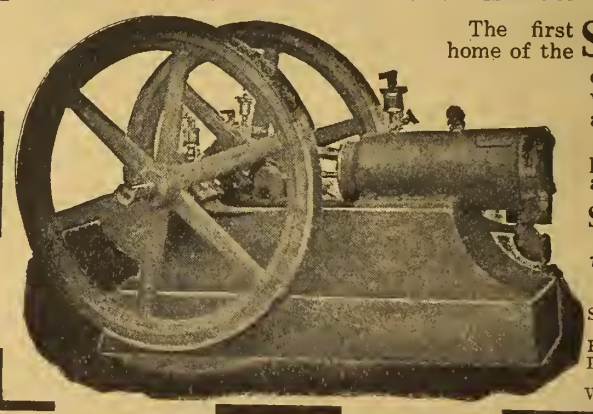
meet every requirement of particular Farmers. Constructed on correct mechanical principles, of the best material obtainable, they are strong and lasting. KENTUCKY Conical Disc Bearings are unique. Of fairly large diameter, they are narrow, giving greatest clearance between discs. Dust proof, oil retaining and adjustable. Over 250,000 in use, giving perfect service, have demonstrated the superiority of the Kentucky Disc Bearing.

Write us for Catalogue of the complete

KENTUCKY LINE

Pacific Implement Co. 135 Kansas St. San Francisco

Samson Gasoline and Distillate Engines



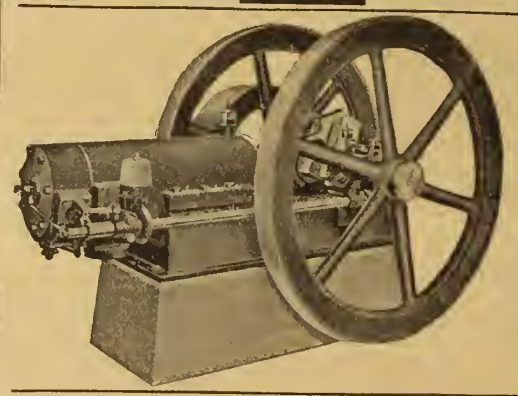
The first home of the **SAMSON** engine is a large one. Its second home, which is everlasting, is a happy one.

They may be compared with the sea—always ready to roll.

Samson Iron Works

Office and Factory:
1100 to 1198 Aurora St. Stockton, Cal.

BRANCHES:
San Francisco,
Cor. Market and First Sts.
Fresno, 920 J St.
Los Angeles,
204 N. Los Angeles St.
W. L. Cleveland Co., Agent



HERCULES DISTILLATE ENGINE

Heavy, Strong and Simple in Construction

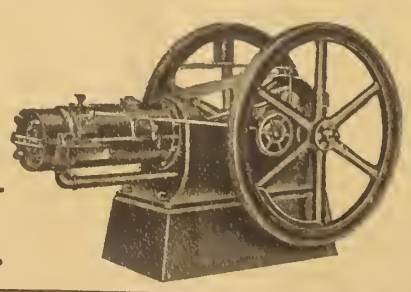
The Right Engine at the Right Price

Horizontal and Vertical; All Sizes. Buy direct from the manufacturer and save agent's commission. Send for our new Catalogue C.

The Hercules Gas Engine Works
351 Market St., San Francisco
Telephone Douglas 3630

Commercial Gas Engines

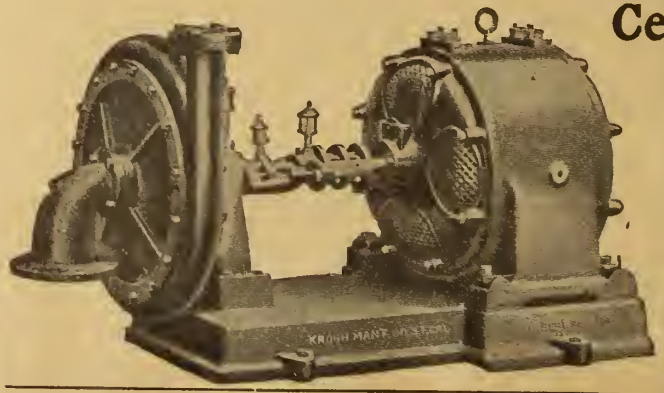
Are what all engines should be:
Simply Perfect and Perfectly Simple



Modern in every detail. An inspection will convince you.
Write for Bulletin No. 12

Commercial Engine Co.

953-955 N. Main St.
Los Angeles, Cal.



Centrifugal Pumps

For high or low heads

Direct Connected or Belt Driven

Highest obtainable efficiency

Krogh Man'f'g. Co.

127 to 133 Beal Street
SAN FRANCISCO, CAL.

Send for New Catalogue No. 50 just issued.

ARNOTT HARNESS $10.00 to $80.00

Everything guaranteed. Money back if not satisfactory. Factory in Los Angeles. California leather for all uses. Send for No. 10, eighty page FREE Catalogue.
ARNOTT & COMPANY 112–118 So. Los Angeles St. Los Angeles, Calif.

California Cultivator

Published Weekly — One Dollar a Year

Los Angeles — December 3, 1908 — San Francisco

Automobile Takes Produce to Market

Who Wants Baby Chicks?

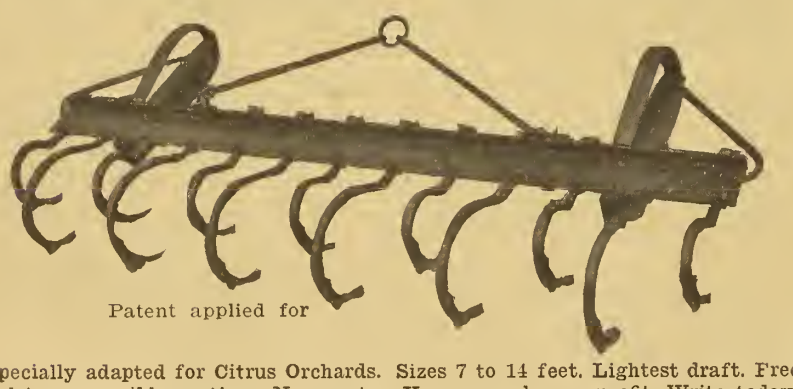
We Hatch Nineteen Varieties of Chicks

And can ship them safely anywhere within 48 hours. Send today for our free price list and full particulars. We have been in the business several years—our sales in 1908 were over 230,000 chicks. We are the largest chick dealers in the world. Refer you to any poultry or farm paper on the coast. We guarantee you a square deal. We sell all kinds of hatching eggs. Now is a good time to write us. When in the city call and see us in our own building,

108-110-112 E. Eighth St.

Pioneer Hatchery Co., Los Angeles, Cal.

WILLIAMS' GOOSE-NECK CULTIVATOR



Patent applied for

Especially adapted for Citrus Orchards. Sizes 7 to 14 feet. Lightest draft. Free trial to responsible parties. No agents. You pay only one profit. Write today.

WILLIAMS & SON, Manufacturers
Orange, California

When writing advertisers, mention Cultivator.

Cultivator Christmas Order

_____1908

Cultivator Publishing Co.,
115½ No. Broadway
Los Angeles, Cal.

Gentleman—Enclosed find $_____ for which please send the **Cultivator** to the following until January 1, 1909, stopping same at expiration.

NAME	P. O. ADDRESS	STATE

Also please credit my subscription account three months for each new name above.

SIGNED_____

ADDRESS_____

Fruit Growers and Vineyardists

We Would Advise You to Use Our P. N. K.

This is a Fertilizer well adapted to produce a good, vigorous growth to your trees and vines, and the best quality of fruit in quantities that you desire, consequently paying you large interest on the money expended. Make a trial of this brand and you will use no other. Write for our pamphlet, ***"The Farmers' Friend,"*** for 1909.

The Pacific Guano and Fertilizer Company
268 S. Market Street - - San Francisco, California

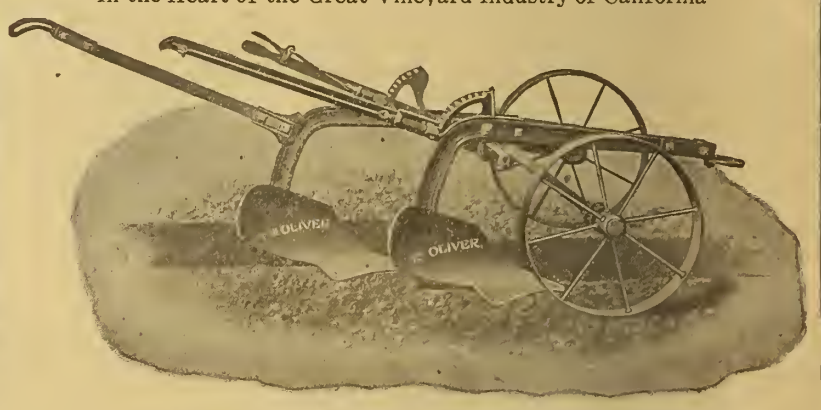
Winner of the First Award

The Nos. 17 and 18

Oliver Orchard and Vineyard Gang Plows

At the Great **Fresno County Fair**

In the Heart of the Great Vineyard Industry of California



The Greatest Improvement of the Age in Plows for Orchard and Vineyard

Get particulars from your nearest Oliver agent, or write to

Newell Mathews Company

Southwestern General Agents 200 N. Los Angeles St., Los Angeles, Cal.

Red Cross Wind Mill
Is built right, Works right. Runs in light wind. Has ball bearing turntable and outer thrust. Easy mill to set up and take care of. Built upon honor.

Woodin & Little Pump House

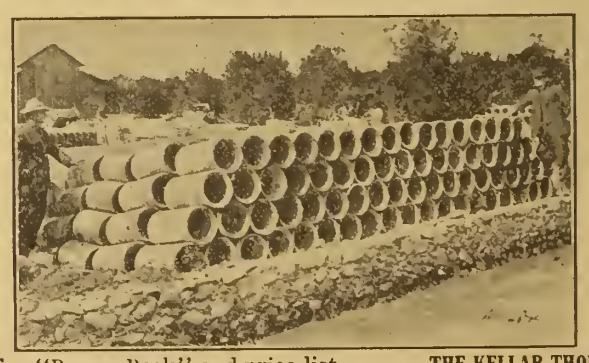
33-41 Fremont Street, San Francisco

PUMPS FOR EVERY SERVICE AND USE

Pumps for Irrigation, Road Sprinkling, Electric Motors, Gasoline Engines, Spraying, Whitewashing, Wine Pumping, Wind Mills, Hand and Power Use, Steam, etc.

Gasoline Engines Wind Mills
Tanks Pipe Pipe Fittings

SEND FOR CATALOGUE



From photograph showing amount of

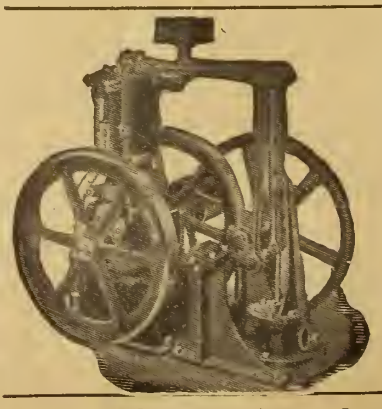
Ten-Inch Pipe

made by four men from 10 bbls. of cement in 9 hours—280 two-foot joints, or 560 feet. This pipe was made with the

"K T" Moulds

An equal amount can not be made with any other tools in the same period of time. Write for "Brown Book" and price list.

THE KELLAR-THOMASON MFG. CO., Covina, Cal.



A Handy Little Engine

Just the thing to run the feed cutter, the pump, the churn, the grinder, or anything on the ranch. It's well named

The Little Wonder

Write or call on

Wm. Gregory
602 No. Main St. Los Angeles, Cal.

When writing advertisers, mention Cultivator.

California Cultivator

Vol. XXXI—No. 23 Los Angeles, California, Thursday, December 3, 1908 Subscription $1 a Year

The Requirements of Date Culture

Read Before the State Fruit Growers at Riverside

By SILAS C. MASON, Arboriculturist
Plant Life History Investigations, Department of Agriculture

DATE growing is doubtless one of the oldest of horticultural industries, its culture by the Egyptians 2000 years B. C. being well authenticated by tablets and hieroglyphics, and by the Assyrians at a period much more remote. Assyrian wall tablets, long misunderstood, are now recognized as showing the pollination of the date tree as an important ceremonial. And, indeed, it may well have been so regarded, for as the blighting of the corn tassels by the hot prairie winds of Western Kansas or Oklahoma means the failure of the corn crop, so any failure in the critical process of artificially pollinating the date flowers, with male flowers from separate and perhaps distant trees, may mean the loss of their only food crop to thousands of people of the desert regions. Few people who purchase dates as a confection realize that they are one of the world's staple food crops, and the timber afforded by the date palm trunks the main dependence of large numbers of people, in the erection of their rude dwellings and villages.

Few trees in cultivation are so peculiar in their requirements, or so restricted as to the area of their profitable productiveness. Like most woody plants of cultivation the date varieties are not reproduced true from seed. Unlike our common exogenous fruits, as, for example, the Navel Orange, or the Bellflower Apple where a single twig may afford buds from which twenty new plants true to the variety may be propagated, the date tree has, except in rare instances, no branches but only the terminal bud putting forth the enormous compound leaves, and a limited number of suckers or offshoots from the base of the trunk. These offshoots constitute the only means of propagating the variety and as they should be three or four years old before removed from the parent tree and their production ceases by the time the tree is 15 or 20 years old we see how slow and expensive a matter it is to get a date garden established and that the danger of a rush into the date growing industry and consequent over-production is not great.

Climate.

In climatic requirements the date demands great heat, long sustained, and a dryness of atmosphere found only in almost rainless regions. A clear distinction must be drawn between localities where the date tree may be grown as an ornamental and those where the fruit may be successfully grown and ripened.

In Southern Florida, along the Gulf of Mexico and along the Pacific coast from San Francisco southward the winter temperatures are sufficiently mild and the summer heat great enough to permit the growing of beautiful specimens of the date tree, yet the summer temperature is not high enough and the humidity too great to permit the development of the fruit.

Only regions of such extreme heat and dryness as are found in the Sahara, the Persian Gulf countries or the Valley of the Euphrates of the Old World, have proved successful date producing territory. Careful botanists have computed that the zero point of the date tree, as far as flowering and fruiting is concerned, is 18 degrees, Centigrade, or 64.4 degrees, F., and Dr. W. T. Swingle, in Bulletin No. 53, U. S. Dept. of Agriculture, has shown that where the excess over this in mean daily temperature added together for the growing period of from May 1st to October 31st approximates 1500 degrees to 2000 degrees, with the requisite sunshine and dryness of atmosphere, early varieties of dates may be ripened.

With an excess amounting to from 2800 to 3300 degrees for this period, as at Cairo, Egypt, and Biskra, in Northern Sahara, date culture becomes a standard industry, numerous varieties of medium earliness and quality being produced in commercial quantities. At Phoenix, Arizona, an excellent example of a similar climate, seedling dates, many of them of very fair quality have ripened for many years.

With 3800 to 4200 heat units for the growing season in the hotter Sahara Oases and at Bagdad, the choicest long season varieties of dates, such as the Deglet Noor, Menakher and Kustawi are produced, fruits sold as delicacies rather than staples, and commanding such retail prices as our choicest candies and bon bons. Analogous climatic conditions and high number of heat units characterize the Coachella and Imperial Valleys of Southern California, where we may yet expect to see these fruits produced in quantities to satisfy our entire demand.

Dr. W. T. Swingle regards the area in the United States where date culture is a possibility as comprising the hot interior valleys of Central California, the Salton Basin, the valley of the Colorado to the Nevada line, a small portion of the Mohave Valley and Death Valley, the lower Salt and Gila River Valleys and a small area of the lower Rio Grande Valley in Texas. In the cooler portions of this territory only the early quick maturing sorts could be expected to succeed, while in the hotter portions of the lower Colorado Valley and the Salton Basin it has been demonstrated that many of the varieties requiring the longest season may be successfully matured.

But though at home in the fiercest heat in which any vegetation grows the date palm endures a greater degree of cold than the orange, possibly about the same as the olive, a fact probably due to the tough, fibrous nature of the leaves and tissues and the protected position of its single terminal bud. There are a number of date palms about Indio that are known to have survived a minimum of 15 degrees, F., with little, if any, injury and old seedling trees are growing in the neighborhood of Phoenix and Tempe, in Arizona, where a minimum of 12 and 13 degrees have been recorded during their history.

From the heat requirements of the date palm it is natural to conclude that it is also a drouth resistant plant, but it is not more so than the Washingtonia or desert fan palm of Southern California which while a native of the hottest canyons and washes surrounding the Salton Basin delights to grow with its roots in a snow fed streamlet which may sink into the sands a mile further out, but lacking this will be found where there is a slow seepage and permanent moisture, though this may be of too salty or alkaline a character for the traveler's use.

Like the fan palm, the date palm must have an assured supply of moisture in order to exist and a genorous supply if fruit is to be perfected. Its root system closely resembles that of the Washingtonia as it develops in a few years' time a powerful system of round cord-like roots of great penetrating power and able to reach considerable depths for a water supply. Seedling date trees near Indio which have had no irrigation for a year and a half have continued to make good growth, bore fruit last year. These are along the line of a heavy mesquite growth and it is known that surface wells are obtained at a depth of from fifteen to twenty feet. It is only reasonable to suppose that the date roots have penetrated to layers of permanent moisture.

The nature of the soil will have much to do with the water supply demanded by a date plantation, the very sandy soil at the Mecca garden requiring much more frequent irrigation than soils of a clay or adobe nature. The well provided for this 10 acre tract is an artesian well bored about 500 feet deep and with a 3½ inch casing, inside diameter. The flow is approximately 150 gallons per minute, or 216,000 gallons per day of 24 hours. This is equivalent to 12½ miner's inches, as usually reckoned. It has seldom been necessary to operate the well for more than the 8 hour day, even during the greatest summer heat, but as the trees develop in size the demand will be greater. Dr. Swingle quotes French authority for the daily need of date trees in Northern Sahara as from 126 to 180 gallons per tree per day, at the source of supply, but with a considerable loss calculated for seepage and evaporation.

A report from Mr. E. F. Chumard, in charge of a plantation of Deglot Noor date trees, on heavy adobe land near Heber, in the Imperial Valley, indicates that he uses approximately 126 gallons a tree daily during the growing season of six months, May to October, inclusive, applied direct to the orchard without allowance for seepage or loss..

With the water distributed in pipes, or tile or cement conduits, as in the orange groves of Riverside county, a great saving in the requirement per tree is effected.

Soil Requirements.

That dates may be grown upon a great variety of soils has been fully demonstrated in this country, as well as in their home, but we still have to gain much experience as to soil adaptations of different varieties.

At the Tempe garden growth of all varieties upon the brown adobe soil of the Salt River bottoms is very rank and luxuriant, and the production of fruit all that could be expected. It is evident, however, that the ripening of the fruit is a good deal retarded by moisture which the soil retains and it seems evident that many varieties of fruit are of a more soft sirupy nature grown here than in the dry hot sands at Mecca.

A situation where the drainage is bad and irrigation or flood waters not readily removed should be avoided. With the heavier soils it is very important that baking and cracking should be prevented by prompt cultivation as soon as the ground can be worked after irrigation. In short, good drainage and aeration of the soil are an essential to the date as to ordinary crops.

Alkali Resistance of Date Palms.

The alkali resistance of the date is very remarkable, it ranking as the most resistant plant in cultivation, even exceeding the Australian Salt Bush. Old well-established trees are able to endure a much greater strength of alkali than young seedlings. The old trees may seem to be much more resistant than they really are from the fact that alkali accumulations on the upper layer of soil, which is usually turned by the plow, may become very heavy with little injury if the roots can penetrate to sub-soils having a comparatively

Continued on Page 535.

The Roessler & Hasslacher Chemical Co.

100 William Street, New York
Works: Perth Amboy, N. J.

CYANIDE guaranteed 98-99% for generating HYDROCYANIC ACID GAS

The only positive eradicator of the SAN JOSE SCALE, RED and BLACK SCALE and other insect pests

FOR SALE BY

F. W. BRAUN - Los Angeles and San Francisco
HAAS BARUCH & CO., " "

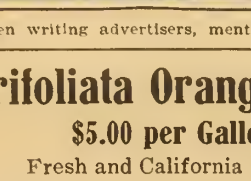
George B. Warner's Orange County Nurseries

Established 1889

Grower and Dealer in Citrus and Deciduous Trees of all Standard Varieties

Soft Shell Walnut Trees, 1, 2, and 3 years old. Grafted Placentia on Native Black Walnut Root and Soft Shell Root. Street and Ornamental Trees, Palms, Dracænas, Blue, Red and Sugar Gums (large stock.) Write for prices.

Sales Yard—Corner Sixth and Main
Residence—Tenth and Bush Sts
Santa Ana, California
Phone—S. S. Red 92



TENTS

Fumigating and Lemon Curing Tents our Specialties

Irrigating Hose, all sizes. Prices and Samples quoted upon application. Write your wants
Wagon Covers, Hay Covers, and Canvas Covers of Every Description.

Mellus Bros. & Co
Phones—Home, F 4871; S. S., Main 3500
250 East Fifth St., Los Angeles, Cal.

The Monarch Stump Puller

The Monarch is a Puller constructed on the most correct and scientific principles, and is made of the strongest and best materials obtainable.

The Monarch

Is the most successful and most popular Stump Grubber on the market today.

Write Us for Catalogue of Stump Pullers, Farm Implements, Wagons and Vehicles.

Pacific Implement Co.
133-153 Kansas St. San Francisco

6% Interest Paid -

ASSETS $2,002,111.
No Admission or Withdrawal Fee,
Only 30 Days Withdrawal Notice.
Send For Booklet and Statement

STATE MUTUAL BUILDING & LOAN ASS'N.
223 S. SPRING ST. LOS ANGELES CAL.

When writing advertisers, mention Cultivator.

Trifoliata Orange Seed

$5.00 per Gallon

Fresh and California Grown

Morris & Snow Seed Co.
425 So. Main St., Los Angeles

EDISON PHONOGRAPHS, VICTORS, ZONOPHONES
Records and Supplies, delivered at your nearest railroad station upon receipt of full retail price. Write for particulars and ask for catalogue. Peter Bacigalupi & Sons, 1113-15 Fillmore St. San Francisco

When writing advertisers, mention Cultivator.

YELLOW MONEY AND YELLOW FRUIT

Are a pair that travel together in good shape in an orange or lemon grove. Especially is this true if you will plant only the robust and true-to-name

Citrus Trees

grown by the San Dimas Citrus Nurseries, the largest growers of choice orange and lemon nursery stock in the world. No branch of horticulture offers better inducements in the way of profits, nor is there one more alluring to the person contemplating commercial fruit culture. For the past twenty years we have supplied the leading growers with their trees, and hope to number many more among our friends and patrons. Orders now being booked, subject to future delivery. Send for book on

"The Citrus Fruits: Historically, Horticulturally, Commercially."

Beautifully illustrated, and some 20,000 words of text. Price 25 cents.

The San Dimas Citrus Nurseries

R. M. Teague, Proprietor
San Dimas, California

With the Citrus Growers

THE LEMON INDUSTRY.

By G. Harold Powell, Pomologist In Charge of Fruit Transportation and Storage Investigations, Bureau of Plant Industry, In The Yearbook.

THE American lemon industry has become permanently established on a firm foundation within the last few years, the seasons since 1904 having proved unusually profitable. It commenced to assume a commercial aspect twenty-five years ago, but for a score of years it was a question whether it would become established permanently or whether the American supply of lemons would continue to be derived, as in the past, from foreign sources.

The lemon is grown in the citrus-fruit belt of California, where at the present time the annual production is from 3000 to 4000 carloads, which represent approximately 100,000,000 pounds, or from one-third to two-fifths of the total quantity used in the United States. Tnere are imported annually into the United States about 150,000,000 pounds of lemons, mostly from the island of Sicily. If this amount of fruit were expressed in terms of the California method of packing and shipping it would represent more than 1,750,000 boxes, or about 6000 carloads.

In the early days of the industry there were no precedents to follow that were applicable to the handling of the lemon in California. The pioneer growers made many mistakes. Each step forward in the culture of the groves and in the handling and shipment of the fruit was gained by costly experience. Groves were located in unsuitable places, on frosty areas, on uncongenial soils, in localities dependent upon an inadequate supply of irrigation water, or on soil that was overcharged with alkali. The growers had to learn about the handling of the soil, the irrigation and fertilizing of the crop, and the maintenance of soil fertility by cover crops and other sources of humus. The methods of pruning have only recently begun to emerge from a chaotic condition. The losses from decay until recently were so large and so universally expected that the California lemon was generally supposed to have poor keeping qualities, and dealers were cautious about handling the fruit. The industry became so depressed that ten years ago many of the groves were top-worked to oranges.

These conditions, however, are gradually changing. The California lemon growers are men of the highest intelligence and are in close touch with the developments of agricultural science. They are continually learning more about the requirements of the soil and of the trees. They handle the fruit with more care and skill than is bestowed on any other orchard crop of this country, and are developing successful methods of curing and of holding the fruit. The decay in lemons that are handled properly is a less important factor than formerly. The most critical dealer and the consumer both have confidence in the best brands of the fruit. An energetic, organized marketing policy has replaced the former unsatisfactory methods of disposing of the fruit. Special concessions in freight rates have been made by the railroads as a stimulus to the industry, and the most difficult problems of culture, of handling, and of shipment that are not well understood are being studied by State and Federal investigators in co-operation with some of the most progressive growers and shippers.

As a result of the recent progress in the industry, the demand for the best brands of California lemons is greater than the present supply. The area of groves is extending considerably, though more slowly than the growers desire, as the nurserymen have not been able to supply the demand for trees during the last two or three years, their propagation having been almost abandoned when the business was in the most depressed stage. At that time trees were sold at 10 to20 cents apiece, but in the winter and spring of 1907, following three years of unusually high profits, all available trees in the State were sold at prices ranging from 75 cents to $1.50 each. It will be several years before the product of the recent plantings increases the total supply of fruit to any considerable extent.

The Location of the American Lemon Industry.

The American lemon industry is located principally in southern California, which includes the counties south of the Sierra Madre Mountains. The most important region north of these mountains is in Tulare county, where the present annual production reaches about 150 carloads. The lemon groves are scattered along the foothills of these mountains and into the valleys from the coast at Santa Barbara inland to Riverside and Redlands. There are large plantings on the foothills of the Temescal Range at Corona. Along the coast the plantings are scattered here and there from Santa Barbara to the Mexican line, the so-called coast region including an area extending 20 miles or more inland. There are large plantings inland in San Diego county and along San Diego Bay, especially at National City and Chula Vista. The important regions, with their approximate production during the season from November 1, 1906, to October 31, 1907, may be roughly grouped as follows: Tulare county, 150 cars; Santa Barbara and Ventura counties, including Santa Barbara, Fillmore, and Santa Paula, 475 cars; the San Dimas center, including Duarte, Azusa, Covina, Glendora, San Dimas, Pomona, and Claremont, 380 cars; the Upland, Ontarlo, and Cucamonga region, 260 cars; the upper San Bernardino region, including Riverside, Rialto, Colton, Redlands, East Highlands, and near-by places, 470 cars; the Corona region, 570 cars; the Los Angeles region, including Whittier, Lamanda, Fernando, Pasadena, and Hollywood, 440 cars; Orange county, 110 cars; San Diego county, 800 cars; making 3505 carloads from Southern California and 150 carloads from Tulare county.

The lemon-growing sections in Southern California are generally spoken of as the coast and inland regions, though there is no well defined line between them. The altitude of the coast region varies from sea level to 200 or 300 feet. The inland regions range from 750 to 1250 feet in altitude. The climate of the lemon belt, like the climate of the Pacific coast generally, presents the widest variation within a comparatively small area. In general, however, the climate

of the coast is more equable than that of the inland region, the annual mean temperature averaging a little lower and more uniform and the relative humidity higher and also more uniform. The fruit of the coast region is more uniform in texture and in ripening throughout the season; it has a little thinner skin, and the largest part of the crop matures comparatively later in the spring. It has been commonly supposed that the lemons from the coast have poorer keeping quality than the interior-grown lemons, but it is a question whether this difference exists in fruit that is handled with equal care. It has also been supposed that the best coast lemons are produced not in close proximity to the ocean, but from 16 to 20 miles inland; but this, too, is open to question. The scale insects thrive more abundantly in the moister air of the coast, though fumigation or spraying has to be practiced in nearly all sections to hold the insect pests in check.

No Scale in Highland

To the Editor: In your issue of Nov. 19th, under the heading "Agricultural Notes of the Pacific Coast," there appears an item stating that "The Chamber of Commerce of Highland, San Bernardino county, is taking steps to have all of the orange trees of that section thoroughly fumigated and to that end is encouraging the plan proposed recently by Mr. Paine to form an organization to insure freedom from scale in all orchards of members."

Permit me, as an orange grower of the Highland district, to say that this statement is not only untrue in what it alleges, but incorrect in what it implies.

According to the Horticultural Commission of this county there is not now, and never has been, any scale in the Highland district, with the exception of the white scale, which, as everyone knows, is persistently hounded to death by its enemy, the vedalia.

The Facts are as Follows.

The citrus fruit growers of the Highland district—which for the present purpose, is bounded on the north by the San Bernardino mountains, on the east and south by the Santa Ana river and on the west by Lytle creek—have formed a mutual insurance association for the purpose of preventing the introduction of scale into the district, if possible, and for its eradication if it is found, at any time, to have made its entry.

From one view point it is unfortunate that the timely action should have begotten the story, now broadcasted over the land, that the orange groves of Highland are infested with scale. We feel sure, however, that the papers which have innocently spread the report will cheerfully endeavor to correct it, and that the ultimate result of the affair will be the emphasizing of the fact that we are yet free from the pest. Had the incident not occurred the public would doubtless have asssumed that we were equally afflicted with the rest of the citrus regions..

It is an interesting fact that this scale insurance measure is the most attractive co-operative proposition that has ever been made to the citrus growers.

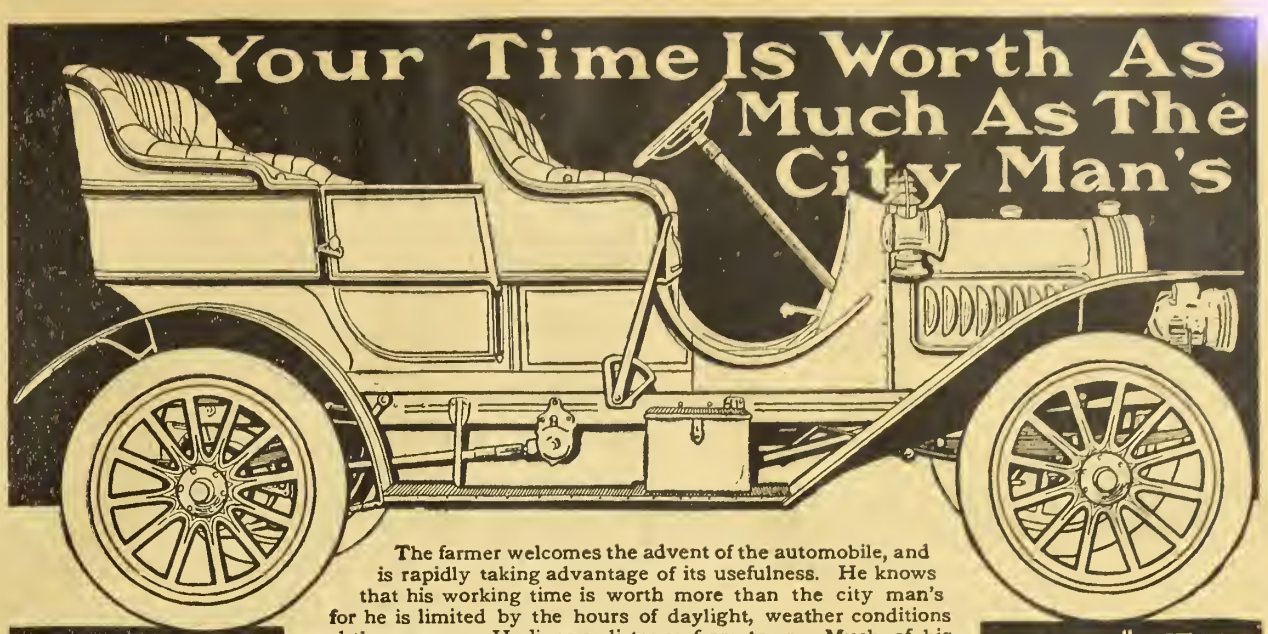
The Agreement.

Briefly stated, the agreement, which has been carefully drawn and passed upon by the best legal talent, provides that if scale be found in the orchard of any member, it shall be eradicated at the expense of the association. To provide an immediately available fund an assessment of twenty-five cents per acre is collected as an entrance fee. As there are about 4000 acres of orchard in the district, and as every grower, apparently, is preparing to join, the association will have a sufficient sum in hand for initial work, if the need arises, and the agreement provides for further levies if they shall become necessary.

We are persuaded that the time-worn maxim concerning the ounce of prevention is nowhere more apt than here.—W. M. Bristol, Way-up Ranch, East Highlands, Nov. 24, 1908.

We regret the Cultivator's mistake and thank Mr. Bristol for coming squarely back at us with his clean-cut statement.

We are glad to know the truth and also glad to have the particulars of this Highland's co-operative effort which is well worth imitation in every fruit growing section.



The farmer welcomes the advent of the automobile, and is rapidly taking advantage of its usefulness. He knows that his working time is worth more than the city man's for he is limited by the hours of daylight, weather conditions and the seasons. He lives a distance from town. Much of his time is taken up traveling back and forth. The school house and church are far away. His horses are needed in the fields. He has greater and more legitimate use for an automobile than his city brother, and the car best fitted to his many needs is the

Rambler

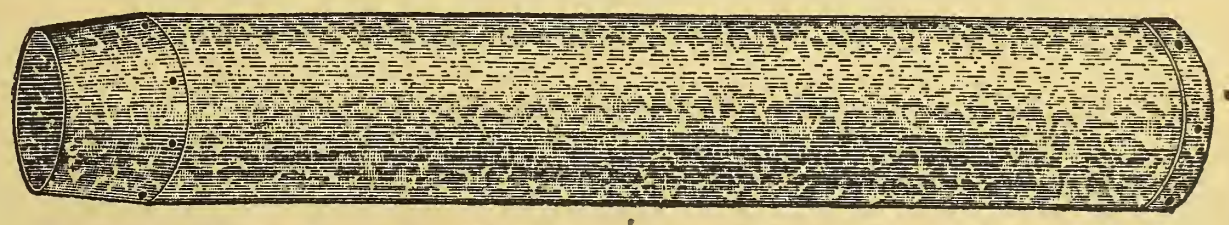
THE CAR OF STEADY SERVICE

With it he can make the trip to town and back in less than half the time it takes a team and at the same time leave the horses to more profitable work on the farm. He can take the children to school, the family to church, or visiting in all kinds of weather over all kinds of roads. He not only gets more time for his necessary work, but he gets more time for pleasure, something the American farmer does not get enough of. Farmers in practically every state are using RAMBLERS, and many of them claim that the up-keep is no more than the keep of a horse. They use their cars to carry produce to market, haul milk to the creamery and for many utility purposes. The RAMBLER always gives a good account of itself, and transports the farmer and his family with speed and safety. It is not expensive or hard to operate—anyone can run a RAMBLER. Its large wheels give ample clearance for ordinary obstructions. Its big tires travel all kinds of rutty, sandy or muddy roads easily, with little tire expense; the double opposed engine gives great power on the road—wonderful hill climbing power; the Rambler method of transmitting power to the driving wheels reduces friction. The unit power plant and all other parts are protected against injurious road materials; 400 inches of braking surface insures perfect control; the tilting body allows you to reach every part easily and quickly; the long wheel base gives ease and comfort.

Farmers with keen judgment of comparative values are buying Ramblers. We want you to know all about this automobile—why it is the best car for you to buy—why it is the right car at the right price. Let us send you our Farm Folder No. 156; it tells you how much pleasure and profit there is in a RAMBLER for YOU. Write for it today. It's FREE.

Thomas B. Jeffery & Company,
Kenosha, Wis.

THE CAR OF STEADY SERVICE



AMERICAN SURFACE IRRIGATION PIPE

SAVES WATER, GRADING AND TIME

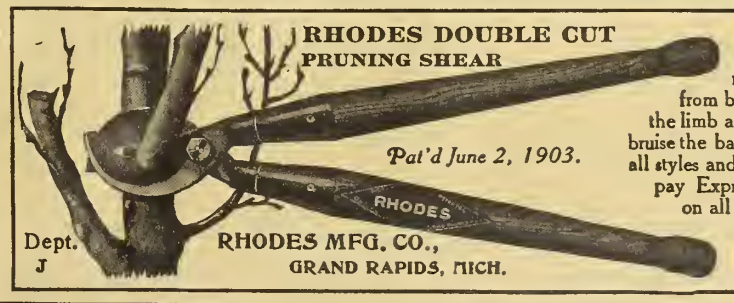
The only way to Irrigate Alfalfa. Cheaper than Flumes. This is only **one** of our **specialties.** We make **Riveted Water Pipe** in lengths of **ten feet** from **single sheets.** Let us **prove** to you that we make **Pipe and Tanks right.** WRITE FOR CATALOGUE.

AMERICAN STEEL PIPE & TANK COMPANY

FORMERLY TALLERDAY MANUFACTURING COMPANY

636-7 Pacific Electric Building **Los Angeles, Cal**

DON'T BUY GASOLINE ENGINES UNTIL YOU INVESTIGATE "THE MASTER WORKMAN," a two-cylinder gasoline, kerosene or alcohol engine, superior to any one-cylinder engine; revolutionizing power. Its weight and bulk are half that of single cylinder engines, with greater durability. Costs Less to Buy—Less to Run. Quickly, easily started. Vibration practically overcome. Cheaply mounted on any wagon. It is a combination portable, stationary or traction engine. SEND FOR CATALOGUE. **THE TEMPLE PUMP CO., Mfrs., Meagher and 15th Sts., Chicago.** THIS IS OUR FIFTY-FIFTH YEAR.



THE only pruner made that cuts from both sides of the limb and does not bruise the bark. Made in all styles and sizes. We pay Express charges on all orders. Write for circular and prices.

Dept. J **RHODES MFG. CO.,** GRAND RAPIDS, MICH.

Citrus Trees Navels Valencias Lemons Pomelos

Sweet and Sour Orange **Seed-Bed Trees,** strictly first-class stock, free from scale. We also have several hundred Phoenix Canariensis and Washingtonia Robusta Palms for sale cheap. Write for prices in large or small quantities.

Southland Nurseries, F. H. Disbrow, Prop.

Phones: Main 949; Home 2520 **R. D. No. 1, PASADENA, CAL.**

TREES TRUE TO NAME

AND

Propagated From the Best Specimens of Their Kind

TWO IMPORTANT FACTORS

Placer Nurseries

(Established 1878)

OUR ASSORTMENT

Comprises all the Best Commercial Varieties of

Peaches
Plums
Pears
Apricots
Almonds
Cherries
Apples
Persimmons
Grapes, Etc.

Order Now
Write Us

and our stock is the best that years of experience, care in selection, and care in growing can produce. That is what you want.

Catalogue and Price List Mailed on Application

The Silva-Bergtholdt Co.

Newcastle, California

Agents Wanted

TREE TANGLEFOOT

A Sticky Preparation Applied Directly to the Bark of the Trees

Will not injure trees. A band 5 inches wide and 1-16-inch thick cannot be crossed by any climbing insect pest. Remains sticky five to ten times as long as any other known substance. You can test it at slight expense, as no apparatus is required. Used by the carload in New England against the Gypsy and Brown-Tail Moths. In California it preserves prune orchards from the Canker Worm. Wherever the Gypsy or Brown-tail Moths, Tussock Moths, Fall or Spring Canker Worm or Web Worm appear TREE TANGLEFOOT is of great value, and should be used when the caterpillars begin to crawl while they are very young.

Price 25c per lb. Liberal discount on quantities. The only safe and effective banding preparation. Send for testimonials

THE O. & W. THUM COMPANY

Manufacturers of Tanglefoot Fly Paper — Grand Rapids, Michigan

Trees Grape Vines

Full Line of Commercial Sorts

Grown on Virgin Soil, True to Name, and Healthy. Nineteen years of fair and square dealing makes us the most popular nursery in the West. ***Wilson's Trees and Grape Vines*** long noted as the very best. Catalog and Price List for the asking. Address

The Fresno Nursery
F. H. Wilson, Proprietor
Box 615a - - Fresno, California

Farmers, Take Notice

To increase your crop in quantity and quality you must fertilize. The Tom Lewis fertilizer insures big crops for everything that grows. The best and cheapest fertilizer made. It is the farmers' money maker. No trouble to use. Big crops are sure to follow. This fertilizer produces 6 to 10 pounds of grapes to the bunch. For catalogue and prices write

Thomas Lewis, 1916 10th Street, Sacramento, Cal.

Deciduous Fruit Culture

By J. W. Mills

FOOD VALUE OF DRIED FRUITS.

THE value of dried fruit as a food product is very little understood by the one who should be most interested, the housewife; if it were, the consumption would increase so fast that the producing sections of the country would be severely taxed to supply the demand. It is equally as valuable to the rich as to those who are obliged to count the cost of living closely. High grade dried fruit properly prepared will furnish as appetizing a dainty as ever appears on the table. The early education of most housewives leads them to believe that dried fruit is only the commonest of food and is only to be used as a makeshift. If they would take the trouble to inform themselves as to the great improvement that has been made in curing and preparing this article for the market, and the experiments that have been made to prepare from it a dish to tempt the palate, they would be more than surprised at the important and beneficial place dried fruit would assume in their daily menu.

The average wholesale and retail buyer is equally in the dark as to the methods of preparing dried fruit for the market, and of the difference in value of dried fruit from the various sections where it is produced, and, above all, the difference in value of properly and improperly prepared fruit. If he would so inform himself and govern himself by that information, insist upon having such dried fruit as is properly handled, delivered to him on his purchases, he would make new friends and customers, both for himself and for that too often despised article—dried fruit.

Prunes for Example.

Take the one item of prunes to show how small comparatively the consumption of dried fruit is in the country. An average crop of prunes in California, Oregon, Washington and Idaho, the prune producing States, is for the present acreage from 150 to 180 million pounds, or about 2¼ to 2½ pounds per year to each inhabitant. What is true of prunes is true of other dried fruits, and yet there is not one of the many items that go to furnish the table that will show better results from its free use in nutriment, pleasure of eating and economy.

As to Sulphur.

The practical dried fruit men of the country are unanimous in their opinion that it is necessary to use sulphur to prepare a sightly and good keeping article of food, insofar as peaches, apricots, pears and aples are concerned, and their opinion is based on years of actual experience and experiment. They deplore and discourage the excessive use of sulphur as they would the excessive use of anything that might in excess produce bad results, and they are as honest and much more vitally interested in their position than the theoretical expert who, as is usual with the reformer, is in a measure trying to pass laws and bring about rules and regulations that will destroy a valuable industry. by criticising its methods without offering better ones as a substitute. I am sure that I am safe in saying that not one case of injury to health has ever been found from the use of properly cured sulphured fruit, and I am sure that the general health of the dried fruit consumers of the country will at least compare favorably with that of the non-consumers.

No one would welcome improved methods of curing dried fruits more than the grower and packer—I mean practical, economical methods—but up to the present time no such substitute for the present methods has been found. It is said to be true that the kinds of fruit above mentioned have been successfully cured without the use of sulphur; but while the methods, so far as I can learn, might do for laboratory experiment, and in that be successful, they are absolutely impracticable for handling the enormous dried fruit output of this country.

Dried fruit has come to stay, and is gaining firmer footing in the family every day. If the producers and merchants will see that only good, wholesome, well cured, well prepared fruit is sold, in a very short time the demand will exceed the supply.

Higher Standards.

The dried fruit business is getting on a firmer basis every year. We are coming to recognize standard qualities and gradings more and more. The business of packing and shipping is slowly working into the hands of comparatively few reliable houses, and they are doing much to establish uniform standards of quality and to eliminate that element whose methods are dishonest and unfair. Much ground for good has been gained in the last few years and the business is now on a firm, well-established footing. The only thing necessary now is to bring the packers and natural distributors together on a uniform, equitable basis. —Walter A. Frost in the Retailers' Journal.

A CIDER VINEGAR.

According to the Carolina Experiment Station the following is the way for making cider vinegar:

Take sound barrels, or any suitable sized vessels of wood, earthenware or glass— never iron, copper, or tin. Clean thoroughly and scald. Fill, not more than half full, with the cider stock, which should be fermented at least one month. To this add one-fourth its volume of old vinegar. This is a very necessary part of the process, since the vinegar restrains the growth of the chance ferments which abound in the air, and at the same time it favors the true acetic acid ferment. Next add to the liquids a little "mother vinegar." If the latter is not at hand, a fairly pure culture may be made by exposing in a shallow, uncovered cork or wooden pail a mixture of one-half old vinegar and one-half hard cider. The room where this is exposed should have a temperature of about 80 degrees F. In three or four days the surface should become covered with a gelatinous pellicle, or cap. This is the "mother vinegar." A little of this carefully removed with a wooden spoon or stick should be laid gently upon the surface of the cider prepared as above described. Do not stir it in. The vinegar ferment grows only at the surace. In three days the cap should have spread entirely over the fermenting cider. Do not break this cap thereafter so long as the fermentation continues If the temperature is right the fermentation should be complete in from

TREES

Season 1908-9

Order Now for Future Delivery

If your trees are purchased from the Fancher Creek Nurseries they will be true tc name, well developed, with good roots.

FOR 25 YEARS we have been engaged in growing reliable nursery stock. Our thorough knowledge of every branch of the business makes it possible for us to raise and deliver stock that meets the demands of this country, and gives satisfaction to growers.

Last year we did the largest business in our history. This year our stock of

Deciduous, Citrus and Ornamental Trees, Grape Vines and Rose Bushes

is more complete and better than ever.

We are sole propagators and disseminators of

Luther Burbank's New Creations

Valuable Burbank Booklet illustrated in colors mailed for 25c.

SALESMEN WANTED

PAID-UP CAPITAL $ 200,000.00

FANCHER CREEK NURSERIES

INC.

Geo. C. Roeding Pres. & Mgr.

Box 12 Fresno, California, USA

Six of the Most Valuable New Fruits

Ever Introduced in California

"Improved French" Prune
Originated by Luther Burbank

"Concord" Walnut French Variety
Grafted trees only. Better than Franquette or Mayette

"Paul" Cherry Finest Black Cherry

"Philippi" Grape Handsomer than Tokay; a month earlier. Disinfected cuttings only, to comply with quarantine laws.

All these, like Muir, Lovell, and Phillips Cling Peach, are of California origin.

"Comet" Red Currant Much larger, earlier and sweeter than any other.

"May Duke" Gooseberry
Earliest of all; large; smooth skin.

Write for Further Particulars.

EUCALYPTUS TREES by the 1000 or 100,000. No stronger stock; grown in the open, without lath shade or screen, therefore hardened to all weather.

GENERAL NURSERY STOCK

Leonard Coates Nursery Co., Inc.

EST. 1878. INC. 1905.

Morganhill, Santa Clara County, Cal.

Semi-Tropic Nursery

The undersigned takes pleasure in announcing to all who desire to raise choice fruits that his **Kodota Fig** and **California Concord Grape** are still in the lead as the choicest of table fruits. I am prepared to furnish these trees and vines in retail or wholesale lots. Circulars sent to all who send for them.

S. H. Taft

Sawtelle, Cal., Nov. 27, 1908.

The repair of the levee on the Feather River at Marysville is nearly completed.

four to six weeks. The vinegar should then be drawn off, strained through thick white flannel, and corked or bunged tightly, and kept in a cool place until wanted for consumption.

If the vinegar remains turbid after 10 days, stir into a barrel one pint of a solution of one-half pound of isinglass in one quart of water. As soon as settled, rake off, and store in tight vessels. Usually, no fining of vinegar is needed. No pure cider vinegar will keep long in vessels exposed to the air at a temperature above 60 degrees F. "Vinegar eels" are sometimes troublesome in vinegar barrels. To remove these heat the vinegar scalding hot, but do not boil. When cool, strain through clean flannel, and the "eels" will be removed.

DATE GROWING IN CALIFORNIA.

Continued on Page 531.

small percentage of the poisonous salts. This is very noticable in the Tempe garden at the present time. The plantation was made in 1900 on land where alfalfa had been killed out, and similar to lands which Thos. H. Means, of the Bureau of Soils, had found to contain about 2½ percent by weight of harmful soluble salts on the upper 12 inches. At the present time there is a marked alkali crust over the whole area, and the problem of keeping down weeds is practically eliminated, for few attempt to grow. Young plants from seed sprouting under the trees turn brown at the surface of the soil and die before the end of their first summer. The caretaker has been unable to surround his house with any shade trees, a single pomegranate bush being the only woody plant besides the dates able to survive in the enclosure. The fact that the ground water rises very quickly when the surrounding alfalfa fields are irrigated shows that there is a free movement of water in the substrata, probably a part of the great Salt River sub-flow, and the date roots are doubtless growing in a soil with a low percent of alkali and not liable to stagnation. In this discussion it should be remarked that only the so-called white alkalies, the chlorides and sulphates are referred to. While the date is in a degree resistant to the black alkali, sodium carbonate, but a very small percent of it could be tolerated.

These facts regarding the date palm are of the utmost economic importance in relation to the development of Southern California. In both the Coachella and Imperial valleys, with climatic conditions equal to any in the world for the production of dates, there are hundreds of acres of land backed by an adequate supply of water either from artesian wells or from the Colorado River, where the surface soil is somewhat too strong in alkali for the growth of any known field crop, yet where the date would thrive most admirably.

IT'S PENNY WISE

Policy to set out a good tree, costing good money, and then let the sun burn the bark or the rabbits gnaw it, when for $1 an acre you can get Yucca Tree Protectors that are practically indestructible. Write for free sample of the wrap. Yucca Manufacturing Company, 1380 Willow street, Los Angeles.

Imperial Valley Lands have a greater earning capacity per acre than any land on earth. For price list and information address, James S. White Jr., and R. A. Holt, Holtville, Cal.

TREES

The New Fruits

Santa Rosa Plum
The Rutland Plumcot
The Opulent Peach

And the usual full and complete assortment of citrus, deciduous and small fruits, all of which are graphically described in our new

Twentieth Anniversary Catalogue

a copy of which we want every one to have who is interested in planting trees; it is free.

ARMSTRONG NURSERIES
ONTARIO, CAL.

Studebaker

Largest Vehicle Makers in the World

Means Superior Quality

The Studebaker Plant Covers 101 Acres

For 56 years the name Studebaker on vehicles and harness, has carried with it an absolute guaranty of the highest quality in both materials and construction.

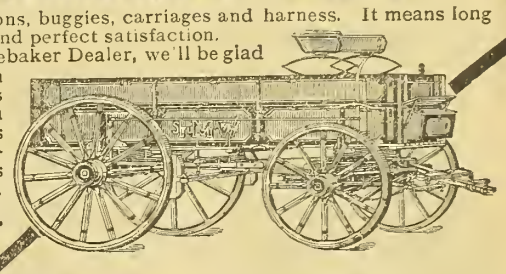
The man who buys a **Studebaker** is absolutely sure that he has obtained full value for every cent he has spent. He runs no risks.

It will pay you to

See the Studebaker Dealer

and get his prices on farm wagons, buggies, carriages and harness. It means long service, freedom from repairs and perfect satisfaction.

If you don't know the Studebaker Dealer, we'll be glad to send you his name. Mention this paper and send us two cents in postage and we will mail you **free** Studebaker 1909 Farmer's Almanac, containing, "In Oklahoma," Cyrus Townsend Brady's inspiring story of pioneer days.



Studebaker Bros. Mfg. Co.
South Bend, Indiana

Newell Mathews Co.

Studebaker Agency

200-202 No. Los Angeles St. **Los Angeles, Cal.**

Turkestan Alfalfa

The great drouth resister. Try it aud be convinced. By repeated experiments in this State and Mexico, it has been grown with one-third less water than the common variety. Its foliage is of a finer texture and its stalks contain less wood, so it is all consumed.

Write for prices. Special quotations for large quantities.

Germain Seed and Plant Co.

326-330 South Main Street
Los Angeles, California

EUCALYPTUS

Growers of Commercial and Ornamental Eucalypti

EKSTEIN & EKSTEIN
Modesta Euc. Nursery
Modesta, Cal.

EKSTEIN BROS.
Vignolo Euc. Nursery
Anaheim, Cal.

Improved Berry Plants

Strawberry, Blackberry, Raspberry, Loganberry, Himalaya, Phenomenal Berry and Dewberry Plants in variety. You will save money by getting our catalog before ordering.

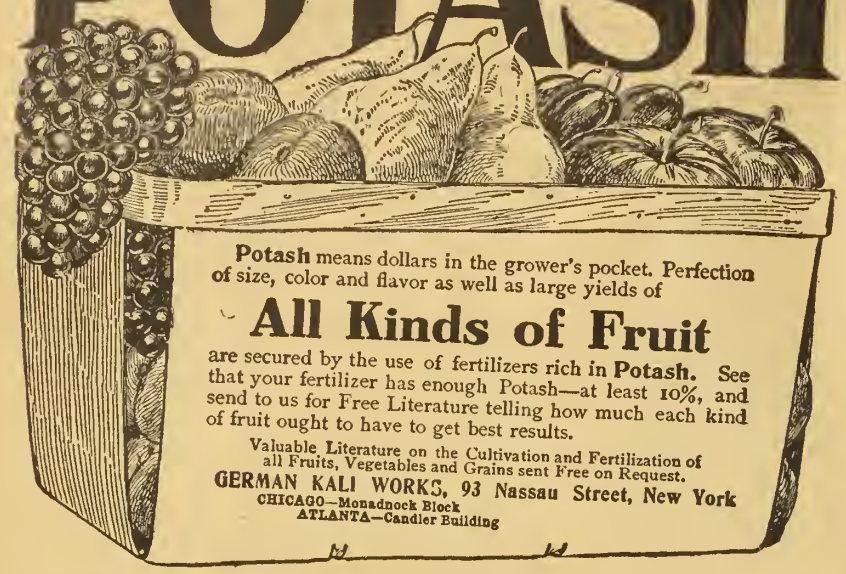
G. H. HOPKINS & SON
Burbank, Cal.

E. H. Learned, Tropico, Cal.
GROWER of STRAWBERRY PLANTS

Plants now ready. ***Brandywine, Klondike*** and ***Excelsior.*** Price $2.50 per thousand. Of the very best selected stock. Reduced rates in quantities a matter of correspondence.

Address mail R. F. D. No. 5, Los Angeles

POTASH



Potash means dollars in the grower's pocket. Perfection of size, color and flavor as well as large yields of

All Kinds of Fruit

are secured by the use of fertilizers rich in **Potash.** See that your fertilizer has enough Potash—at least 10%, and send to us for Free Literature telling how much each kind of fruit ought to have to get best results.

Valuable Literature on the Cultivation and Fertilization of all Fruits, Vegetables and Grains sent Free on Request.

GERMAN KALI WORKS, 93 Nassau Street, New York
CHICAGO—Monadnock Block
ATLANTA—Candler Building

Meyer, Wilson & Co., San Francisco, Cal., are Sole Agents for the Pacific Coast

Plants **SEEDS BULBS** Trees

We are headquarters for

GARDEN AND FIELD SEEDS

Those who are not yet in receipt of our Fall Catalogue, send for it at once.

Prospective planters of ALFALFA, CLOVER and GRASSES are requested to write us before planting.

Remember, our handsome new 1909 General Catalogue, ready for mailing in December, will also be sent to those who write us now.

C. C. Morse & Co. 41 Jackson St., also Market St. San Francisco

Crimson Winter Rhubarb

$1.50 a Dozen $6.00 per 100
$40.00 per 1000

Now is a good time to plant. Pedigreed Stock.

Fruit Trees and Berry Plants of All Kinds

J. B. Wagner, Pasadena, Cal.

The Rhubarb and Berry Specialist

Dept. F

SEEDS

TREES PLANTS BULBS

If you are interested in the Best Seeds, Etc., write for our 1909 Seed and Plant Annual, which we will mail to you free. Please mention this paper.

Trumbull Seed Company

Successors to Trumbull & Beebe

61 California St., San Francisco

TREES

We have a full line of Nursery Stock, including citrus and deciduous fruit and nut trees: Also eucalyptus trees, 15 varieties.

ROSE BUSHES, ORNAMENTAL, SHADE AND STREET TREES.

We publish a price list, a descriptive catalogue. and a special Eucalyptus pamplet.

Orange County Nursery & Land Co.

Main office and Nursery

Riverside Branch, Cor. Market and 7th, Sts.
Corcoran Branch, Whitely Ave.

Fullerton, Cal.

When writing advertisers, mention Cultivator.

More About California Prosperity

Replying to recent criticism of a statement written by Mr. Isaac which the Cultivator responded to, Mr. Isaac now writes:

"I note that one of your correspondents takes you to task for a short item written by me which appeared in your columns. It is too often the case that a person sees nothing outside of his individual case. If he is prosperous, then all are prosperous, but if he is in adversity, then all are. I think that this is the case with your correspondent. He sees only his own case. Now, there are very many individual cases of adversity, there are sections in the state in which the past season cannot be accounted a good one, but I contend, and the facts will bear me out, that as a whole, the past season has been a prosperous one to the tillers of the soil in our state. Citrus fruit shipments were heavy, and while there were some losses, as a rule, they were remunerative. Of fresh fruits we have shipped in round figures 12,000 carloads, the heaviest in our history, and as with our citrus fruits, as a whole, prices have been fair to good. Growers of table grapes are prosperous. Orchardists who have sold their fruit to the canneries have generally got good prices. The threat of a dry season last year was thwarted by late seasonal showers, and while hay and grain were both short, they were better than we had for a while expected. So it is with other lines of agriculture and horticulture. Being in touch with the whole state and knowing conditions as I do, I do not hesitate to reassert my statement and say that, taking the state as a whole and in its various branches of agriculture, the past has been a prosperous season."—John Isaac.

* * *

On the same point Mr. Y. J. Henninger of Auburn, Placer county, writes:

"Will you kindly publish this or send it to Mr. Isaac's critic as an encouragement for him to look ahead a little and raise something that will sell and give him a fair profit? In particular I want to give him my experience.

"I came here two years ago from the East and bought 20 acres of improved land. The land has a gentle slope to the southwest. Ten acres are in orchard, principally plums, on which my income was $400 net this year. Of the other ten acres I have six fenced off for raising natural hay, (about 5 tons). This I keep enclosed four months in the spring until I get the hay off in the barn; then I have the whole ten acres for pasture.

"I have five head of stock to feed and I do it on those ten acres. I started in with a mare, who does all the work on the place, and her colt. I will sell the colt later on and get a cow in its place. I also started in with one pure blooded Jersey cow and her calf. I have now one two, and one one-year old heifer, each cow giving milk I consider worth $12 per month to me. I get 10 cents per quart for pure milk and 35 cents per pound for butter but I don't make any butter in the summer time.

"I have a piece of ground 150 feet square on which I raised 35 bushels of corn on the cob, which came in handy for fodder and chicken feed. I raised fodder only on this piece of ground this year. It doesn't pay to raise corn for chicken feed. In fact I am going to cut the chicken business out. Tney got all the corn and all my grapes, too.

"I am improving my orchard right along by grafting to better plums. I want to advise Mr. Isaac's critic to turn his five acres into red top clover and water it well and get himself a bunch of Jersey calves, if he is living near a city, and sell nothing but pure milk. I have no doubt I paid no more for my 20 acres than he did for his 5. There are three of us and we do all our work ourselves. We are in the best of health. In these foothills here is the best of water and a glorious climate to live in."

California Horticulturally

By John Isaac

POPULARITY OF THE FIG.

THE fig crop of the San Joaquin and Sacramento valleys has not turned out so well as usual and the pack will fall much below normal. But, then, this has been an off season for many kinds of fruits, so that growers and planters are not discouraged. Since the introduction of the fig insect and the possibility of producing first-class commercial figs, a great impetus has been given to the planting of this fruit which has increased each season and the present season will see no diminution in it. Several projects are now on foot to plant large areas in figs in both the San Joaquin and the Sacramento valleys. Two of the most extensive of these are in Glenn and Merced counties. In the former an eastern company is arranging to put out six hundred acres of Smyrna figs in one tract, while in Merced county a company has purchased a large portion of the old Holland colony tract, and is now preparing to put out five hundred acres in figs and peaches, principally figs. There is no question but that with suitable soil figs will do well in both the great valleys. The fig requires a warm climate to do its best and that there shall not be too great an extreme in the temperature between night and day. Sudden changes chill the stems of the young fig and cause the fruit to drop. While some of the more hardy varieties will do well on the coast the best results in fig growing for profit are to be had in the interior valleys.

WINE GROWERS NERVOUS.

The wave of temperance or prohibition now sweeping over the United States is having its effect even in California, which is so far outside of its present activity. The owners of the large wine grape vineyards and wineries, are looking at the coming cloud with much apprehension, and are already wondering where the tidal wave will leave them when it has passed. The wine industry is one of the largest fruit industries in the state and in it are invested millions of dollars, represented by vineyards, wineries, cooperage cellars and other

Continued on Page 551.

Small Fruits and Vegetables

CO-OPERATION IN MARKETING FRUIT AND TRUCK CROPS.

THE Department recently issued a bulletin in which the subject of co-operative marketing on the part of the gardeners and small fruit growers was discussed, from which the following is taken. It in turn was made up of extracts from various state bulletins:

Some Advantages.

The co-operative idea among fruit and truck growers, having passed the experimental stage, has become an important factor in present day marketing. Scarcely any well-developed horticultural sections are without their associations in one form or other. New fruit and truck regions are being constantly developed, however, and a brief study of co-operative methods may be of value. The benefits to be derived from such organizations are many. Small producers can make combined shipments in car lots, which is now considered the economic unit of shipment. Organizations, through the volume of their business, can secure minimum transportation rates. They can afford to maintain daily telegraphic communications with all of the important markets and are thereby enabled to divert cars already en route to places where the demand is greatest. Growers are advised when to hold and when to ship. Uniform grades and packs are secured. Organizations are in a position to know the actual supply of their respective communities; hence managers, working in harmony, can regulate prices to a considerable extent. Through the association the members can procure packing material, frult-picking baskets, spraying materials, and pumps, potato bags, etc., at a greatly reduced cost. Successful associations require choice products. By an interchange of ideas and experience members are in a position to eliminate unprofitable varieties of fruits or vegetables from the community and to develop thorough and economic systems of cultivation. These and many other advantages might be noted.

Co-operative associations have developed rapidly in the West. Over thirty fruit and produce organizations of various kinds are now doing business in Colorado. In a recent publication of the Colorado Station, W. Paddock describes the workings of these associations, which in a general way are similar to those of other sections.

There are two methods of packing and grading fruit; in one instance the association does all the packing, the growers delivering the fruit to the packing house just as it is taken from the trees. Here the packers, under the direction of a superintendent, sort the fruit into the various grades, and at the same time pack it into boxes or crates. Should there be any culls they are returned to the grower and are at his disposal.

Each grower is given a number, which is used to designate his fruit throughout the season. As each box is packed it is marked with his number and the grade. When the boxes are loaded into the cars the number of boxes, the varieties and the various grades which belong to any grower are kept account of and duly recorded. In this way the price for each box of fruit in any car is easily determined.

But where there is a very large amount of fruit to be handled it is impossible for the association to do the packing, consequently the growers assume this work. With this arrangement the association employs an inspector, whose duty it is to inspect each load as it is delivered. This he does by opening the boxes on the side in the case of apples, when a good estimate of the contents may be made. If the pack is satisfactory not more than two boxes may be opened. If unsatisfactory, several may be examined, and if all run under the inspector's standard, the entire load must either be placed in a lower grade or else be repacked.

It will be seen that a great deal depends on the inspector, and that it is a dfficult position to fill. Upon him depends the reputation of the association, so he must be entirely free to do the work as he sees fit.

Each man's fruit is kept track of by numbers, as in the former case.

The association charges a commission on all sales, usually 5 per cent, to defray expenses. Then, in case the packing is done by the association, an additional charge is made to cover the cost of the box and packing. Any surplus is, of course, distributed as premiums. Any fruit grower may become a member of the association so long as there is stock for sale, and the owner of one share is entitled to all of its privileges. The number of shares one individual may own is limited.

The growers are generally asked and, in many instances, required to furnish an estimate of their crop. In the smaller associations the manager sometimes secures this information by visiting the orchards in person. This estimate is made early in the fall, or not until damage by worms and other causes is practically over and the crop is secure. With this knowledge in hand, the manager can enter into contracts for delivering certain amounts of various varieties or grades.

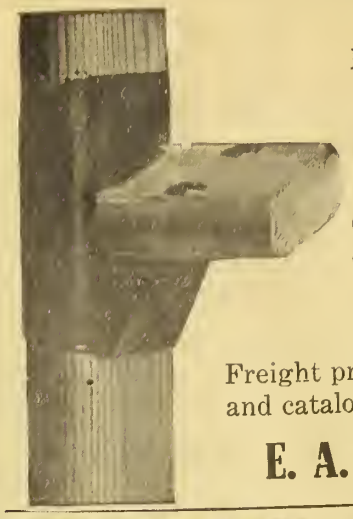
Not to Commission Men.

The system of selling has been radically changed within the past few years. Formerly practically all of the fruit was consigned to commission men, who, as a class, it may be truthfully said, are inclined to do the best they can by their constituents. But too often the experience has been otherwise. Not infrequently has it happened that shipments consigned to a distant city have been reported as not being up to grade, or not in good condition, so the market price could not be realized. In such cases, though the manager may be certain that his fruit is as represented, he is often unable to help himself, so must take what he can get. But of late years the plan of selling f. o. b. is being practiced more and more, and this is largely due to the organized efforts of the associations. Consignments are only made to well-known firms, and much of this fruit is sold at auction.

But even with this arrangement difficulties arise, so in order to protect themselves the larger associations have an agent at the more important distributing points. It is the duty of the agent, or broker, to inspect all cars which come into his territory, as near the destination as possible, and thus protect the association from dishonest buyers. He also is on hand to adjust the differences which arise when the fruit actually reaches the buyer in poor condition.

Continued on Page 551.

Security Ladders



A profit to you on every hour's use. Long lived. Acknowledged to be the

Lightest Strongest and Best

Our bid for your patronage is this. For cash with order,

Straight Ladders **25c per Ft.**

Freight prepaid on 5 or more ladders. Price list and catalogue showing many styles on application.

E. A. MEACHAM, Riverside, Cal.

The Seed House
OF THE
Great Southwest

1909 Seed Catalogue We are now mailing 45,000 copies of the most complete Manual of Garden, Field, Flower and Tree Seeds, Nursery Stock, Eucalyptus, Incubators and Poultry Supplies.

If you do not receive yours by the 20th of December, write for it and get your name on the list.

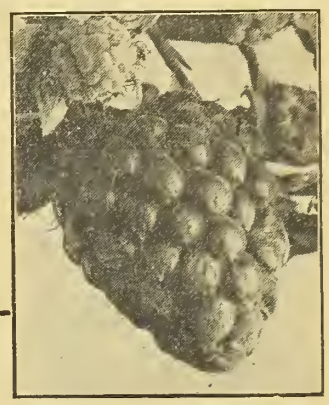
Aggeler & Musser Seed Co.
Successors to Johnson & Musser Seed Co.
113-115 No. Main St. Los Angeles, Cal.

EUCALYPTUS SEED

Eucalyptus rostrata, the Red Gum
E. corynocalyx, the Sugar Gum
E. tereticornis, the Forest Red Gum
E. globulus, the Blue Gum
E. citriodora, Lemon-Scented Gum
E. cornuta, the Yate Tree
E. polyanthema, the Red Box
E. leucoxylon, Victorian Iron Bark
and Many Other Valuable Sorts

I shall be pleased to correspond with prospective buyers and give particulars as to prices on the seeds I am offering. Trial packets of any variety 15c each, 2 for 25c, or twelve for $1.25. Also young trees of many varieties for sale. Send for circular and cultural directions.

THEODORE PAYNE
NURSERYMAN AND SEEDSMAN
Home Phone A2480
345 S. MAIN ST., LOS ANGELES



Send for Catalogue
Now Ready, of
Berries, Trees, Bulbs, Etc.

Special Offer for Four Weeks:

	PER LB
1000 lbs. Australian Brown Onion Seed	$1.00
200 lbs. Yellow Danvers Onion Seed	1.00
50,000 Rhubarb, cheap, ready now	
100,000 Strawberry Plants, ready now	
10,000 Superlative Raspberries, ready now	
5,000 Dutch Hyacinths, every color, $2.00 per 100.	

Lots of Other Stuff Ready to Ship Wholesale and Retail

A. MITTING
17-23 Kennan St. Santa Cruz, Cal.

300,000 Eucalyptus

Fruit Trees
Shade Trees
Roses Shrubs
Palms Ferns

And everything that you need for your ranch or garden. Send for free catalogue

Sycamore Grove Nurseries
SAINT & WARNER
4584 Pasadena Ave. Los Angeles

Hickey & Vonsen
Garden Field Grass **SEEDS**

Jersey Kale Seed
10c per oz.

P.O. Box C, Petaluma, Cal.
Write for Booklet

Marshall's Nurseries..
Growers of
Fruit Frees, Grape Vines, Shade and Ornamental Trees and Plants.
Catalog sent on application
S. W. MARSHALL & SON
Fresno, California.

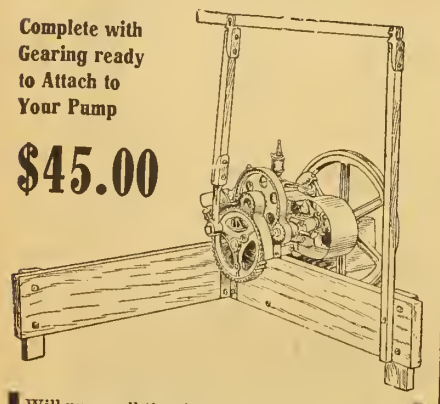
Creamery Supplies

Cream Separators Milk Cans
Combined Churns Milk Bottles
Babcock Testers Brushes
Butter Moulds Wrappers
Engines and Boilers Milk Coolers
PASTEURIZERS
MILKING MACHINES
Creamery and Dairy Supplies and Machinery of all Styles and Sizes
Send List of Goods Wanted and we will Quote Prices
O. J. WEBER CO.
555-57 S. Los Angeles St.
LOS ANGELES, CALIFORNIA

Aermotor Gasoline Engine

Complete with Gearing ready to Attach to Your Pump

$45.00



Will pump all the time, wind or no wind, and deliver as much water as an 8 ft. Aermotor in a good wind.

From 225 to 1600 gallons per hour, depending on height water is to be raised.

Air cooled, uses Gasoline or Distillate.

A reliable, durable engine at a very low price. Can You Afford to be without one.

Send for Special Circular.

Tanks Towers Pumps Distillate Engines

Smith-Booth-Usher Co
Machinery and Supplies
Successors to
S. J. Smith Machinery Co. and L. Booth & Sons
212-214 S. Los Angeles St., Los Angeles
Home, Ex. 1090—Sunset, Main 1090

Rhoades & Rhoades
Expert Live Stock
AUCTIONEERS
Sales conducted in all parts of California and adjoining States. Write for dates and terms. Twenty-five Years' experience.
830-32 South Main St., Los Angeles

PASPALUM DILATATUM
King of dairying and fattening grasses. The great Australian drouth resister. Primest heavy seed direct from the grower, 4 lbs. (ample for trial) post free, $2.00. Full information.
C. F. JULIUS
Central Bucca, Coffs Harbor, New South Wales

HOLSTEINS
We Have For Sale a Number of Registered Young Bulls and Heifers **$100**
All our stock comes from the celebrated herd formerly owned by the Pierce Land and Stock Co.; the premium herd of Holstein Friesians in California. Oakwoods Stock Farm Co., Lathrop, Cal

John Lynch Breeder of Registered **Shorthorns**
MILK STRAIN
Box 321 Petaluma, Cal.

Berkshires--Shorthorns
My Berkshires took 9 First, 6 Second and 4 Third Prizes and both Gold Medals. 50 Head For Sale.
G. A. MURPHY, PERKINS, CAL.

THIRTY THOROUGHBRED
Poland China Hogs and Pigs
FOR SALE
W. R. McCaslin, R.F.D. No. 1, Rosevelt Ave, Sacramento

The Whiting Jersey Stock Farm Company
Is making the very best strains of blood from the island of Jersey a specialty.
Whiting Jersey Stock Farm Co. Heber, Imperial Co., Cal

When writing advertisers, mention Cultivator.

Live Stock and Dairy

By Mrs. Minna E. Sherman

THE COW.

THE price of butter fat soars high these days, over thirty cents; 32 to 35 was paid last month by many of the creameries. Grass is short and the high prices received make one think the cows might be pushed into giving more butter fat. Those that have come in fresh surely could be helped along with a little grain. The dealers are called up and prices asked—$34.00 for bran, 3.31 for rolled barley, 3½cents a pound for oil meal. One ton of rolled barley, one ton of bran and five hundred pounds of oil meal give us 4500 pounds of feed costing $81.50, about a cent and seven-eighths a pound. Four pounds a day to a cow would cost seven cents a day or about $2.10 a month. The amount of one quart twice a day would be close to four pounds daily. It is a small amount of feed at one time but when added to the ration of alfalfa and hay that is already producing some profit it will count. Regularity is, after all, more to a cow than the large quantity she receives. When silage is fed with plenty of good alfalfa hay the grain does not bring in enough extra profit to pay for itself. Where there is no silage, while the amount of grain seems very small, if it is added to chopped up pumpkins enough to make a couple of quarts or more, or say a feed of three quarts all told, it will pay if the cows are not in the down drop of their milk flow. It is always useless to think of increasing cows' milk after they have been let shrink down below one-half the regular amount. So many people never think of feeding the cow until they find the milk for the family short. it is then too late to do very much; the first shrinkage must be caught and stopped.

Quantity.

It is said that a cow should have at least seven pounds of grain for eacn pound of butter fat she produces. Tneoretically it should pay, as the prices of butter fat by the pound are twenty times as much as the price of grain. Yet, we are dealing with life, not with figures, and cows will not always be good enough producers to make the books balance. The high price of skilled labor, also, has much to do with losses of the dairyman. Labor we must have and it comes high. If the milking machine is ever going to help us out it will find every one ready for it. At present the dairyman should have a good big family. The men were saying the other day that a man arrested for not supporting his children ought not to have to work. He claimed to have fifty. What could not a man with this working force do in the dairy business?

Concentrating Rations.

At the Ohio Experiment Station an interesting test of the values of different rations was made that seems to be in line with this paper. A number of cows were fed as follows, counting the two rations on the basis of the amount of dry matter per hundred pounds of feed: When nearly 58 per cent of the dry matter came from grain, the cows gave a fraction over 81 pounds of milk containing 3.9 per cent of butter fat for each 100 pounds of dry matter. The grain cost $1.05 for each 100 pounds of milk, making the butter cost 22 cents a pound. The monthly profit for each cow was two dollars and forty-six cents. Now for the silage fed cows. From fifty per cent dry matter from silage the cows produced ninty-six and a half pounds of milk with over 5 per cent butter fat for each 100 pounds of dry matter. The silage cost 69 cents, making the butter fat cost 13 cents a pound and the net return was $5.85 cents a month per cow.

Shrinking

This year has seen the mistake repeated of letting the cows drop down in their milk during the fall months—butter fat goes up every fall, yet the average producer of milk tries to skin along without buying feed, in hope the grass will start early enough to keep the cows milking. I have had cows for twenty years and only one year did the grass come early enough. As far as the rest of the crops on the ranch were concerned, it was the most disastrous year we have ever had. The cows should be encouraged to come in fresh each fall, anywhere from September to Christmas time. Then make provision for feed early in the year for them and they will prove profitable. On the other hand, to simply let them drift along in any old way will not in ordinary years make the cows more than pay their way. If no thought is put into the work we do, then the profit may be considered as a happy accident, not as a result of forethought. Fortunately in California many happy accidents occur to the dairymen and fruit growers.

Short Milkers.

A common fault with our cows is the short milking season; some milk seven months, some eight, and some nine. That is about the average of the cows offered for sale. Now, if ten cows lose each three months a year it makes thirty months each year, or the milk of two and a half cows out of every ten. The cows need to go to school as well as the dairyman to be properly trained to their work. In ten years the loss of ten common cows would build a good silo. A further reason for fall freshening is, the calves do better in the winter months and are ready to eat the first good grass. On the ranch the fall calves outgrow the summer calves; this fall's calves will be as large next winter as the last summer calves that are several months older.

Feeding the Calves.

The fault that costs the lives of many calves is too cold and too much skim milk. The milk should be warmed and the calves fed only until their sides are level full and not until they look like little beer barrels on four legs. When any trouble rises among the calves it is usually with the bowels. Back of it all is indigestion. Now for this the simple remedy of rennet will be found better than those containing morphine. The common junket tablet at ten cents a package will answer. The skim milk is made hot and given to the calf blood warm. Have the rennet tablets dissolved in a bottle, as many as are needed to make junket of the amount of milk the calf is being fed. Just as the calf's head goes into the bucket the junket tablet water is poured in. Then always remove the well calves, leaving the sick ones behind. The floors should be sprayed well with some of the coal tar preparations and all soiled bedding burned.—M. E. S.

"You've Got To Show Me"

Are you one of those men who have to see it—to believe it?

If you are, we want to do business with you, because we believe in letting a man see and try a

Tubular Separator

before asking him to buy; for in the end it means a satisfied customer.

Compare a Tubular with any other make and see if it isn't easier to fill, oil, turn, handle and clean, and the simplest machine made.

To prove its efficiency, durability and economy, try one. Catalogue 260 tells how. Sent free upon request.

THE SHARPLES SEPARATOR CO.,
West Chester, Penna.
Toronto, Can. San Francisco, Calif. Chicago, Ill.

CUTTER'S
Anthrax and Blackleg
VACCINES
Are given the preference by 80% of California stockmen because they give better results than others do.
Write for prices, testimonials and our NEW booklet on Anthrax and Blackleg
The Cutter Laboratory
Berkeley, California

SEND FOR CAT. No. 20 IT TELLS ALL
KING OF THEM ALL
RELIABLE DURABLE
U. S. CREAM SEPARATOR
CLEANSABLE PROFITABLE
ASK THE USERS
VERMONT FARM MACHINE CO., BELLOWS FALLS, VT.

Prompt Delivery Assured
California Customers from San Francisco warehouse. No delays. Address all letters to Bellows Falls, Vt.

Live Oaks Farm
Frank A. Meacham, Proprietor.
Importer and breeder of RED POLLED CATTLE, SHROPSHIRE SHEEP, RAMBOUILLET SHEEP, HORNLESS AMERICAN MERINO SHEEP. Both sexes for sale. Take electric car at Petaluma or Santa Rosa for LIVE OAKS STATION. Address all mail to
Petaluma, Sonoma Co., Cal.

VENADERA HERD
OF REGISTERED JERSEYS
I have for sale a number of richly bred young bulls, some of them from cows that have high official yearly records.
GUY H. MILLER,
Route 3, Modesto, Cal.

Hay
For Sale. Buy your hay in car lots. Special attention given to supplying alfalfa to dairies.
E. R. LONG
Bakersfield, California

Geo. C. Roeding, Fresno, Cal., breeder of
Thoroughbred Holstein Bulls and Heifers
Thoroughbred Berkshire Boars and Sows

Thoroughbred Poland China Swine
Black Minorca and Barred Rock Poultry
High Grade Stock of Best Strains.
Young Stock For Sale
W Bassett Hanford, Cal

PURE BRED BERKSHIRES
Young Stock For Sale
Wm. H. Bird Box 6, Compton Cal.

When writing advertisers, mention Cultivator.

SHEEP BREEDING.

From the station records, which have been kept for 240 ewes and which cover a period of 5 years in continuation of previous work, the following conclusions were drawn by the Wisconsin Experiment Station observers:

"The normal period of gestation, or the time from which a normal ewe is bred to the time of lambing, ranges from 145 to 151 days and the greatest percentage of ewes will lamb 147 days after service.

"The gestation period appears to be somewhat longer for the male than for the female.

"The percentage of males born is practically the same as that of females.

'The larger percentage of lambs born on or before the 147th day of pregnancy is strong, and after this time the number of weak and dead lambs is greatly increased.

"The number of days a lamb is carried in utero does not seem to have any effect on its size.

"The largest percentage of increase is due to twin lambs, and there is no appreciable difference in the percentage of twins of the different breeds.

"The production of twin and triplet lambs is detrimental to the strength and vitality of lambs at birth.

"Shropshire ewes appear to be more prolific than any other breed.

"Ewes 6 years old produce the largest percentage of increase, while young ewes have the greater percentage of single lambs. The percentage of ram lambs increases and the percentage of ewe lambs decreases as the age of the ewe advances.

"A ram is at his best at 2 and 3 years of age.

"The age of the ram does not have any effect on the sex of the offspring.

"Ram lambs average about one-half pound heavier at birth than ewe lambs.

"The larger the ewe the greater the percentage of increase, while the ram has no effect on the lambs in this respect.

"The size of the ewe and not the size of the ram determines the size of the lamb."

THE BEST TIME TO WATER HORSES.

A horse should be watered before feeding, and never given a large quantity of water after a meal, for the simple reason that the water will wash the food out of the stomach before stomach digestion has taken place, and the food will not be well prepared for absorption; and besides it is sometimes the cause of colic.

There is a popular idea that a warm horse should not be allowed to drink and, unlike a great many other popular ideas, there is a little truth in it. If you water a warm horse in the ordinary way, letting him drink all that he will, you are likely to have a foundered horse on your hands. This is especially so if, at the time, the horse is fatigued. Nevertheless, it is always safe to allow him from six to ten swallows, no matter how warm he is. If this be given on going into the stable and he be allowed to stand and eat hay for an hour and is then offered water, he will not drink nearly so much as he would had none been given before.

The danger is not in the first swallow, as we often hear it asserted, but in the excessive quantities he will drink if not restrained. The most dangerous time to give a horse a full draft is when he has cooled down from fatiguing work and has partaken of a meal.

John Splan, the great trainer, writes: "As to water, I think that a horse should have all that he wants at all times. A man says: 'Why; will you give your horse water before a race?' Yes; before the race, in the race, and after the race, and any other time that he wants to drink. When I say give your horse all the water he wants before the race, I do not mean that you shall tie him in a warm stall where he cannot get a drink for five or six hours on a hot day, and then take him to the pump and give him all that he wants. What I mean is to give him water often and, in that way, he will take only a small quantity at a time."

After long, continuous exertion the system is greatly depleted of fluid. Nature calls for its replacement, and this is the cause of a thirst which is so intense that, if the animal is not restrained at this time, he may drink much more than he needs.

The custom, almost universally followed, of giving the morning meal before water, is not very objectionable, either theoretically or practically. At this time there is no depletion of fluid, consequently the horse is not very thirsty and does not drink rapidly or excessively, and apparently very little evil results from this method. However, the writer much prefers that the horse should have an opportunity to drink before the morning meal.

Personally, I much prefer keeping horses, both summer and winter, in an open shed, with a large water tank in the yard, to tying them by the head in a barn.—F. W. Culver, M. D. C., Colorado Agricultural College.

WAYS TO HANDLE A HOG.

The handiest little contraption we have is for moving a hog or pig from one place to another, says A. Homan, in Field and Farm. It is a common shipping crate mounted on an old walking cultivator arch to which the wheels are fastened the same as on a cultivator. The arch has to be raised near the opposite end from the open one so that when that end is resting on the ground the slant is not too steep for the hog to walk onto. It is easy to get a hog into a contraption of this sort as it thinks it is going to walk right through and out, and with two handles on the exit end it is easy to wheel the hog where wanted.

WHITE SPOTS ON HORSES.

A white spot on the forehead of a horse is called a "star." A white face from eye to eye is a "bald face." A strip between the nostrils is a "snipe." A white eye is a "glass eye." A horse has pasterns, not ankles. White around the top of the hoof is a "white coronet." White above the pasterns is a "white leg."

Great care should be taken not to over-feed the sow for the first few days. The skillful feeder will regulate her feed so that her milk supply will increase about as fast as the demands of her litter for it increase until at about two weeks of age they are taking about all their dam is capable of giving when on full feed.

When pigs are kept eight months, when fully as good weights could have been obtained at six months, the profit is anything but what it should have been.

"No Trusts"
"No Catalogue Houses"

DE LAVAL CREAM SEPARATORS

First — Always Best — Cheapest

For Thirty Years

The World's Standard

As much better than other separators as other separators are better than gravity creamers

Send for Catalogue of 1908 Latest Improved Machines

DE LAVAL DAIRY SUPPLY CO.

108 So. Los Angeles St. LOS ANGELES
42 E. Madison Street CHICAGO
165-167 Broadway NEW YORK

General Offices: 101 Drumm Street, SAN FRANCISCO.

107 First Street PORTLAND, OREG.
1018 Western Ave. SEATTLE
Box 1052 VANCOUVER, B. C.

Save from $1 to $2 per horse

that you now pay for clipping by doing it with this splendid

Stewart No. 1 Horse Clipping Machine

New and improved *1908* Model Ball Bearing and all enclosed gears running in oil. The price at your dealers' all complete, is ONLY $8.50

Every Horse should be Clipped Clipped horses look better, feel better, work better, and are easily cuffed. No machine ever made runs so easily, clips so fast, and lasts so long as this ***Stewart No. 1.*** It is fully guaranteed and must please or the purchase price will be cheerfully refunded.

All leading dealers have it. Ask to see it!

It is the greatest clipping machine of all time.
If your dealer hasn't it, write to us about it.

Chicago Flexible Shaft Co. Dept. H, **Chicago**

The Lafayette Stock Farm Lafayette Indiana

J. Crouch & Son, Props.

Percheron Belgian German Coach Stallions and Mares

Our last importation of Percheron, Belgian and German Coach stallions and mares arrived in our barns August 1st, among them the prize winners of France, Belgium and Germany, and we can show buyers over 200 head of high class stallions, which we will price as low as any reliable importer can, and give liberal guarantee and terms. If your locality needs a stallion, write us.

J. Crouch & Son
1309 J St. Sacramento, Cal.

FOR SALE **GOPHERGO** KILLS GOPHERS AND SQUIRRELS

KNOX MFG. CO.
EVERYWHERE 320 S. MAIN ST. LOS ANGELES, CAL.

AGENTS WANTED

GOPHER DOPE to exterminate gophers, ground squirrels, rats, mice.
KILLS A BUG Moths, Mosquitoes, Bed Bugs, Ants, Roaches, Fleas, Lice and Mites on Fowls, Disinfectant and Germicide.
PUROLINE A Powerful Antiseptic and Deodorizer. Odorless, non-poisonous. For use in hospitals, homes, public institutions, boards of health and ranches. ***B. & G. Disinfecting Co.,*** 417 Laughlin Building, Los Angeles, Calif.

For Mehring Foot-Power Milking Machines see O. J. Weber Co., 555-557 S. Los Angeles St., Los Angeles, Cal.

Anthrax Cure, Milk Fever Outfits. See O. J. Weber Co., 555-557 S. Los Angeles street, Los Angeles.

California Cultivator

ESTABLISHED 1889

Subscription Price One Dollar per year, payable in advance. Dates of expiration of subscription accounts appear each week on the address label. John Jones 7-08 means July 1, 1908. Notify us by mail if you desire to discontinue.

Thursday, December 3, 1908

Address All Communications to

CULTIVATOR PUBLISHING CO.
115½ No. Broadway, Los Angeles.
733 Merchants Ex. Bldg., San Francisco.

Copy for Change of advertisement must be in office on Saturday preceeding date of issue. New advertising copy should reach the office not later than Tuesday to insure insertion.

CULTIVATOR PUBLISHING COMPANY
H. A. PERKINS, EDITOR AND GEN. MGR.

C. B. MESSENGER - - - - Associate Editor
FRANK H. THOMAS - - - Advertising Manager
H. G. HUTCHINS - - Subscription Manager

EDITORIAL CONTRIBUTORS:

J. W. MILLS - - Deciduous and Citrus
JOHN ISAAC - - - - Horticulture
J. B. NEFF - Walnut Culture and Irrigation.
Mrs. M. E. SHERMAN - Live Stock and Dairy
Q. A. LOBINGIER - - Vegetable Garden
RALPH E. SMITH - - - Plant Pathology
S. A. PEASE - Plant Diseases and Injurious Insects

Entered at the Post Office at Los Angeles, California, as Second-class matter.

Contents

AUTOMOBILE TAKES PRODUCE TO MARKET, Cover.
REQUIREMENTS OF DATE CULTURE, 531.
CITRUS.—The Lemon Industry; No Scale in Highland, 532, 533.
DECIDUOUS.—Food Value of Dried Fruits; Cider Vinegar, 534, 535.
MORE ABOUT CALIFORNIA PROSPERITY, 536.
CALIFORNIA HORTICULTURALLY.—Popularity of the Fig; Wine Growers Nervous, 536.
SMALL FRUITS AND VEGETABLES.—Co-operation in Marketing Fruit and Truck Crops, 537.
LIVE STOCK AND DAIRY.—The Cow; Sheep Breeding; Best Time to Water Horses; Ways to Handle a Hog; White Spots on Horses, 538, 539.
EDITORIAL.—Country Life Commission; Commission in California; California Conditions Ideal; Its Mission; Educational; Parcels Post; Co-operation, 540.
AGRICULTURAL NOTES OF THE PACIFIC COAST.—Northern, Central, Southern, The Coast, 541.
POULTRY.—Hens Die; Turkeys; What is Utility Stock; Reasons for Decline of Indian Games; Poultry Shows; Fattening; Mite Remedy; Dressing Squabs for Market; White Wyandottes for the Table, 542, 543, 544.
GENERAL AGRICULTURE.—Lime; Sugar-Beet Industry, 545.
QUERIES AND REPLIES.—Possibly Blackleg; Peanut Butter; Pasturing Alfalfa; Grapes for Coast; Price of Fertilizing Elements; Gypsum to Remove Hardpan; Gypsum Applied; Green Crops for Forage; Names of Vines; Wool Batting; Imperfect Walnut Shells; Doesn't Come To Her Milk, 546, 547.
AN IMPERIAL VALLEY, 547.
HOUSEHOLD.—Mary Had a Little Lamb; True Story of a Boy You Like; How Long to Cook Vegetables; Homely Hints; Silver Fox, 548, 549.
PRODUCE MARKETS.—Los Angeles Market; San Francisco Market; Citrus Markets, 550, 551.

COUNTRY LIFE COMMISSION.

President Roosevelt is nothing if not original and the best of it is his originality works itself out along lines which lead to the uplifting and betterment of conditions of this country. This was eminently true of his gathering of Governors to consider questions of conservation of our national resources which mean so much to our future welfare.

Equally as practical, though not looking toward such immediate financial returns to the nation at large, is the commission recently appointed to investigate as to conditions now prevailing in the home life of rural districts. To gather this information this commission has taken several methods. First, the farmers of the country at large have been asked to write their opinions as to steps that might be taken to better their own social, intellectual and financial conditions.

In addition over half a million of blanks with a series of questions have been sent to all parts of the United States to draw out opinions of the needs of the farmer. In addition, the commission of seven members plans to visit, so far as possible, all sections of the country and personally observe conditions as they prevail.

The commission consists of Prof. L. H. Bailey of Cornell University, Chairman; Henry Wallace, Editor of Wallace's Farmer, Des Moines, Iowa; Dr. K. L. Butterfield, President Massachusetts Agricultural College; Gifford Pinchot, Chief Forester, Washington; John Barnett, W. A. Beard of Sacramento, and Walter Page, Editor of World's Work. Messrs. Page, Pinchot, and Barnett are the part of the Commission which is visiting the Southern states. Messrs. Bailey, Wallace, Butterfield, and Beard are the Commissioners visiting the West. Accompanying them from other departments of Governmental service are C. J. Blanchard of the Reclamation Service, Dr. C. W. Stiles of the Marine Hospital Corps, J. A. Rice, official stenographer.

THE COMMISSION IN CALIFORNIA.

The first hearing of the Commission in California was in Los Angeles on Wednesday night of last week. Later a meeting was held in Fresno, then in Sacramento and San Francisco, making only four sessions given to this state. Doubtless every other community in the state will feel itself slighted in a measure because no sessions were held in its immediate vicinity. But it must be borne in mind that while the entire commission was split in two parts, one part visiting the South and the other the West, that the extremely short time given to accomplish the work permits the Commission to visit only forty states of the Union. Therefore while California receives but four calls from the Commission there are other states which it has not been able to visit at all. As it is, Southern California has one visit, Central California one, and Northern California two.

CALIFORNIA CONDITIONS IDEAL.

Some of the daily press in referring to the session held raised the point that the general trend of the hearings went to show that California conditions are such that the Commission has little to suggest for their betterment. As true as this may be from newspaper or from a promotion standpoint the sessions drew out in a way, which the shrew men composing the commission will be able to read between the lines, that with all her perfections California still has some need for changes which will make our rural life more attractive than it now is.

ITS MISSION.

Chairman Bailey, in his statement as to the work of the Commission and its scope, in so far as it was concerned, said absolutely nothing would ever be given to the public, in printed form, or otherwise. The only report which would be made would be direct to President Roosevelt and the facts were to be used only as he might direct. This report must be in the hands of the President before the last day of December.

EDUCATIONAL.

Amongst the main points which have been brought out before the Commission is the one of education as affecting country life conditions. Is it offering today all that the rural districts demand? On this point Prof. E. J. Wickson who met the Commission in Los Angeles and accompanied it through the state made the point that in this particular, California was well in the lead amongst the states of the Union. He pointed out the work of the Agricultural College of the State University, the State Farm High School at Davis, the Polytechnic High School at San Luis Obispo, and plans for another agricultural high school on the Kearney estate at Fresno, and also supported by private funds, an Agricultural High School in Imperial valley.

These schools have an average distance apart of 250 miles and are but a mere touching of the great field of agricultural education in this state. He maintained it showed the willingness of the state to make a start along this new educational road.

County Superintendent Keppel of Los Angeles made an appeal for national aid for education in rural districts. Prof. Bailey asked him if he would consent to control of these schools by government supervision and Mr. Keppel felt that the supervision should be only general and should so far as the government is concerned be largely local in detail, conditional upon certain general regulations being met.

"Less money for battle ships and more for educating the youth of rural districts in the things that are rural and that surround them every day would add more to the strength of the nation than preparations for war."

Larger school grounds, in no case less than 4 to 6 acres, and these to be used in the interests of education along agricultural lines. The greatest lack in giving the kind of teaching needed in country schools is the lack of teachers qualified to give such instruction. The point was made that as a rule the profession of teaching is made the stepping stone into the matrimonial market rather than being taken up as a life work to be persisted in to the end. The professional teacher is more common than formerly, however.

It is harder to secure teachers for rural schools than for city schools, for the reason that better salaries are paid, can be paid, and besides advantages can be offered in the city which the country does not afford. Government aid may increase the pay and communities should be encouraged to increase the farm libraries, social life and other features.

As a rule so far as any reference was made in regard to the Davis Bill which was defeated in the last session of Congress it was supported and its ultimate passage urged as an aid to agricultural education.

The point of the government establishing a correspondence school along agricultural lines was urged by Mr. Fell of El Centro.

PARCELS POST.

It goes without saying that the Parcels Post was brought to the attention of the Commission in a very forceful way. What report along this line the Board will make to the President is unknown, but sure it is that greater pressure will be brought upon Congress this year than ever before to give the country that which will be such a material factor in advancing the welfare of the remote districts.

CO-OPERATION.

One feature only slightly touched upon before the Commission which has a vast influence for the betterment of country life conditions is that of co-operation. Mr. P. J. Dreher brought this out very forcefully in a moment's talk. "Aggregations of capital in larger or smaller volume, as well as combined effort of a number (greater or smaller) of brainy men are required to conduct and make success out of present great business enterprises, which success cannot be attained by individual effort and limited means. Should not the rural resident, be he fruit-grower or farmer, pattern after these successful manipulators, or co-operators, for they are such, excepting that in their case a few co-operate with large means.

"Co-operation and united effort can do what is impossible with the individual. This is an age of specialties, so that each separate branch of the successful business has a specialist at the head of it. As an illustration, the co-operation of growers in the California Fruit Growers' Exchange has by united effort doubled the value of properties as well as earnings. The industry was on the wane and going to decay when necessity forced the growers to co-operate. It is now on a higher plane than ever before."

Shop Talk

OUR CHRISTMAS OFFER—So many of our readers appreciated this offer a year ago that we will repeat it this season. There is no more appropriate Christmas gift than a subscription to the **Cultivator**, for your relatives and friends, either here or "back East." We make the suggestion attractive, also, by crediting your own account three months. Neither is there any inconvenience to you except to fill out the blank found on another page and enclose it with a dollar to us. We will then advance your date of expiration three months, and enter the new subscription, to continue to January 1, 1910. Also, to save you any bother in the matter, we will mail to each person to whom you desire the paper sent, so as to reach them at Christmas, a letter giving your name as donor, and the length of the subscription. Remember that in order to get the credit these must be new subscriptions and not renewals. It is also understood that they are to be discontinued at expiration unless otherwise ordered.

CLUBBING ORDERS. Don't neglect those clubbing combinations we offered in our issue of November 19th. It is an opportunity not to be overlooked, and orders should be sent at once to receive the January issues. Subscription can start with any month, but most people like their subscriptions to begin and end at this time of year. Better attend to it while it is fresh in mind.

Agricultural Notes of the Pacific Coast

Northern California

Petaluma ships four and one-half million dozen eggs every year.

The California Pigeon Club holds its third annual next week at Oakland.

A carload of prunes was shipped direct from Winters to Germany last week.

A warehouse containing 150,000 bags of grain was recently consumed at Woodland.

The rate charged by the Butte County Canal Company has been raised to nearly double its former price.

Oroville, Thermalito and Palermo sections in Butte county have shipped more extensively of oranges than formerly up to this date.

Up to November 20 Yolo county had had no rain since February which is the longest dry spell known in that country.

Fruit growers of Humboldt county are taking the first steps toward having a big cannery constructed on the water front at Eureka.

Glenn county claims the unique distinction of having the only exhibit of rice made by this state in the Ferry Building, San Francisco.

Prof. Leroy Anderson of the State Farm at Davis recently gave the initial reception and entertainment to students attending the short courses.

The stockmen of the Tahoe National Forest held a meeting at Nevada City recently to discuss matters of interest. There were 250 stock owners present.

The high prices which have prevailed for grain during the last few months have been very satisfactory to the large number of grain growers of the Sacramento valley.

It is reported that the Department experts looking after some method of controlling the thrips are meeting with a measure of success which gives hope of ultimate control.

C. H. Taft, sales manager of the Petaluma Incubator Company and known to poultrymen all over the coast from his extensive travels among the poultry people, died at Petaluma last week.

The Farmers' Demonstration Train which visited many sections of the Sacramento valley was well received by the farmers and it is believed has been the means of giving great good to all who attended.

A State Horticultural Fruit Growers' Convention is being held at Sacramento this week. In connection with it is an exhibit made up from the special exhibition cars which accompanied the Institute Train through the Sacramento valley.

The organization of a state poultry association which will concern itself more with marketing and co-operative purchasing of supplies than with exhibition of fancy poultry is coming closer to perfection than ever before. The secretary of the Petaluma Association is pushing the matter.

The Experiment Station Train which took a trip through the Sacramento valley was such a complete success that it has been laid off for making more extensive arrangements for other trips in Central and Southern California. The cars were found to be arranged poorly for handling the large crowds that visited them, making necessary more room for people.

Central California

Turlock ranchers held a rabbit drive last Saturday.

Two thousand acres of land near Merced are to be brought under water.

Tulare county citrus district has shipped out about eighty cars of fruit per day.

The Union packing house at Porterville is forwarding about eight cars of oranges per day.

Orange shippers in Tulare county were somewhat embarrassed by shortage of refrigerator cars.

One of the more recent additions to the raisin pool is the Kearney estate which signed up 700 tons.

Packing houses in Sanger are recently shipping out fresh grapes and the new crop of oranges at the same time.

The principal place of business of the Tulare County Fruit Exchange has been changed from Visalia to Porterville.

Hanford is urging the establishing of a market day and place which will be an aid to those having produce to dispose of at that place.

Santa Clara Valley prune men are very hopeful over the early advance in the price of prunes. Indications at this moment are exceptionally good.

The latest section to take up the Wright irrigation system is La Grande in Merced county. The success of the Turlock-Modesto district is inspiring the movement.

The city of San Jose is discussing the plan of having that city beautified in its parks and roadways, the work to be in charge of Mulfred Robinson an eastern landscape architect.

The Pacific Sugar Company at Visalia is preparing to plant over two thousand acres of sugar beets during the present month and at least two thousand more during December and March.

Central California well wishers are discussing the formation of an organization to look after the interests of homeseekers to prevent their being fleeced by irresponsible real estate agents.

At a meeting recently of the stockholders of Lucerne Creamery Company at Hanford the following were elected directors: J. H. Dawson, J. C. Nesbit, M. J. Catano, G. A. Dodge and L. F. Burr.

Some growers of orange trees in door yards in Visalia who refused to have them fumigated, have been instructed by the commissioners to remove the tops and defoliate them or to fumigate.

Sacramento is reported to be contemplating steps for the removal of the State University from Berkeley to Sacramento. We presume this is in the nature of a joke, though we know that some people treat it as if Sacramento were in earnest in the matter.

Turlock irrigators are seeing the advisability of storage reservoirs to hold back the storm waters which they need in their late summer irrigations. The Journal says that a million dollars' worth of alfalfa could be grown additional if one more irrigation could be given at the end of the season.

Southern California

Plows have been started in many of the grain fields.

Celery shipments are going forward more rapidly than before the rain.

As a rule oranges are not so large this season as formerly at this date.

Thousands of acres of land were devastated by brush fire near Twin Oaks, San Diego county, recently.

A rain of an inch up to two inches, according to section, was visited upon Southern California the night before Thanksgiving.

Celery growers of Southern California appreciated the recent rain because of its being very beneficial to the ripening celery crop.

Special alloting agent for the Pala Indian Reservation has divided 3500 acres among the Indians; about 1000 acres of this land is irrigated.

At the present rate of planting eucalyptus, California will in a few years present a vastly different view to the tourist than it does today.

The acreage of apples in the Hesperia section in San Bernardino county will be increased this year by over 800 acres which will be planted.

While many cars of walnuts have been shipped from the walnut sections there are still cars stored in the warehouses. Possibly one-third yet remains.

Orange county will forward about 100 cars of celery during the month of November and about 500 each month during December, January and February.

The Brookings Lumber Company of Highland have withdrawn from the lumber trust and orange packing boxes are much cheaper this year than heretofore.

A new irrigation system which it is hoped will be installed within the next year puts some 10,000 acres of Hesperia land "under the ditch," much of which land will prove excellent apple land.

The proposition to have water conducted from the Laguna Dam above Yuma to Imperial valley lands direct instead of as it now comes, through the canal in Mexico, is meeting with opposition on the part of many.

The recent cool nights have caused more rapid coloring of oranges over Southern California. Some little concern was felt as to the cool weather being sufficient to damage the fruit but as yet the frost has not been sufficient to do any damage.

A portion of Southern California was visited by a severe wind storm last week. Some slight damage was done in some of the orange sections.

Southern Californians are making pilgrimage to Mount Wilson and other peaks for experience amongst the snow banks.

Ventura's harvest of beans has caused great happiness all over the county. The damage from the September rain was far less than anticipated. The beans now stored in the various sections are approximately as follows: Hueneme, 50,000 bags; Santa Paula, 36,000; Ventura, 85,000; Moorpark, 10,000; Somis, 65,000; El Rio, 86,000; Montalvo, 65,000; Oxnard, 110,000; Saticoy, 168,000; Camarillo, 138,000. It is estimated that about 12,000 bags are held by farmers for seed for next year.

The Coast

Oregon hay growers are shipping hay into California.

Oregon apple growers are making a display of their finest fruit in New York.

The State College at Pullman has recently established a course in Forestry.

The hop market at Portland is somewhat more satisfactory, the average price being about 7½ cents.

At the Idaho State Corn Show $25 prizes were offered to women for best products of the kitchen made from corn.

The lower valleys of Northwestern Washington have been injured by recent floods which have covered much farming land.

Umatilla county, Oregon, will send a strong committee or lobby to Washington to urge the continuation of tariff on wool.

Some fruit shipped from California into the port of Honolulu has been rejected and returned because of its being infected by "greedy scale."

The hop market at Portland was recently given quite a stimulus by heavy purchases which were made for a large water shipment; 8½ cents was paid.

A farmer of Spokane county, Washington, has topped the record with a yield of 800 bushels of potatoes to the acre. They were of the Burbank variety.

"A greater agricultural college at Whitman, Walla Walla, Washington," is a slogan which is causing great activity among the friends of that school.

Apple growers in Southern Idaho are concerned over "twig blight" similar to "fire blight" of the pear, which is infesting apple orchards of the entire section.

Prosser, Washington, recently had a mammoth meeting of farmers which was the first meeting of an effort to form a fruit growers' association for their own protection.

The wheat growers or farmers in the wheat belt of Eastern Washington have united in financing a new farm paper which is to stand for their interests. Its office will be at Pullman.

Next week the great apple show opens at Spokane. This is looked forward to by apple growers of the entire West as one of the greatest events in the history of the apple industry.

Planters of Hawaii are making energetic efforts to secure the improvement of her roadways. Owing to the rugged conditions great engineering problems have to be confronted.

Many extensive fires have been started in Hawaiian Islands by farmers clearing land by burning off the brush. The fire wardens have now served notice that serious punishment will be meted out to those who continue this practice.

Some apple growers of the Inland Empire claim they will take the $1000 prize offered for the best single specimen at the National Apple Show at Spokane with "Spokane Beauties," a new variety of apple which does exceptionally well in the Northwest.

PER 2 BUSHEL SACK **$1.90** PER 2 BUSHEL SACK

Buy the World's Famous Egg Food No. 4

MIDLAND

IF YOU WANT EGGS
YOU WILL FEED NO OTHER.

Used by the largest and best breeders in the country. Thousands of poultrymen are using it, and it is the acknowledged standard of the world. Haphazard feeding is no longer profitable. Try Midland Food and be convinced.

Petaluma Incubators and Brooders

The acknowledged standards of perfection. All poultrymen who have used those machines have supreme confidence in their ability to hatch and breed. Hence their ever increasing popularity. Winners of the Gold Medal at the St. Louis World's Fair for the greatest hatch, with 40 different makes of incubators in competition. How's that?

St. Louis, Mo., Dec. 8th, 1904.—Petaluma Incubator Co., Petaluma, Cal.: My Dear Sir—The awards have been held up owing to a controversy between the Exposition officials and the national commission, but today I am able to state the award of a gold medal on your Petaluma Incubators has been confirmed. You are at liberty to make use of this in any way you see fit and in due time the diploma will be issued and the medal obtainable. Congratulating you upon this evidence of the merits of your incubators, in which there was very great competition, I beg to remain, yours very truly, J. A. Filcher, Commissioner.

And Now Comes New Reward for Merit

Read the following telegram received from the Lewis & Clark Exposition at Portland:

"Petaluma Incubators and Brooders just awarded Gold Medal at Lewis & Clark Exposition."

WRITE FOR CATALOGUE 47—A BEAUTY

Petaluma Incubator Co.

Main Office and factory, Petaluma, Cal., Box F.
Los Angeles, 113-115 North Main Street.
San Francisco Office and Salesroom, 83 Market St.

Egg-More

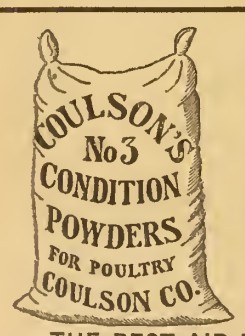
is not a strong tonic and stimulant, but a highly nitrogenous, concentrated Poultry Food, very rich in protein. A little fed with good grains will keep hens healthy and make them lay lots of eggs. Have you tried it? Many have and are pleased. Here is just one:

F. W. Healy, the well-known banker and fancier of Pasadena, writes: "After hearing others praise Egg-More, I determined that if there was anything to keep hens laying through the fall and winter months, I wanted it. I bought a package of Egg-More and fed it and the improvement was very marked. Keeping on with it I soon proved the truth of your statement that 'you can't put all your eggs in one basket if you feed Egg-More.' I have raised poultry nearly all my life and for twenty years in California, but never did my hens lay so well as since I began to use Egg-More. I consider it the best egg producer on the market, and I do not intend to be without it."

You better try it. For sale by many dealers at 12½ lbs $1.00; 25 lbs., $1.90; 50 lbs., $3.60. If not by yours we will prepay freight on sack within 400 miles.

West Coast Mill

707-709 So. Griffin Ave., Los Angeles, Cal.



Coulson's No. 3 Condition Powder

THE BEST AID IN GETTING THOSE HIGH-PRICED EGGS.
It acts as a tonic and digestive. Enables hens to lay more eggs during fall and winter.
Our FREE booklet, "THE RIGHT WAY," gives full particulars.
SOLD BY DEALERS EVERYWHERE.
Manufactured only by

Coulson Poultry & Stock Food Co., Petaluma, Cal.
Germain Seed Co., Distributing Agents, Los Angeles, Cal.

White Wyandottes

My San Jose Winnings: 1st, 2nd and 3rd Cock; 1st Cockerel; 1st, 2nd and 3rd Hen; 1st and 2nd Pullet. The above winnings were made out of ten entries.

Box 60, R. No. 1 **Mrs. C. D. Hubbard** San Fernando, Cal.

Profit in the Poultry Yard

We solicit short articles of a practical nature from the fancier and utility breeder, giving their experience with poultry. All inquiries pertaining to feed, management, disease and its prevention will be answered through these columns.

CHICKEN CHAT.

Hens Die.

I have 400 hens, and am losing quite a few. They appear to be perfectly well, with red combs, but some die on the nests. I take good care of them otherwise, in feeding and in roosts. The pigeons and hens feed together. If you know of any danger, or of anything else that should make these healthy looking hens die, I would like to know what it is, and be very thankful to you.—An Old Subscriber, Hollister.

The danger of keeping pigeons with fowls is mainly from lice which pigeons are supposed to have in greater numbers than any other birds. And this alone should not cause the death of those hens in such a manner. Separate them, if you can, however, and see if it makes any difference, or fumigate the premises well. Dust the birds well with sulphur, and give half a teaspoonful of soda in each gallon of drinking water for a tonic.

Your hens may be eating nightshade berries or castor oil beans, both of which are fatal, and plentiful at this time of year.

Do they have plenty of good sharp grit? Do you keep charcoal before them? Do you supply green feed? In the answer of these questions you may find the cause of your loss; I hope so, anway. Examine the liver of one that has died, and if yellow spotted, or enlarged your feed is too concentrated, and a more bulky diet is indicated.

* * *

Turkeys.

My first experience raising turkeys was last year, and proved very successful. Out of 18 eggs I got 16 turkeys and raised all but two, and they died from accident. I now have a nice flock of ten hens and one tom, one I exchanged for one of my own hens. I want to raise all I can next year, but would like to know a few things so as to start right. My turkeys are six and seven months old, and are in excellent shape. How soon can I expect them to lay? I have seen the Tom with some of them. Would barrels around the pens do for nests? They have a large pen, and toward night I let them out so as to get all the green feed they want.

Could I use the first sitting of eggs to hatch from, and would you advise setting the hen turkey the first time she wants to set?

Could you suggest some cheap and convenient building to raise the young turkeys with the hen, so they can be sheltered from rain, and still be outdoors in pleasant weather?—A New Subscriber.

In the first place our new subscriber has done extremely well, and is to be commended for the study she has given her work, which is shown by the practical nature of her questions. In Mrs. Jones' Turkey Talk, I notice that she doesn't believe in using year-old breeders, as she thinks the turkeys from young hens are not vigorous, so I would suggest that the young from this mating be used for the table, and the old pen kept for several years mated as now. Turkeys at six and seven years old still produce well, and the young are easier raised from old, well matured parents.

Now, referring to this first question, I would suggest boxes without bottoms for nests instead of barrels; leave a board at the bottom of one side, the open side, removing the balance, which gives a box with three sides, one of which forms the roof. Some loose fine brush and leaves will make this an attractive place for Mrs. Turkey, as they like to lay their eggs on the ground, and will often cover them with the leaves, which is the way they do in the natural state. If barrels are more conveniently obtained, put a shovel full of sand, leaves, etc. By all means use the first sitting of eggs, which you may expect soon after mating, a month usually. Set the first clutch under chicken hens, and if the turkey wants to sit, turn her box over until she forgets it, which will be soon.

An ideal building for young turkeys can be made from a piano box laid down upon a couple of scantling to keep it off the damp ground, and one end made into a door, which should have at least one board removed and the space filled in with fine wire mesh. The top or roof can be covered with common table oilcloth, which will keep out the rain and protect from the sun as well. Part of a board should be cut out of the sides and a window put in, so the interior will be light and if the pane is set so as to slide, and screen wire tacked under it, additional air can be given. Keep the bottom covered with clean sand or chaff, and in wet weather they need not be let out for days at a time. A door at each end makes it more convenient to clean, and if a partition of wire mesh is put through the middle, two families may be accommodated under the same roof.

Little canvas coops can be made to do good service, also, if it is not found convenient to get the piano boxes, and some use buildings made of shakes with good results. Many are made of a frame of light lumber, covered with building paper (tarred roofing). To keep off the rain and wind is the main thing, and a shelter of blackberry bushes is about as nice a place for a run as can be found until the sunflowers grow. Sunflowers in the poultry yard furnish a fine shade, as well as many a choice morsel of seed.

The Cultivator would be much obliged if this correspondent would give us her method of feeding her young birds, as her success was a proof that it was a good one.—Mrs. Frank Metcalf.

WHAT IS UTILITY STOCK?

In the nature of the case, utility stock must be pure-bred stock. It is stock bred for practical qualities rather than mere fancy points, says a writer in Iowa Homestead. The arguments used to convince a farmer that it pays as well to have pure-bred fowls as pure-bred cattle and hogs, appeal to many of the ilk, but principally on the practical side. The better egg yield, the improvement in the appearance of the flock, and the better market values for uniform fowls are bringing the farmer into the ranks of the pure-bred poultry raisers. Very few farmers are fanciers in the strict sense of the term. Their duties are too many and pressing to give them time or inclination in this direction. As a rule, the man on the farm does not care whether a hen carries her tail at just such a mathematical angle, or has one or more points too few or too many on her

You Get the Most for Your Money

When buying ***"Quality S. C. White Leghorn Chicks"*** from us at 10c each, because we give you ***FREE*** the "Chick Book," containing full instructions for raising them; with every order for 200 or more.

Rancho Los Encinas
R. F. D. 76, Glen Ellen, Cal.

GUTTING'S SUPERIOR WHITE ROCKS

Won 9 firsts out of a possible 10 and all specials and many other prizes at the great L. A. C. P. A. and Pomona Shows last winter. Place your order now for exhibition birds for the winter shows. Eggs now $3 per setting. Send for circular.

E. GUTTING 134 W. SLAUSON Los Angeles, Cal.

F. E. Baldwin's WHITE LEGHORNS

THEY LAY
THEY PAY
At Every Pop
THEY SHOW
THEY GO
To the Very Top

Cup for Best Display, Petaluma, '07. Trophy for best display, San Jose, '08. Send for Prices and Free Booklet.

46 Washington Ave. - San Jose, Cal.

White Wyandottes The best fowl for all purposes. After years of experiment they prove it. Eggs for setting from great laying strain $1.50 and $2.00 per 13. No incubator lots furnished. Orders booked now for delivery after Dec. 1st. A few choice males for sale. ***Wm. C. Parker, 111 Pacific Ave., Santa Cruz, Cal.***

The Knot That Holds — **"Jubilee Year" of Page Fence**

Page Fence is woven just the same today as 25 years ago. A real triple knot—not a simple twist! Page Fence is made of High Carbon Steel of double the tensile strength and elasticity of common fence wire.

Page Catalog—"Jubilee Edition"—SENT FREE!

Page Woven Wire Fence Co. Box 114X Adrian, Michigan

Now is the time to hatch **BANTAMS**
Golden Sebright, Buff Cochin, and Light Brahma Eggs, $2 per 15. Prize winners.
M. E. Dillingham Box 67, San Gabriel, Cal.

60 YEARS' EXPERIENCE

PATENTS

TRADE MARKS
DESIGNS
COPYRIGHTS &C.

Anyone sending a sketch and description may quickly ascertain our opinion free whether an invention is probably patentable. Communications strictly confidential. HANDBOOK on Patents sent free. Oldest agency for securing patents.

Patents taken through Munn & Co. receive *special notice*, without charge, in the

Scientific American.

A handsomely illustrated weekly. Largest circulation of any scientific journal. Terms, $3 a year; four months, $1. Sold by all newsdealers.

MUNN & Co. 361 Broadway, **New York**
Branch Office, 625 F St., Washington, D. C.

Your Eastern Trip

SOUTHERN PACIFIC

May be arranged so that you may travel by way of

New Orleans and the Sunset Route

San Francisco and the Ogden Route

Portland and the Shasta Route

Enjoying the balmy air of the South or the cool and bracing air of the North.

Personally conducted excursions every day from Los Angeles via all routes without change to principal eastern points.

Southern Pacific

PIANOS Slightly used Steinways; 1909 Model Lyon & Healys; and other remarkable Bargains. Lyon & Healy, 80 Adams St., Chicago. *World's Largest Music House*

Our Great Re-Building Sale is Now in Progress!

comb, if only she shells out the eggs, and is a good, large market bird. Exact shades of coloring do not bother him. What he wants is a flock of fowls that will prove profitable enough to pay for their own keep, furnish his table with eggs and chickens, and give a fair surplus toward meeting the grocery bills of the family.

But when he attempts to buy utility stock, what does he get? At a recent farmers' institute, after a talk on poultry by an intelligent woman, a man came to the speaker, saying: "I did not want to say anything in the meeting to oppose your talk, but I have a flock of pure-bred stock that has not laid an egg this winter." This was in February. Questioning brought out the fact that he had obtained his stock from a well-known fancier. This solved the problem, for the fancier in question was in the habit of selling the culls from his exhibition stock as utility birds, while they were practically worthless for that purpose. This was ruining the market for pure-bred poultry in that little town, for this flock of fowls was being closely watched for results.

The trouble seems to be that fanciers have one definition for utility fowls, while the farmer has a very different one. To the former it is apt to mean anything that is not show stock, while to the farmer it means well-bred birds that will produce eggs.

If the crusade for better poultry in the rural districts is to become effective, the farmers' definition must become the rule. He does not object to handsome, well-plumaged fowls, but they must be heavy egg-producers, or the fine feathers will go for naught. By emphasizing this point, the farmer and fancier will be drawn much nearer together, the fancier will find a far wider market for his output, and the farms will show a splendid improvement in the poultry line.

REASONS FOR THE DECLINE OF INDIAN GAMES.

First: They were wrongly named, giving fanciers the wrong impression that they were "scrappers."

Second: The classification which placed them in competition with Oriental Game Bantams, etc. They are principally of English origin, and should, and will, be placed in the English class.

Third: The departure from the true type. The breeders in following the idea that they were Oriental and that they were Game, insisted, persisted and succeeded in breeding them long legged, thus departing from the true Cornish type, which is short legged with short, broad back, and broad breast.

Fourth: The fanciers, fifteen years ago, did not realize that in Cornish they had one of the finest all-purpose fowls in existence.

"The True Cornish is a Grand Bird."

Now happily things are being changed through the untiring efforts of the American Cornish Club and the Pacific Cornish Club. People are awakening to the fact that the true Cornish is a grand bird.

We have them properly named now (Cornish fowl) and we are breeding true to type. We are going to have them properly classified, and by trap nesting we are building excellent egg producing strains.

To be appreciated, the Cornish must be seen. There are none to compare with them in luster of plumage, none to equal them in grace of carriage. They are the lords of poultrydom, and last, but not least, they are the finest table fowl on earth.

Get Your Share OF THE High Priced Eggs BY FEEDING Coulson's Egg Food

IT TURNS FAILURE INTO SUCCESS, by enabling you to secure eggs in the fall and winter while prices are high.

Improvements have been effected in the composition of the EGG FOOD during the past year so that it is now richer in the various nutrients required by the laying hen, and is a better feed than ever before. Proof of this is had in

Actual Results

By Lewis Herbert of Penn Grove, (near Petaluma, Cal.). Began feeding 1900 hens COULSON'S IMPROVED MASH EGG FOOD April. Profits for each month over cost of feed:

May	$125.00
June	125.00
July	200.00
August	240.00
September	170.00

October 15th was clearing over $6.00 a day. Feeds 1¼ sacks IMPROVED MASH and 1¾ sacks of wheat a day.

COULSON'S BALANCED RATION POULTRY FOODS ARE GUARANTEED to contain nothing but wholesome ingredients. OUR GUARANTY IS BACKED BY A $500.00 BOND deposited with the Petaluma National Bank.

We have agents selling our Poultry Foods in nearly every town in California. If you can not obtain what you want from your dealer, write us and we will tell you where to get it.

Manufactured only by

Coulson Poultry and Stock Food Company ***Petaluma, California***

GERMAIN SEED CO., Distributing Agents, Los Angeles, Cal.

60c—EGGS—60c

MIDLAND POULTRY FOOD

Makes Hens Lay

400 Sacks will be here next week. Get your orders in early.
Price $2.00 per Sack

Aggeler & Musser Seed Co.
113-115 North Main St. Los Angeles, California
Southern California Agents for Petaluma Incubators and Brooders and Midland Poultry Food

Trap Nested White Leghorns

I trap nest every bird one year before I put them in my breeding yards, and no bird that has not made a record of 13 dozen or better per year as pullet is used. I cannot afford to breed neither can I afford to sell eggs from a hen that has not made this record as a pullet. I mate 15 hens to a well matured cockerel or yearling cock bird. My breeders have roomy yards, thus assuring strong fertility. A few choice cockerels for sale.

Eggs $1.50 per 15; $7.50 per 100; $60 per 1000.

S. E. Gregg East Adams St. Riverside, Cal.

Mammoth Bronze Turkeys

Unusual success with this years early hatched birds enables us to furnish the finest lot of breeding stock (both hens and toms) ever offered before. If you are a turkey raiser improve your flock with one of our large handsome toms raised on free range and hardened to all kinds of weather. If you are not a turkey raiser start now with one or more hens and a tom, as of all poultry, turkeys are the biggest PROFIT MAKERS. Order early as the first orders take the pick of several hundred birds. Prices on application.

After January 1st. we can furnish hatching eggs from our S. C. White Leghorns, the best laying strain in Southern California. Let us book your order now.

STUHR-WILLIAMSON POULTRY COMPANY
878 Bandini Ave. Home Phone 1490 Riverside, Cal.

Special Prices

Today we have on hand a few of the latest models of the "Old Trusty" Incubator, just as long as they last you can have them at the lowest prices ever made by any Incubator company in the West. We wish to get our money out of them quickly, we will hold any machine you wish to select if you send a $2 deposit, these machines will not last but a few days at these prices. Now is the time to BUY and save many dollars while you can. This ad may not appear again. If you do not have the catalogue, 148 pages, send for it. We pay R. R. freight in Cal. 120 Egg Size, $10.90, 165 Egg Size $12.90, 240 Egg Size $15.90. These machines are all complete with all attachments ready to run.

E. E. McClanahan

112 E. Eighth St., Los Angeles, Cal.

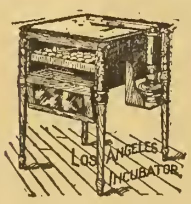
Pacific Egg Food

Just the thing for making hens lay lots of 60 cent eggs. Special price for one week $2.00 for a 90-lb. sack. Some egg foods weigh only 75 lbs. Just try "Pacific." It will please you and the hens, too.

West Coast Seed Co.

115 W. 7th St., Los Angeles

Stop That Guessing



The

Los Angeles Incubators

Are now equipped with a moisture guage that will accurately register the moisture; relieves the operator of all guess work and assures better hatches than ever.

Henry Albers Co., 534 So. Main Street Los Angeles

Southwest Supply Co.

No. 127 South Los Angeles Street, Los Angeles, Cal.

From Manufacturer Direct to Consumer

The Celebrated Sattley Line

Best Disc Harrows—Spiked Tooth Harrows—Disc and Sulky Plows

On the Market at the Very Lowest Living Prices

300,000 Feet Water Pipe Cheap

ALL SIZES

150,000 feet of this shipment is second-hand pipe, practically as good as new, and is now on sale at a big discount by the Adams Pipe Works, 2025 Bay street. Sizes and prices: ¼-inch 2 cents per foot; ⅜-inch, 2 cents per foot; ½-inch, 2¼ cents per foot; ¾-inch, 3 cents per foot. 1-inch, 4¾ cents per foot; 1¼-inch, 6 cents per foot; 1½-inch, 7 cents per foot; 2-inch, 9¾ cents per foot; 2½-inch, 15 cents per foot; 3-inch, 19 cents per foot; 3½-inch, 24½ cents per foot; 4-inch, 30 cents per foot.

Oil well casing prices and sizes: 2-inch. O. D. 7 cents per foot; 2-inch, I. D. 9 cents per foot; 3-inch, 13½ cents per foot; 3¼-inch, 16 cents per foot; 3½-inch, 17 cents per foot; 4-inch, 20 cents per foot. All pipe is carefully inspected, new couplings and new thread are put on every piece, every joint is guaranteed to be first class, serviceable pipe. Mail orders promptly filled. To reach the Adams Pipe Works in Los Angeles, take car marked Pacific Boulevard, starting east on Seventh street from Broadway. Ask conductor to let you off at Bay street and go east half a block. Phones, F1917, Broadway 1264.

An extensive seeding of fall wheat has been made about Euphrata, Washington.

Cornish (Indian) Fowl

The bird for fancy and utility. If you want the best, I can furnish them, winners at England's and America's greatest shows. Eggs from my grand double-laced, low, blocky, imported birds, $5.00, $7.50 and $10.00 per setting. Pen headed by best cockerel bred from my imported birds, mated to American bred hens, $2.50 per sitting. Young stock for breeding and exhibition a matter of correspondence.

Remember, my imported stock is the best Brent could produce, are extra large, true to shape and color. Winners of all firsts at Los Angeles, 1907-08. Clean sweep at San Jose, 1908. Send for catalogue.

Alex Aikman

1134-35 E. First St., Los Angeles

COULSON'S POULTRY FOODS
MADE IN PETALUMA
GUARANTEED
SOLD EVERYWHERE

Farmers near Albany, Oregon, are contemplating planting more extensively of cabbage for Eastern shipments.

POULTRY SHOWS.

Petaluma, Dec. 16-19, 1908—Second annual exhibition Petaluma Poultry Show Association. H. R. Campbell, Secretary, Petaluma.

Pomona, Dec. 14-19, 1908—Second annual exhibition of Pomona poultrymen.

Fresno, Dec. 16-19, 1908—Annual Show of Fresno Poultry and Pet Stock Association. George R. Andrews, Secretary, Fresno.

San Diego, Dec. 29-Jan. 2—Annual exhibit, San Diego Fanciers' Club, J. F. Goforth, Secretary, San Diego.

Los Angeles, Dec. 30-Jan. 6—Poultry Breeders' Association of Southern California. Dr. C. S. Salisbury, Secretary, Monrovia.

FATTENING.

A good method for fattening fowls is given by a reader: Shut the fowls up in a dark place with just enough light for them to see to eat, and supply them well with grit and water. Corn meal, ground oats, cracked wheat and shorts mixed in equal portions should be fed. Feed them as often during the day as they will clean up food and bear in mind the importance of "stuffing" them. They should be fed after dark every evening, as well as very early each morning. Half a dozen fowls together will fatten more rapidly than a large number, and if it is practical to pen them off, six to a pen is the right number. Give no green stuff to these fowls, but rations of cooked potatoes, rice, corn bread, cracked corn and whole wheat may be given. Fowls crowded and stuffed in this way should be in fine condition in three weeks.

MITE REMEDY.

A. Y. Swayne, Chehalis, Wash., states in Northwest Poultry Journal that mites leave the hens before they get off the roosts, and congregate on the roosting poles in any crack or crevice that they may find and if no cracks or crevices are to be found, they collect on the under side of the roosts.

Paint the roosting poles and cross-pieces thoroughly with avanarius carbolineum once every three or four years and the mites will not trouble your fowls. This is a specific. I know this by having used it. I hang my roosts to the rafters by wires.

I have found avanarius carbolineum an infallible remedy for lice also. Painting the roosts as I have described above is all that I have done for pullets or old hens. For little chicks, paint inside of brooders, top, bottom and sides. For chicks with hen, paint inside of coops, especially the bottoms. It would be well if your brooder house is old to spray or paint the floors and walls also with avanarius carbolineum. As this is a wood preserver, it will be just the thing for new brooder houses for spraying floors and sides. Painting is better.

When taking hen off with chicks daub some of the paint on the hen in places where it will do the most good.

We get it here at the hardware stores. It is put up in one gallon cans and sells at one dollar and fifty cents per gallon.

The number of eggs produced is not affected by the presence of the male; but the average weight of the egg is increased.

DRESSING SQUABS FOR MARKET.

A half dozen or more squabs are hung on a rack at one time. The wings of each of them locked, which is done by drawing the wings closely together in the back, allowing one wing to overlap the other. This holds them firmly and causes no pain. The mouth of the squab is held open with the thumb and first finger of the left hand, the head and shoulders being held in the hand. With a knife in the right hand the blade is inserted through the crown of the head, penetrating the brain. At once the operator releases his grasp and allows the bird to bleed thoroughly before starting to pluck the feathers.

By the time about a half dozen of the birds have been stabbed, the first killed has bled sufficiently to be ready for picking. The squab is then removed from the rack and held in the hands while plucking the feathers. This method is said to be the most rapid, it being found that from 100 to 150 squabs can thus be dressed in a day by one good operator.

Some pigeon men believe in holding the bird while killing, but it has been proved that birds held do not bleed so thoroughly as when hanging, owing to the fact that the hand more or less compresses the fine veins, thus retarding the flow of blood. When a bird is not sufficiently bled it shows itself in blisters. These blisters are red splotches that form on the backs of the birds, and which develop by the time the carcasses reach market.—Petaluma Poultry Journal.

WHITE WYANDOTTES FOR THE TABLE.

The White Wyandotte is a good sized, blocky breed, well furnished with breast meat. Being small boned, their weight is in the meat, as compared with fowls of heavier frame. This variety leads for broilers and roasters, as they are hardy, the chicks grow fast and stand considerable forcing. Until the chicks weigh about a pound or a pound and a half, they grow very few feathers, their gain being in their plump bodies.

START WITH FOWLS IN PLACE OF EGGS.

It is generally conceded by poultry raisers that better results are obtained when starting with a trio of pure bred fowls than by spending the same amount of money for eggs.

Those who feed their hens all the corn they will eat should have fat, plump market poultry, but few eggs during the winter. From corn and meat the hen can produce eggs, providing the meat supply is plentiful enough to offset the lack of protein in the corn, but the expense of this ration is out of all proportion to the value of the eggs that can be produced. Wheat with a little oats and some corn is the best egg-producing grain ration. The three—composed of half wheat, one-fourth clipped oats and one-fourth cracked corn, can be used with safety throughout the entire winter, even though no other grain may be used. If a little meat and some clover or alfalfa hay is added to this, the hens should produce a plentiful egg supply throughout the winter.

One Kansas man says that with plenty of Kaffir corn to feed and alfalfa to scratch in, he will back any man in the poultry business. A certain amount of Kaffir corn should be fed to every flock, especially during the winter months.

General Agriculture

LIME.

"LIME sweetens the soil as generous deeds sweeten the soul." Above is a somewhat poetical statement of the fact vaguely recognized for two thousand years; but until comparatively recent experiments at Government Experiment Stations proved it to be a very valuable addition for many soils its truth was not fully appreciated. Probably the greatest advantage in the application of lime is secured on heavy soil. Here the double advantage of securing additional available plant food and improving the mechanical condition of the soil makes more apparent the advantage. This advantage is due more to unlocking plant food already in the soil and to improving the mechanical condition than to the direct addition of elements required by the plant. We believe that alfalfa is especially benefited by the application of lime, for as one grower has stated, "Alfalfa to do well wants a soil which has too much lime."

Professor Hilgard in Soils says: "A lime country is a rich country. The instant change of vegetation when we pass from a non-calcareous region to one having calcareous soils, has already been alluded to. But it is not necessary to be a botanist to see the change in the prosperity of the farming population as one enters a lime district.

Lime a Dominant Factor.

"When we investigate the cases of such lands, it soon becomes apparent that besides the low percentage of any one ingredient, the proportions of others present require consideration. Among these, lime in the form of carbonate stands foremost. Its presence exerts a dominant and beneficial influence in many respects, as is readily apparent from the prompt change in vegetation whenever it is introduced into soils deficient in it. In discussing the results of soil analysis, its consideration is of first importance in forecasting correctly the adequacy or inadequacy of other soil ingredients. For in general we find that lower percentages of potash, phosphoric acid and nitrogen are adequate, when a large proportion of lime carbonate is present."

Physical Effects.

Many clay soils when wet by rains are not porous enough to allow the water to pass through them with sufficient rapidity, in consequence of which they become water-logged and the aid which is necessary for the healthful development of plant roots within the soil is excluded. In times of drouth, also, such soils cake readily, thus becoming more difficult to till and less adapted physically to the growth of plants. Liming is an effective preventive or remedy for all of these unfavorable conditions. Upon certain loamy soils containing considerable clay, liming often renders the surface more friable and less liable to form a crust upon drying.

The improvement of drainage brought about by liming is one of the most effective means of preventing surface washing. When heavy rains occur on limed soils the water sinks into the soil instead of rushing over the surface, carrying the fine soil particles with it and thus producing galls and washes.

From Bulletin 183, New Jersey Agricultural Experiment Station, we note: "Of course there have been farmers wise enough to take up the use of the modern commercial fertilizer without at the same time deserting the use of lime according to the tradition of the fathers, but it is feared that many have been led away from the latter by the excellent results from the former. However this may be, the increased number of inquiries as to lime, which are being received at the station, indicate an awakening interest in the practice of liming. Land has become sour from the residue of fertilizers unused by the crops, or from other causes; the continual application of fertilizers, particularly muriate of potash, has consumed the lime originally in the soil, the crops using some, but the greater part leaching away; the advantages of liming acid or swamp ground have been shown and insisted upon by a number of experiment stations; the favorable physical effects of lime upon the extremes of soil—heavy clay and light sand—are recognized; the fact that lime unlocks the plant food of the soil has been insisted upon; modern investigation of the beneficial micro-organisms of the soil has demonstrated their need of an alkaline, or at least a neutral, medium in which to live and multiply; these are a few of the influential factors in drawing attention anew to the use of lime."

The chief impediment to the more extensive use of lime in the past has been the difficulty of spreading it in its lump form. In order to overcome this many agriculturists and horticulturists grind the lime, as in that form it can be spread in the same manner as commercial fertilizers. The grinding of lump lime, however, renders it peculiarly susceptible to "air-slaking" and consequently materially reduces its fertilizing and purifying qualities, as an "air-slaked" lime is practically a "dead" lime and more or less valueless.

In recent years a method of "processing" lime has been perfected which reduces the lime to an almost impalpable powder without, however, in any way detracting from the virtues of the lump lime. The product resulting from this process is known as hydrated lime and can be used for all purposes for which lump lime is used, it being particularly applicable for use as a fertilizer as well as a dry spray for the killing of insects on vines and trees.

SUGAR-BEET INDUSTRY.

Among many lines of work conducted should be noted the effort to build up new agricultural industries. One of the most important of the industries developed in recent years is the production of sugar from sugar-beets. More or less desultory work was done on sugar-beets as far back as 1867. In 1892 only six factories were in operation in this country, the combined output of which was a little over 27,000,000 pounds of sugar. For twelve years the department has consistently urged the production of this crop, with the result that there are now no less than sixty-four factories in operation, with a combined output of approximately 500,000 short tons of sugar manufactured from beets, with a factory value of $45,000,000. This industry has been built up by careful and systematic investigation, experiment and demonstration in the matter of increasing the percentage of sugar in the beet and the tonnage per acre, preventing diseases, and in other ways.—From October National Magazine.

Talking About
BOOTS

Perhaps the most acceptable Christmas gift for a young man would be a pair of our handsome high-laced Boots. If you will drop us a postal, we will mail you our No. 15 Catalogue, which tells all about them.

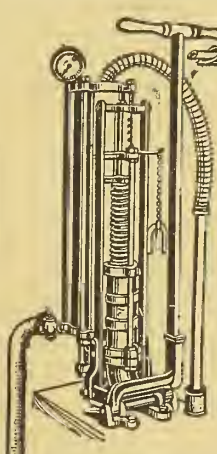
Our new Gymnasium catalogue is chock full of Christmas ideas, too.

Are you needing storm clothing or Arctic shoes for bad weather? Just mention it.

The Wm. H. Hoegee Co., Inc.
138-40-42 South Main
Los Angeles, Cal.

Write for Catalogue

Madary's Supply House
Is the Largest West of the Rocky Mountains
For Beekeepers
All kinds of bee supplies, orange shook, packing boxes, berry crates, grape baskets, etc. The best goods and the lowest prices. Personal attention to correspondence and prompt attention to orders.
Warehouse and Salesroom, 733-9 Aliso Street
Phones—Sunset, Boyle 168; Home 1125
C. H. Clayton, Agent Los Angeles, Cal.



Saves One-Third the Labor

Wouldn't you like to cut your labor expense an even third? You can do it on your spraying—and this advertisement tells you how. What's more, the work will be done more quickly and better. Use

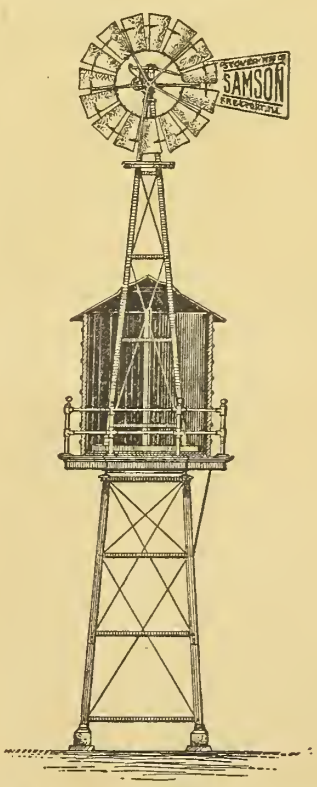
Bean Magic Spray Pumps

The Bean patent spring (shown in the cut), divides the work; the operator does half at each stroke of the handle, and works against but half the pressure indicated on the gauge. Bean Magics are built in two sizes; both have non-clogging ball valves, porcelained cylinders, and other exclusive Bean features. They're the easiest running, least troublesome pumps on the market.

Our illustrated catalog No. 21 describes ten sizes of hand pumps, and contains much valuable spray information and formulas. Catalog No. 22 describes Power Sprayers. Both books sent free. Write for our special offer; mention number of acres and kind of fruit.

BEAN SPRAY PUMP CO.
212 W. Julian Street
San Jose, California

SAMSON WIND MILLS
Have double gears, removable bearings and center lift, which double the life of the mill. They will last longer, pump more water and give better satisfaction than any other WIND MILL.



This is an up-to-date Sub-structure, Tank and Wind Mill outfit complete; substantial, economical and attractive. We build all kinds. Write us or our general agents for full information and prices, description &c., before purchasing.

The STOVER MFG. CO.
FREEPORT - ILLINOIS
California Avenue
CRANE CO., LOS ANGELES and SAN FRANCISCO
General Agents for California

When writing advertisers, mention Cultivator.

It is now claimed there will be over a hundred thousand tons shortage of hay this year.

Bank by Mail at 4%

IT is an advantage to have your money in a large Institution, located in a large centre of population. We have special banking facilities for out-of-town depositors. Write for information.

German American Savings Bank

Spring & 4th Sts., Los Angeles

PLUMBING

Plumbing Materials

WATER SEWER PIPE

ALL PLUMBING REPAIRS

We contract to furnish all the materials and do the work or furnish the materials only.

GET OUR PRICES

JAMES W. HELLMAN

Hardware, Stoves, Etc.

157-161 NORTH SPRING STREET

LOS ANGELES, CAL.

Seed 75 varieties of ***Sweet Peas*** Separate Colors, 5c per Pkt. 15 Leading Varieties, post paid, 50c. 4 Varieties, that bloom in 45 days, 25c. This is the best time to plant.

Get Seed Where Seeds Grow

We are headquarters for ***Lettuce, Onion, Melon, Radish, Turnips,*** Etc. Make up a list of your wants and submit to us for prices also ask for catalogue.

Eucalyptus All the Leading Varieties in seed @ 15c per package. (Six of the leading varieties, E. Rostrata, E. Leucoxylon, E. Rudis, E. Globulus, E. Corynocalyx, and E. Tereticornis for 50c, with cultural directions). 500,000 Plants, all varieties. State your wants and get prices.

Send 10c for large packet each of our new ***Cabbage Head Lettuce, King of May*** and ***Brown Dutch***, earliest and finest flavor.

Cannon Ball Cabbage is finest grown. 5c packet, oz. 25c

Morris & Snow Seed Co.

425 So. Main, Los Angeles, Cal.

Pacific Seed Co.

C. Bagnall, Prop.

GROWERS AND IMPORTERS OF

Grass, Vegetable and Flower Seeds

All Kinds of Bulbs and Onion Sets

609 J St., Sacramento, Cal.

Send for Catalogue. Please mention Cultivator.

Tulare county packing houses are selling their cull oranges to Italians and other street peddlers, to come into competition with their own fruit at ruinous prices.

Queries and Replies

Questions to be answered in this department should be received at this office one week before reply is expected. Write plainly on one side of the paper and sign full name and address. Unsigned communications receive no attention.—Ed.

Possibly Blackleg.

I have one of the prettiest bunch of little calves you ever saw, in age all the way from five days to one month old. All Holsteins. They are dying rapidly. Lost five last week. They begin to droop and die in ten hours' time. They are plump and fat, eat and drink heartily, and before next feeding time may be dead. I do not think it blackleg, as they are too young. What is cure and preventive of this trouble?—O. P. O., Porterville.

This week's article covers at least part of this question. As to why these calves should die off like this I am not given enough information to judge. I certainly should have them vaccinated for blackleg at once.—M. E. S.

Peanut Butter.

In the last issue of the Cultivator I find a request, in the "Queries and Replies" column, for the method of making peanut butter. The nuts should be roasted until a light brown and so that the husks are easily removed. They are then ground in an Enterprise Meat Chopper, fitted with a finely perforated tin plate, which can be procured from any tinner. The plate should be made of tin having medium-sized perforations, and not the finest, and should be fitted on the inside of the strainer of the chopper.

Butter made in this way of almonds which have been blanched and dried or browned, and also from walnuts is preferred by some to peanut butter. In making walnut butter, however, care must be taken to remove every particle of the bitter husk which separates the parts of the kernel. A little of this goes far in flavoring the whole.—Mrs. C. U. Patterson, San Jose.

Pasturing Alfalfa.

I am in doubt whether or not it is the right thing to do to allow sheep to pasture on alfalfa fields during the fall and winter, when it does not grow tall enough to permit of cutting profitably. I am rather of the opinion that sheep injure it, in that they eat the crowns down too closely. Sheep owners are paying a good price this fall, but if it will lessen the crops next season we cannot afford to do it.—F. S., Arlington.

This was referred to Mr. Neff, who says:

It is always bad policy to pasture alfalfa, if the best results are expected from the alfalfa as a hay producer. Sheep are especially bad, as they crop the crowns close if allowed on the field long at a time. Pasturing by any kind of stock will thin out the alfalfa and allow weeds to grow, making the first crop of very little value.

It will pay you much better to sow about 40 pounds of barley per acre on the old alfalfa, in November or early in December, disk it in with the disks set nearly straight, going over both ways if it can be done without destroying the ridges, then harrow smooth.

If the ground is not wet enough to start the barley, irrigate before sowing. This will keep out all foxtail and make a crop of hay that will be as valuable as any other cutting, besides getting an early cutting that could not be had if much pasturing is done.

Grapes for Coast.

I wish to plant several hundred grape vines this spring. Am 2½ miles from coast. Soil is rather sandy. What variety should I plant, when is the best time, and what is the best method. I expect to sell to local market or ship.—E. M., Newport Beach.

If you have a clay subsoil, plant Purple Cornichon Rupestris St. George root. If the subsoil is comparatively heavy, the same combination is good. If your soil is sandy and dry to considerable depth, Golden Queen is a good variety.

Plant rooted vines in December or January.

Plant your vines 6x12 feet. This will give you convenient room to work and allow you 605 vines per acre.—J. W. M.

Price of Fertilizing Elements.

Kindly tell me through the Cultivator the commercial value of a fertilizer of phosphoric acid, nitrogen and potash.—M. M., Lakeside.

Such a question is impossible to answer in definite figures. The value of the various elements used in fertilizing our soil is influenced to a certain extent at least by the source from which they are derived. For instance, some think that nitrogen from stable manure or organic sources is more valuable than that from mineral sources like nitrate of soda. At least the effect upon the soil by the application of stable manure is far more beneficial than would be shown by mere figures as to chemical content of such fertilizer. Again, the market prices vary from time to time as with any other article which is bought and sold. A large fertilizer dealer of Los Angeles has given us the following as approximate prices which he uses as a basis of figuring in buying fertilizers in a large way. Bear in mind these are the wholesale prices, to which snould be added approximately $10 for each ton of fertilizer manufactured, as cost of mixing, grinding, selling cost, sacking, etc.: phosphoric acid, 6 cents; nitrogen, 16 cents; potash, 6½ cents per pound.

Gypsum to Remove Hardpan.

The Cultivator recently had a query regarding the value of gypsum to remove hardpan and asking how much per acre should be applied for that purpose. The letter was referred to the State University and we have from Professor E. W. Hilgard the following reply:

"Gypsum is effective in destroying hardpan only if it is the result of the presence of black alkali. Other hardpan has usually to be dealt with by means of dynamiting.

When there is black alkali in the land, the hardpan will usually be found at the depth of from 2½ to 4 feet. Anyone can easily determine whether or not such hardpan is due to black alkali, which can be cured by a dressing of gypsum, by putting a piece of it in water and covering it with gypsum. If it is the kind that is caused by black alkali, it will crumble to pieces within a very short time.

There are so many kinds of hardpan that it is difficult to say what shall be done with all of them in any brief time. The black alkali hardpan is the only one which cannot be effectively remedied, so far as tree culture is concerned, by means of dynamite blasts."

As to the amount of gypsum required it would necessarily vary with the amount of alkali in the soil to be overcome. It might be 500 pounds per acre, but most probably it would be a ton or possibly two tons.

Gypsum.

Is gypsum applied to the soil burned or unburned? What amount should be applied? Where is the nearest firm from whom it can be secured?—O. N., Fairfield.

Gypsum is applied to the ground unburned. The burned rock makes the cement and plasters which we use in our houses. The amount applied per acre depends entirely upon the results to be secured. If it is to correct an alkaline condition or change black alkali to white alkali it would depend upon the amount of alkali in the soil. It might be 500 pounds or several times that. It would also depend upon the purity of the gypsum. If it were 90 per cent pure gypsum it would require much less than if it were as is sometimes the case, only 30 per cent pure. The application of 500 pounds per acre on alkali land has given remarkably fine results.

We havn't the names of northern houses, but doubtless any fertilizer man may supply you. The Acme Cement & Plaster Co. of Los Angeles, can supply you.

Green Crops for Forage.

I wish some early winter forage or pasture for my cows and ask you to give information as to burr clover, vetch, cow peas or rape. Do you think sugar beets would be profitable and where is the nearest sugar factory to which I could ship?—W. D. G., Modesto.

Rape is perhaps the best of the feeds for the winter growing green crop. Cow peas would surely not grow during the winter season and vetch and burr clover are slower. Sugar beets would probably be profitable but you should make contract for disposing of them before planting that you may know exactly where your crop will be disposed of. As to cow feed, mangels will be better than sugar beets and give you vastly more bulk per acre. The sugar factories located at Crockett, Contra Costa county, or Alvarado, Alameda county, would be the nearest to your section—probably too far away for economical shipping.

Names of Vines.

Kindly give names and varieties of the two climbers of which I enclose blossoms. How may they best be propagated?—A. A. Henry, Rumsey.

The one with the flower of a deep rose color is surely a Bougainvillaea, and so far as can be judged by the flower after being somewhat faded in the letter, it is spectabilis. The other with the lilac blue flower is Solanum wendlandii. They are both reproduced by cuttings, the Solanum very readily. The Bougainvillaea you will probably have trouble with un-

Wanted—Ranch Superintendent

Thoroughly competent, and familiar with California conditions, to manage large cattle and farming property. Must have had large experience. Answer, stating fully qualifications, past experience, salary expected and giving references to CALIFORNIA CULTIVATOR, 113 No. Broadway, Los Angeles.

Warranted to Give Satisfaction.

Gombault's Caustic Balsam

Has Imitators But No Competitors.

A Safe, Speedy and Positive Cure for Curb, Splint, Sweeny, Capped Hock, Strained Tendons, Founder, Wind Puffs, and all lameness from Spavin, Ringbone and other bony tumors. Cures all skin diseases or Parasites, Thrush, Diphtheria. Removes all Bunches from Horses or Cattle.

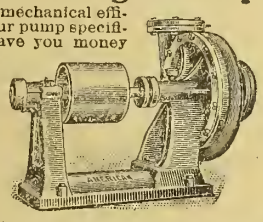
As a Human Remedy for Rheumatism, Sprains, Sore Throat, etc., it is invaluable. Every bottle of Caustic Balsam sold is Warranted to give satisfaction. Price $1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars, testimonials, etc. Address

The Lawrence-Williams Co., Cleveland, O.

25% More Water than is produced by any other pump using the same power or a given amount of water can be raised with 25% less power by the

American Centrifugal Pump

Guaranteed highest mechanical efficiency. Give us your pump specifications We can save you money and labor. Catalog for the asking.



The American Well Works

General Offices and Works

Aurora, - Ill. U. S. A.

First National Bank Building, Chicago

Henshaw, Bulkley & Co., 335 E. 3rd St., Los Angeles

less you understand growing plants from cuttings. However, by making the trial with wood of different size and ripeness you may succeed in getting well rooted cuttings. You may experiment at this season, but will probably have more success with cuttings taken toward spring.

Wool Batting.

Where can I secure wool batting to use instead of cotton in the making of comforts?—A Subscriber, Lankershim.

The wool batting may be had at any of the larger stores in Los Angeles or San Francisco, and possibly, of course, in most of the other cities. The very best grades are known as lambs' wool, which is very expensive. The ordinary carded wool in sheets may be had for about 75 cents and upward per pound.

Doesn't Come to Her Milk.

Another query is received this week from a Chico subscriber regarding a cow which fails to give milk of any quantity whatever after calving. We refer the subscriber to Mrs. Sherman's answer to the same query in last week's paper.

Imperfect Walnut Shells.

I send you sample of walnuts which have imperfect shells. Some of them almost no shell at all. The kernels are as fine as those of the perfectly-formed shells. Is there any remedy? They have had plenty of water.—W. B. G., Santa Paula.

This is a case of malnutrition so far as any one can judge. Some years it is a very perplexing condition. This year as a rule it has not been so bad. Walnut growers in the southern part of the State have urged the State University to take up and study the cause and remedy of this trouble, but the University has as yet been able to do nothing along that line. Practically the only method of handling such nuts is to crack and sell the meats.

An Imperial Valley

A REPRESENTATIVE of the Cultivator who accompanied the Southern California Editorial Association on its trip through the Imperial Valley in November wishes to acknowledge the hospitality of the people of the county visited, and also would especially mention the courtesy and care of Mr. Ingersoll, special representative of the Southern Pacific, who managed the train service so admirably as to permit the seeing of the valley in so short a time.

Within the next few weeks we hope to have for our readers articles and illustrations, as many as our space allows, telling of the alfalfa and stock industries, of eucalyptus culture, of the new developments in citrus planting, of various experimental crops now being tried, of the development in the various centers of the life of the valley.

* * *

Imperial Valley is a wonder land. Five years ago the Cultivator representative visited Imperial Valley and headed his write-up "A Trip to Invisible Cities." Then there was nothing to vouch for most of the cities but the fertile soil, the water and the faith of the people. Now the worst of the pioneering is over. The towns visited, Brawley, Imperial, El Centro, Heber, Calexico, Holtville, offer all the comforts of life in cities, and many of the luxuries. And there one gets what is often lost in larger, older communities, the warm-hearted neighborliness that in new places makes up for much of the luxury one has left behind. There is not a whiner in the valley, or if there is, the editors did not see him. The people of the valley admit it is sometimes very hot there, admit that some crops failed to bring satisfactory returns, admit that some mistakes have been made. Difficulty in getting their early fruits and vegetables to market is one of their greatest problems, but with additional railroad facilities and better organization among themselves they think they will soon solve that problem. Meanwhile, alfalfa and stock are safe and sure.

We talked to one woman who had lived in the valley five years, with only two weeks away in all that time, and she was well and contented. A man who recently moved his wife and three babies onto his new ranch thinks it the best move he has ever made. A workingman who has been there three years says the great trouble so far is that men take up too much land, more than they can care for themselves or hire care for: that 20 acres well farmed will support a man's family in comfort.

A real estate man says you can still buy land only four miles or so from town for $50 an acre, and proves to you that on a basis of crop returns the land is easily worth $300 an acre. They show you borings that prove that for 500 to 600 feet the soil formation is unchanged. They tell you for years the soil need be only scratched. They show you analyses of the irrigating water to prove that it replaces soil fertility faster than crops remove it. They are planting shade trees and flowers and building comfortable and pretty homes to live in. A year ago the only High School in the valley was at Imperial. Now every town has one, and yet in spite of this division of forces the Imperial High School has ten more students than last year. At Heber they have established a practical collegiate school. There is not a saloon in the county.

Pioneering days are not all over yet, especially out in the country, and the men of Imperial are the first to testify to the courage and devotion and bravery shown by the women of the valley, who have the hardest end of the life there, as in all frontier counties. But near the towns, when one sees the big touring cars, the well filled stores, the prettily dressed women, it is hard to realize that five years ago it was absolutely and literally a sandy desert, inhabited by coyotes and jack rabbits.

The people are the salt of the earth. Beside the practical farmer and the young man eager to get a start whom you find in all new countries, you find many University graduates, many business men who have come back to the soil for pleasure or health, men of note in the big cities of the East; you even find that every little village has some champion league base ball players on its team.

The Grand Canyon of the Colorado is one of the famous places of the world, and no one fails to be impressed by this stupendous chasm slashed and gouged from the earth. Here in the Imperial Valley, below sea level, under the burning sun, is all that immense alluvial drift carried down through the ages by the Colorado river as it slowly carved the magnificent canyon where the world goes to realize God.

This immense land here, once a desert and now through the foresight and labors of the pioneers the storehouse for the starving millions of the world, to the eye that can see and the mind that can think, is as wonderful and awe-inspiring as the mate-wonder place from whence it had its being.

BEAUMONT AWAKE.

For twenty years Beaumont has slept. The land company who started the town went into the hands of a receiver and only recently have its affairs been straightened out. Now that land can again be bought the town is going ahead fast. The climate is remarkably good, the air bracing, and the mountains all around superb in their beauty. The soil is fertile, and plenty of water has been developed. The little town is growing, and it has already many pleasant homes along its well laid streets and many most delightful people.

Wood Soled Boots and Shoes. Boots, $3.25; Shoes, $2.00. O. J. Weber Co., 858 South Los Angeles St., Los Angeles, Cal.

Classified Liner Columns

POULTRY

BLUE ANDALUSIANS—MRS. GRIFFITH'S Blue Andalusians are still in the lead; noted for their utility and show records, layers of large white eggs weighing from 26 to 28 ounces per dozen. Eggs for hatching $2.50 per 15 guaranteed; also few trios $7.50 to $10. MRS. GRIFFITH, 3957 HALLDALE AVE., Los Angeles, Cal. TEL WEST 841.

BLACK BEAUTY POULTRY YARDS—Black Minorcas exclusively, bred for eggs and size, unsurpassed as layers or table birds. Eggs $6.00 per 100, single settings $1.50. Incub. chicks $12.00 per 100. cockerels $2.50 each. Mrs. A. F. Frese, Box 19. Dixon, Cal.

CHAS. E. SMITH—BREEDER OF BARRED Rocks exclusively. Winners of the blue wherever shown. Eggs $3.00 per 15, stock for sale. GARDENA, Cal.

FOR SALE—MAMMOTH BRONZE TURkeys, one eighth wild, but very tame. Strong stock having free range. Price reasonable. Mrs. H. E. Guthrie, BUENA PARK, Cal.

FOR SALE—100 S. C. WHITE LEGHORNS, twenty months old, good layers, strong and healthy. Ten dollars per dozen. D. CLAYTON, Colusa, Cal.

WHITE MINORCAS—SETTING EGGS $2 for 15; $3 for 30. Incubator lots, $6 per 100. C. S. LANE, Santa Barbara, Cal.

FARM LANDS FOR SALE.

FOR SALE—FARM LANDS ON ROGUE River, 440 acres, 160 under hog-tight fence. $30 per acre. Would consider house and lot Los Angeles at $3000 or $4000. Balance cash. All good tillable land and some timber. Fine for apples and pears. Also have other property. J. H. GRACE, Beagle, Jackson county, Oregon.

$7.50 FOR THIS AD.—WE WILL MAKE A special offer to the readers of the Cultivator. Bring this advertisement and we will refund $7.50 if you engage us to locate you on the finest Government land in the Southwest. Come and see us, you will learn something. LORS LAND COMPANY, 204 Bradbury BLDG., Los Angeles.

FOR SALE—10 ACRE RANCH, NICELY IMproved. Close to growing town and railroad; 200 bearing fruit trees; 1000 vines; small poultry-plant; house, etc. Only $2500. Address, H. F. BLUHER, Novato, Marin Co., Cal.

AN 80 ACRE FRUIT, VEGETABLE, AND Poultry Farm. A good home, well equipped, $6000 takes everything $3000 Cash, bal. easy terms. WM. MANTZ, Santa Maria, Cal.

FIFTEEN ACRES IN KINGS COUNTY, sandy loam, good house, water, trees and vines; ¼ mile from town. Drop me a card. G. C. O. Box 175, Lemoore, Cal.

I make a specialty of orange and alfalfa ranches, and exchanges. 826 MAIN St., ROOM 9, Riverside, Cal., N. R. BELL.

BEES. WANTED.

WANTED—A BEE RANCH AND BEES located in Ventura county, Chatsworth Park, or Newhall district. GEO. LARINAN, 144 West Green St., Pasadena, Cal.

HOGS.

REGISERED BERKSHIRE AND POLAND China hogs, both sexes. C. A. STOWE, Stockton, Calif.

CABBAGE PLANTS.

FOR SALE—250,000 WINNINGSTADT CABbage plants @ 50 cents per thousand. Address F. W. Jones, R. F. D. No. 1, Box 52, BUENA PARK, Cal. 1½ mile northeast of Cypress, Menker Place.

GRAPE CUTTINGS.

FOR SALE—CAREFULLY SELECTED grape cuttings from all the standard varieties. 50 cents per hundred, $4.00 per thousand. J. L. WININGER, Central Ave. Grapery, Compton, Cal. Home Phone 192 Compton Ex.

MACHINERY.

WIND-MILL FOR SALE CHEAP. ALMOST new. Fairbanks-Morse 30 foot steel tower, 10 foot wheel. 4-inch brass cylinder. Also pump jack. 2 miles south of San Gabriel, Cor. Del Mar and Garvey Ave. F. T. EDMISTON, San Gabriel, Cal.

FOR SALE—MEHRING MILKING MAchine with extra parts and covered pail, all in good order. WM. H. BIRD. Box 6, Compton, Cal.

FOR SALE—ALTERNATING AND DIRECT current motors all sizes, new and second-hand at exceptionally low prices. Also electric generators. BAILIE & BRANDT CO., 943 N. Main St., Los Angeles, Cal.

FOR SALE—RENT OR EXCHANGE, BOILers and engines, gas engines, pipe and oil well casing, pumps, all sizes and makes; get our prices before you buy. A. CANNADY & CO., 691 N. Main st., Los Angeles, Cal.

FOR SALE—SMALL PUMPING PLANT complete gasoline engine and centrifugal pump, also pipe and fittings if desired. A bargain. 117 Bruno St., Los Angeles.

FOR SALE—CHEAP FOR CASH 11 H. P. White & Middleton distillate engine in good running order. N. W. Cor. Main and Bruno Sts., Los Angeles.

TREES.

A LARGE STOCK SEEDLINGS AND GRAFTed Walnuts, Elberta, Muir, Lovell, Phillips cling and all other peach, Apple, Pear, Plum, Apricot trees. All varieties trees, grapes and roses. A thrifty well rooted stock and will please you.—A. R. MARSHALL, BOX 64, Santa Ana, Cal.

WALNUT TREES—5000 LARGE, STOCKY seedlings. Seed from grafted trees of Placentia Perfection variety. Will sell very cheap if taken before Jan. 1st. as land must be cleared. G. W. SHERWOOD, Fullerton, Cal.

LEMONS, VALENCIAS, NAVELS, SANTIAgo. Frostless Nursery. L. F. Thurston, proprietor. Cleanest, largest and thriftest stock in Orange Co. Frostless. 1½ miles east of Villa Park. Address Santa Ana, R. D. 1; Sunset Telephone 354 Orange.

FRUIT TREES AND FIELD GROWN roses. The very best at H. L. BAUER & SONS, 737 S. Spring St. Write for Catalog.

RANCHES WANTED.

WANT TO PURCHASE A WELL IMPROVED orange or lemon ranch of 15 or 20 acres, not particular as to location if soil, water and climatic conditions are favorable. Our party will pay up to $15,000 for a suitable property in a high-class Los Angeles industrial corporation, free from debt and making money. This interest would not require your time, is not subject to taxation and should grow to be worth double its value today. Address J. N. WILLIAMS & CO., 304 I. W. Hellman Bldg., 411 S. Main St., Los Angeles Cal.

JACKS.

FOR SALE—JACKS—ONE MALTESE AND one Black. 15 and 15½ hands. Particulars by addressing G. W. DANFORTH, Calabasas, Cal.

FERTILIZERS.

PROFIT IN FERTILIZING depends as much on judicious purchasing of fertilizers as on the intelligent study of the requirements of the crop. You may get the analysis you want, but from cheap materials of slow availability. When you buy ARMOUR'S ANIMAL FERTILIZERS you are assured of the highest grade of materials. They can be depended upon for results. Send for copy of Fertilizer Facts" THE ARMOUR FERTILIZER WORKS Los Angeles, Cal.

The Oldest Savings Bank in California

FOUNDED IN 1857. CAPITAL FULLY PAID $1,000,000.00

The Savings and Loan Society

101 Montgomery St., Cor. Sutter St., San Francisco

Exclusively a Savings Bank whose policy is for ***Conservatism*** and ***Safety,*** the result of ***Fifty-One Years' Experience.***

Deposits may be made and withdrawn by mail.

San Francisco Savings Union

Founded June 18, 1862 **Northwest Cor. California and Montgomery Sts., San Francisco**

Conducts a Savings Bank Business Exclusively

Capital Paid Up, $1,000,000.00 Surplus, $1,183,632.00

Total Assets, $27,508,850.00

E. B. POND, President.

W. C. B. de FREMERY AND C. O. G. MILLER, ... Vice-Presidents

LOVELL WHITE, Cashier. . . . . R. M. WELCH, Asst. Cashier.

Directors: John F. Merrill, Wm. A. Magee, W. C. B. de Fremery, H. C. Breeden, Jacob Barth, Fred H. Beaver, Wakefield Baker, C. O. G. Miller, E. B. Pond.

Every facility afforded for opening accounts and making deposits and withdrawals by mail. Correspondence invited.

LEARN

Plumbing, Electricity, Plastering or Bricklaying

Our graduates make $6 per day after three months instructions
You can enter at any time.—No previous knowledge required.

NO BOOKS—TOOLS TAKE THEIR PLACE

Day and Night Classes. Our Scholars are from 15 to 50 years old

Positions Secured and Experience Given on Outside Work **Write for Free Catalogue**

COYNE NATIONAL TRADE SCHOOL Inc.

233 8th Street, San Francisco, Cal.

Angle Lamp

The Light That Never Fails

Thousands in use all over the country. A good light is the greatest pleasure and the first necessity of every home.

The only lamp on the market that is sold under an absolute guarantee.

Remember, the light from Kerosene is the light science has agreed upon as being the purest and best, because it is soft and mellow and restful to the eyes.

Here are a few of The Angle Lamp Merits:

NO UNDER SHADOW. NO SMOKE, NO ODOR, LITTLE HEAT.

GREAT ECONOMY—COST LESS TO BURN than an ordinary lamp. As easy to operate as gas or electricity, and better than either. ABSOLUTELY SAFE under all conditions. Lighted and extinguished like gas. Burned HIGH or LOW like GAS without a trace of odor. And a BRILLIANT, soft, steady, shadowless light—but this you will have to see to appreciate.

The lamp as shown in cut burns 22 hours on 3 quarts of oil.

Send for Illustrated Catalogue with Prices

Boesch Lamp Co., (Est. 1869) 1135 Mission St., San Francisco

Light and Cook WITH **Acetylene**

COLT TRADE MARK

Favor us with an inquiry concerning Colt Acetylene. We shall take pleasure in sending you free of charge our excellently compiled 44-Page Catalogue containing complete and instructive matter regarding piping, fixtures, stoves and burner pertaining to this wonderful and inexpensive lighting system.

Fowler Shankland, Pacific Coast Distributor

204 Severance Building
Cor. 6th and Main, Los Angeles
Phones: F7514; Main 4830

Make Yourself and Family the finest Christmas Present on Earth. My Portable Billiard Table means worlds of undiluted enjoyment for all. A postal will bring catalog showing many styles and sizes, at prices easily within your reach.

C. Ridderhof, Laughlin Bldg., Los Angeles

Save Money and get a better choice by shopping in a Large City. We will do your Shopping for you. Send for our Free Book No. A. It Tells You How. ***Los Angeles Purchasing Co.,*** Pacific Mutual Bldg., 3d and Hill Sts., Los Angeles, California

Hague Domestic Oil **Burner**

Showing the Method of Attaching to Cook Stove. A device for using low grade distillate. Saves 40 per cent of cost of coal or city gas—let us prove it. Write for circular.

Hague Domestic Oil Burner Co.

214 Winston St., Los Angeles, Cal.

CEMENT PIPE

Irrigation lines installed anywhere Skilled mechanics, work guaranteed. Estimates furnished. Main lines for Irrigation Companies a specialty.

Information cheerfully furnished.

Ben. F. Thorpe

Covina, Cal.

When writing advertisers, mention Cultivator.

Household Department

"MARY HAD A LITTLE LAMB."

Mary had a little lamb,
Its fleece was white as snow,
And everywhere that Mary went
The lamb was sure to go;
He followed her to school one day—
That was against the rule,
It made the children laugh and play,
To see a lamb at school.

And so the Teacher turned him out,
But still he lingered near,
And waited patiently about,
Till Mary did appear;
And then he ran to her, and laid
His head upon her arm,
As if he said—"I'm not afraid—
You'll keep me from all harm."

"What makes the lamb love Mary so,"
The eager children cry—
"O, Mary loves the lamb, you know,"
The Teacher did reply;—
"And you each gentle animal
In confidence may bind,
And make them follow at your call,
If you are always kind."

• • •

It is seventy-eight years since the little poem, "Mary Had a Little Lamb," now familiar throughout the English speaking world, was first published. Probably more people know it "by heart" than can repeat the Lord's prayer. But how many can name the author? And this is a question open to dispute, for the authorship has been claimed by two persons.

The poem was first published in 1830 in a booklet of twenty-four pages, entitled "Poems for Our Children," and on the title page appears as author the name of "Mrs. Sarah J. Hale," who was at that time editor of the Lady's Magazine.

Mrs. Sarah Josepha Hale, who was a Miss Buel, was born in Newport, N. H., in 1788 and married David Hale, who died in 1822, leaving her five children to support. She turned to literature as a means of livelihood for herself and children. Her first effort was a few poems published for her by her friends. Then she wrote a novel, dealing with early American life, with the title of "Northwood." These attracted the attention of the owners of the Lady's Magazine, published at Boston, and in 1828 she moved to that city and began a successful and profitable literary career. Later in life Mrs. Hale moved from Boston to Philadelphia and took charge of Godey's Lady Book. She died in 1879. —Ex.

TRUE STORY OF A "BOY" YOU LIKE.

THIS is a true story of a little boy who began life, not so very long ago, right here in the United States, and is still living, although he has now grown to be a man. You have all heard of him, so my story is pretty close to home for every one of you.

This little boy began life with a very weak and sickly body. He was pale, with big teeth and big, near-sighted eyes, his arms and legs were skinny and spindling, and he couldn't stand the rough, hearty play that was so much fun for his brothers and companions.

Now, boys and girls, you know, who are like that, are too often mere lookers-on at the games, or put in their time reading stories or some other amusement that doesn't need a strong body. But the little boy I am writing about, although he was passionately fond of books, made up his mind that he would have just as strong and lively a body as any of his playmates. You see, he was a thoughtful little fellow, and this was about the way he talked to himself about his body:

"I am going to be a successful man. I don't want to take a back seat for any one. Other men have done things—big, strong, noble, useful, successful things—and I will, too. But, if I am to do anything worth while, I must have a strong, healthy body, because all the sickly men I know aren't much good. They haven't the strength even to try to do big things, and when they do begin, they often have to give up because they are sick. Besides, they are unhappy, and most always a great trial to their families and friends. So I have made up my mind to be strong and well, fit for any task.

"I have a body, just like the other boys, with arms, legs, hands, feet, chest, stomach, and back. I have a heart, lungs, digestive organs, liver, kidneys, brain, and nerves, just as they have. The only difference is that mine are weak, while theirs are strong. But I can make mine grow strong and vigorous by feeding them and using them. That is the way all the athletes do, and if they can, I can."

And so he did.

He studied himself and his needs. He read what men wrote who had long experience in making people's bodies grow strong. He found that he always felt much better when he spent a great deal of time out doors, instead of staying shut up in the house, as weak boys and girls are likely to do, especially if the weather is a little cold and stormy. By study, he learned that the reason was that his body was built very largely of oxygen, and that he had to get plenty of oxygen in order to build it bigger. Just as it takes a pile of bricks to build a brick house bigger, so it takes a lot of oxygen to build muscles bigger. And outdoors is the place to get oxygen. You see, the oxygen is a part of the air, and in the house there are so many people using up the oxygen, that there isn't much left for a boy or girl.

The next thing he learned was the bigger, deeper breaths he took, the bigger his lungs grew, the more air they would hold, and the more oxygen would go into his blood to be used in building bone, muscle, brain, and nerve. So he was faithful about his deep breathing, practicing it a great deal of the time when he was outdoors. Of course, he found that the straighter he stood, and the more he squared his shoulders, the more air he could get into his lungs. So he practised that, too.

Then, our boy found that he needed good, plain, wholesome, nourishing food, in order to become strong and well. He learned that his firm, white teeth were made to chew with, and that he had nothing in his stomach to do their work if they shirked, so he took plenty of time eating, chewing his food up fine before swallowing it. Thus, every bit of food eaten could be used by the stomach for building up his body. And there were no large pieces of food that could not be digested, and so would rot in his body, poisoning him.

Now with all the necessary materials at hand, he set out to build. And he built by exercise. That was quite a stunt for a little, weak-kneed fellow like him. It is all very easy for a big, strong, lively boy to exercise all the

time, join in the baseball, football, tag, run-sheep-run, and other games, and climb trees, swim, row, ride horseback, and box; but it is quite another thing for a little chap that was always getting beaten, at first. But he never lost courage, and never lost sight of the powerful man he intended to be. He knew that it is the man, boy, or girl who sticks to it who wins. He knew, too, that many of the hearty boys and girls who got ahead of him were so foolish as to think that, because they were healthy, they didn't need to be carful of their bodies. These, he knew, would finally break down, just as an abused machine does; so his chance was just as good as, or better than, theirs.

With all these things firmly fixed in his mind, and with an unwavering purpose to do what he set out to do, never doubting that he would finally succeed, our boy really did grow bigger, healthier, and stronger every day, until he became known all over the world as a man of marvelous health, vigor, and power of brain and body, an author, cowboy, city official, servant of the Nation, soldier, Governor of a great state, Vice-president, and, at last, President of the United States. Yes, you have guessed right, his name is Theodore Roosevelt.

Now I hardly think it necessary to point out the moral of this tale to our younger philosophers, but I do want to say to those who are not as strong as they would like to be, "Cheer up!" Have faith and courage. Make a firm determination, down deep in your heart, that you will be an able-bodied boy, a healthy, vigorous girl; then work hard at it, denying yourselves the idleness, the sweets, the too heavy meals, the cigarettes, and every other thing that might hurt you, and you shall win. And you fine, splendidly developed boys and girls, take extra good care of the great gift God has given you in your beautiful bodies. Just think what you may do with such a start as that, if President Roosevelt has done what he has with so poor a start.—Indian School Journal.

HOW LONG TO COOK VEGETABLES.

The time required for cooking green vegetables is as follows:

Green peas, young and fresh	15 minutes
Green peas, old and not so fresh	30 "
String beans	45 "
Lima beans, young	30 "
Lima beans, older	45 "
Cabbage, whole head and hard	2 hours
Cabbage, sliced	30 minutes
Cabbage, chopped fine	20 "
Cauliflower and broccoli	30 "
Cucumbers, cut into quarters	30 "
Squash, pared and cut into blocks	20 "
Tomatoes, peeled and cut for stewing	30 "
Tomatoes, baked whole in slow oven	30 "
Onions, young	45 "
Spanish onions, whole	2 hours
Spanish onions, cut into elghths	1 "
Okra	1 "
Green peppers, stuffed and baked	1 "
Green peppers, stewed	30 minutes
Celery, stewed	30 "
Spinach	10 "
Brussels sprouts, fresh	30 "
Kale	45 "

All white and underground vegetables are, as a rule, rich in woody fibre, which is softened by gentle cooking in soft water. As salt hardens the water, it should be added when the vegetables are partly done. The following table, if carefully followed, will be found satisfactory:

Potatoes of medium size should be boiled until they can be pierced to the center easily with a fork, which will require	30 minutes
Potatoes cut into cubes or balls	10 "
Rice, Carolina	30 "
Rice, Patna	20 "
Beans, old, soaked over night	2 hours
If for baking, cook until the skin easily cracks.	
Peas, old or split, soaked over night and cooked	2 "
Lentils, soaked over night and cooked	1 "
Sweet potatoes, medium size	30 minutes
Turnips, white, cut into blocks	20 "
Turnips, yellow, cut into blocks	45 "
Carrots, sliced or cut into dice	1 hour
Parsnips, cut into halves	1 "
Beets, new	45 minutes
Beets, old	4 hours
Salsify, sliced	45 minutes
Salsify, quartered	45 "
Artichokes, cut into slices	30 "
Asparagus	45 "
Green corn, after it begins to boil.	5 "

—Mrs. Rorer, in Country Gentleman.

HOMELY HINTS.

I use a small whisk broom in place of a dish-rag in washing dishes. It saves the hands and can be kept sweet and clean by scalding after using. I use the broom for the pans and kettles, as well as the china, and dry them on a towel kept for that purpose. This is especially helpful when one is obliged to wash dishes in hard or "broken" water.

To remove mildew, rub the article with soft soap, completely covering all the spots, then lay on the grass or hang up where the hot sun will strike it. In a few days wash out the soap and boil it. If you have missed any spots, repeat the process. This is a sure recipe and removed the mildew from a white dress for me when it was perfectly black with it and everything else tried was a failure.—National Magazine for October.

I do not use paper in my cake-tins any more; I grease freely with lard, put in dry flour and shake about until it has entirely covered the grease. Put in cake batter, and when it is done it leaves the tin easily without use of knife, and does not adhere in any place. You have no broken cake and no paper to peel off.

A SILVER FOX IS A RED FOX.

"The chilly autumn nights called out on him a deeper, richer robe of fur, and other powers, less comprehended, added gloss and color, intensified each day, darker and glossier, till every tinge of red and gray was gone. And those who observe such things might have asked, 'Is not this a foreshadowing of beauty yet to come? Maybe this diverse cub is predestined a silver fox!'"

In this manner Mr. Earnest Thompson Seton describes the change that came over "Domino Reynard of Goldurtown," the "hero" of his new serial of the same title, the first issue of which appears in the December issue of the "Century Magazine." The underlying motive of this fiction story is the "monogamous tendency of the better class fox." Continuing the description of the difference between a silver and a red fox, we quote Mr. Seton in part:

Only those wise in the woodlore of the North can fully know the magic in the name. The silver fox is not of different kind, but a glorified freak of the red race. His parents may have been the commonest of red foxes, yet nature in extravagant mood may have showered all her gifts on this favored one of the offspring, and not only clad him in a marvelous coat, but gifted him with speed and wind and brains above his kind to guard his perilous wealth. And need he has of all such power, for this exquisite robe is so mellow rich, so wonderful in style, with its glossy black and delicate frosting, that it is the most desirable, the most precious of all furs, worth many times its weight in gold, the noblest peltry known to man. It is the proper robe of kings, the appanage of great imperial thrones today, as was the Tyrian purple in the days of Rome. This is indeed the hunter's highest prize, but so guarded by the cunning brain and the wind and limb of the beast himself that it is through rare good luck more than hunter skill that a few of these fur-jewels are taken each year in the woods.

There are degrees of rank among these patricians. They range in quality even as diamonds range, and the hunters have a jargon of their own to express all shades between the cross and the finest silver black.

Forty Years

Forty years of experience—Forty years of steady upbuilding of business and reputation are behind every pair of the famous

KEEN KUTTER

Scissors and Shears

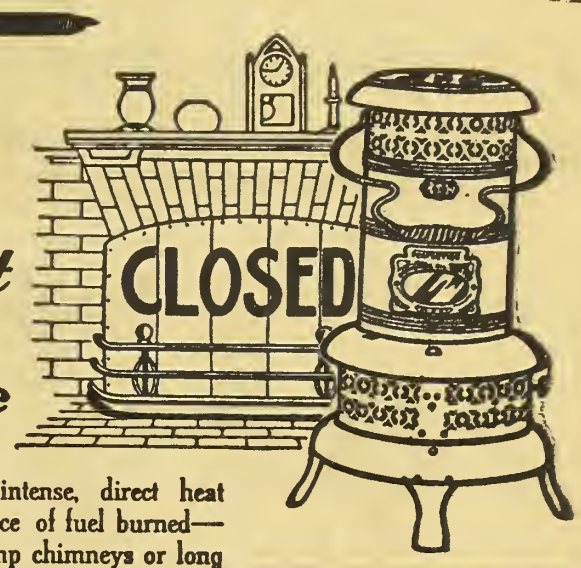
Every pair is stamped with the Keen Kutter trademark and carries with it this hard-earned reputation for quality.

This mark on tools or cutlery means that the article is perfect—that it will outwork and outwear other kinds, and if not satisfactory in every respect you can have your money back.

If not at your dealer's write us.

SIMMONS HARDWARE COMPANY (Inc.), St. Louis and New York, U. S. A.

The Heat that Doesn't go up the Flue

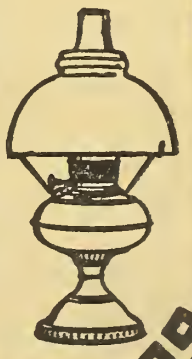


You receive intense, direct heat from every ounce of fuel burned—there are no damp chimneys or long pipes to waste the heat from a

PERFECTION Oil Heater

(Equipped with Smokeless Device)

Carry it from room to room. Turn the wick high or low—no bother—no smoke—no smell—automatic smokeless device prevents. Brass font holds 4 quarts, burns 9 hours. Beautifully finished in nickel or japan. Every heater warranted.



The Rayo Lamp gives a bright, steady light to read by—just what you want for the long evenings. Made of brass, nickel plated—latest improved central draft burner. Every lamp warranted.

If your dealer cannot supply the Perfection Oil Heater or Rayo Lamp write our nearest agency.

STANDARD OIL COMPANY (Incorporated)

Pioneer Rubber Sanded ROOFING

What Rubber Sanded Roofing will do is told of in our Booklet, "Roof Talk," which will be sent free upon request, together with samples of the Roofing itself.

PIONEER ROLL PAPER CO.

Department 11 Los Angeles, Cal.

When writing advertisers, mention Cultivator.

The Produce Markets

Los Angeles Markets

LOS ANGELES, Dec. 2, 1908.

Butter.

Butter shows slight advance with firm demand for prime article.

Produce Exchange wholesale quotations are:

Creamery ex per roll	77½
Firsts	65
Dairy	25
Eastern extra	65
Ladles	24
Cooking	24
"Butterine"	16@20

Cheese.

Southern California Anchor	17
Northern fresh	17
Longhorn	18@19
Eastern singles	16@17
Cheddars	17@18
Swiss	18
Imported Swiss	27@28
Daisy	17@18
Oregon	16
Limburger	16@18½

Eggs and Poultry.

Egg prices which advanced last week under special conditions resume a normal figure although to the consumer the price seems high enough.

Eggs local candled	44@46
Eggs case count buying price	40
Firsts fresh	40@42
Storage selected	33
Eastern storage short time	40@42

Poultry prices remain unchanged since the last report and demand absorbs all offerings.

Wholesale prices:

Hens per pound	12@14
Young roosters per pound	16
Fryers	16
Broilers per lb	20
Roasters	15@16
Old rooster	7
Turkeys	16@20
Geese	12@13
Ducks	11@13
Squabs	1.25@1.75

Live Stock.

The following quotations are f.o. b., Los Angeles, on all stock.

Hogs from 175 to 200 pounds	6⅜
Prime steers	4½
Heifers	3½@3¾
Calves per pound	4½@5
Sheep ewes per head	3.25@3.75
Lambs per head	2.50@3.00
Wethers	4.00@4.50

Potatoes.

Wholesale prices are:

Sweets per ctl	1.25
Northern Burbanks fy	1.20
Local Burbanks	1.00
Highland fancy	1.10@1.25
Coast	1.60
Salinas	1.65@1.75
Oregons	1.50

Onions.

Wholesale quotations:

Silverskin new	1.25
Australian Browns	1.15
Danvers	1.00
Lompocs	1.10
Garlic	12½

Vegetables.

Asparagus per doz	1.25
Artichokes per doz Northern	80@1.20
Beets per doz	35
Bell peppers per box large	75
Beans string	4@5
Beans Limas per lb	5@7
Brussels sprouts per lb	9@10
Cabbage sack	80@1.00
Cabbage red per lb	3
Celery per crate	2.50@3.00
Chili per lb	4@6
Chili dried	10
Corn per lug box	40
Chicory per doz	45
Cucumbers per box	1.50
Cauliflower per doz	40@60
Carrots per doz	35
Egg plant per lb	3@5
Green onions per doz bunches	15@20
Lettuce per crate	50@75
Okra	7
Peas sugar per pound	5@6
Parsley	20
Parsnips	35@40
Rhubarb per lug box	1.00
Rutabaga per doz	40
Radishes per doz	15@20
Salsify	40
Summer squash per box	60
Spinach per doz	20
Turnips doz bunches	35
Tomatoes lug box	25@40

Citrus Fruits.

New Crop Navels	2.50@4.50
Tangerines	2.25
Valencias	4.50
Grapefruit seedless	4.00
Lemons fy	1.50@3.00
Grapefruit seedlings	4.00
Lemons fy	3.00
Lemons choice	2.00

Fresh Fruits.

Wholesale prices on the market are:

Baldwins 4 tier	1.35
Bellflowers	80@85
Newton Pippins	1.25
Fall Pippins	1.10
Alexandria 4-tier	1.00@1.10
California Jonathans	1.75
Skinners 4-tier	90
Red Pearmains	1.25
Spitzenberg	1.75@2.50
Cantaloupe locals large crate	1.50@1.75
Casaba doz	1.50
Christmas melons per crate	1.85
Figs per fig box	1.25
Figs black per fig box	1.25
Guavas per basket	3@4
Muscats per lug box	90
Grapes Tokay	1.25
Grapes Red Emperors	1.25
Cornichons	1.25
Pears lb	6
Pears Winter Nellis per box	1.00@1.75
Peaches per box	75@90
Persimmons per crate	1.25@1.50
Pomegranates per box	1.75
Quinces	90
Raspberries per box	8
Strawberries per box	6
Extra fancy	10
Blackberries per box	7

Dried Fruits.

Wholesale prices are:

Apricots	8
Evap. apples fy per lb	6¼@8
Figs loose white	5
Figs blk	5
Peaches	7½
Pears	9@10
Nectarines	9@10
Prunes	4½@9

Beans Dried.

Wholesale prices:

Limas per ctl	4.75
Pink No 1	3.00@3.15
Lady Washington	4.25
Small white	5.00
Black eyes	3.50
Garvanzas	3.30
Lentils	9.00
Bayou	3.50

Nuts.

Almonds IXL per lb	13½
Almonds choice	13
Pecans polished	16@18
Peanuts Virginia	8
Peanuts California	7
Walnuts No 1 SS	13
Walnuts No 1 HS	12
Walnuts No 2 both hard and SS	8½

Walnuts all less 1½ per cent to trade

Honey.

Wholesale quotations:

Extracted Water White	7½
Extracted Light Amber	7½
Comb W W	15
Comb white	14
Beeswax	30

Hay.

Prices paid to producers f. o. b. Los Angeles are as follows:

Barley No 1	16.00@18.00
Barley No 2	14.00@16.00
Alfalfa northern per ton	13.00@14.00
Alfalfa local	15.00@17.00
Tame oat No 1	18.00@20.00
Wheat No 1	16.00@18.00
Wheat No 2	14.00@16.00

Grains.

Wholesale selling price f. o. b., Los Angeles.

Wheat new per ctl	1.90
Kaffir corn	1.90
Corn Eastern sacked	1.90
White oats	1.85
Seed Rye	1.75

Feed Stuff.

Wholesale selling price F. O. B. Los Angeles as follows:

Cracked corn	1.95
Shorts	1.80
Bran	1.65
Oil cake meal	2.50
Feed meal	2.00
Rolled barley	1.65

The raisin pool now seems to be a settled fact and the following have been appointed a committee of fifteen to represent the growers. W. H. Briscoe, Malaga; A, Harris, Fowler; L. D. Scott and T. E. D. Rose, Selma and vicinity; E. B. Reed, Reedly; Mrs. V. A. Mowat, Sanger; Dr. Clark, Clovis; N. N. Norton, Madison; E. Esterbrook, Oleander; Ben Swanson, Del Rey; A. S. Perkins, West Park; R. K. Madsen, Parlier; G. Cenerquist, Kingsburg, and J. A. Boyd, Tulare county. It is now reported that about 20,000 tons have been signed up in the raisin pool.

San Francisco Markets

SAN FRANCISCO, Dec. 1, 1908.

Butter.

Butter advanced over last week's report from 32½ to 35 for extras and a cent a pound on firsts and seconds.

The official quotations of the San Francisco Wholesale Dairy Produce Exchange for yesterday are as follows:

California extras per lb	35
California firsts	28
California seconds	25
California thirds	20
Eastern extras	27
Ladles extra	22
Firsts	21
Storage Cal ex	27

Cheese.

California young American fy	17½
Firsts	16
California flats fy	15½
Firsts	13
Young American Oregon fy	16½
Eastern N. Y. Cheddars fy	17
Eastern fy	16½
Oregon flat fy	13½

Eggs and Poultry.

Eggs tumbled below last week's prices and fresh ranch sold for 52 cents. Poultry made a slight advance.

Official quotations of the S. F. Wholesale Dairy & Produce Ex. are:

Fresh ranch extras	52
Eggs firsts per doz	51
Eggs second	40
Cal Storage	35
Firsts	32½
Eastern Storage ex	28½
Eastern firsts	27
Hens per doz	4.00@6.00
Hens extra	7.00@9.00
Young roosters	6.00@7.00
Old roosters	3.50@4.50
Fryers per doz	5.00@6.00
Broilers per doz	4.00@4.50
Geese per pair	2.00@2.50
Goslings per pair	1.75@@2.00
Ducks young	6.00@8.00
Live Turkeys	Nominal
Live Turkeys small	Nominal
Dressed Turkeys	Nominal
Pigeons young	2.00@2.50

Live Stock.

San Francisco prices gross weight:

Steers No. 1	3¾@4
Do second quality	3¼@3½
No 1 cows and heifers	3
Second quality	2¾
Hogs 100 to 150	5¾
Hogs 150 to 250	6¼
Rough heavy	4½@5
Calves per lb	3½@4¾
Lambs spring	4
Wethers No 1	3¾
Ewes No 1	3¼

Potatoes.

Wholesale market quotations:

River whites fy	70@85
River whites poor	45@55
do per box	1.00@1.15
Salinas Burbanks	1.40@1.55
Sweets per crate	1¼@1½
Sweets sacks	1.35
Oregon Burbank	1.15@1.30

Vegetables.

Wholesale quotations:

Bell peppers per lb	10@12½
Brussels Sprouts	46
Celery	75@1.00
Cucumbers per box	1.00@1.25
Cucumbers pickle No 2	75
Chili peppers per lb	5@6
Corn per sack	1.50@1.75
Egg plant per lb	4@5
Green peas per lb	8@10
Lima beans	6@9
Marrowfat squash per ton	10.00@15.00
Squash per box Southern	75@1.00
Onions green per box	70@75
Okra per box	1.25@1.50
Rhubarb per lb	3@6
Tomatoes River large box	60@1.00
String beans	8@9
Wax beans	8@10
Garlic new	6½@8

Onions.

Onions yellow per sack	70@85
Brown Australian	65@75

Citrus Fruits.

New Navels	2.00@2.50
New Navels fy and large sizes	3.00@4.00
Valencias fy	2.00@2.50
Tangerines crates	1.25
Grapefruit seedless	3.50@4.50
Grapefruit seedlings	1.50@2.00
Lemons ch	2.00@2.50
Lemons fy	2.50@3.00
Limes	4.00@5.00

Fresh Fruits.

Bellflowers	75@90
Bellflowers No 2	40@50
Spitzenberg	1.50@1.75
Newton Pippins	90@1.10
Crabapples	50@60
Blackberries per chest	3.00
Figs per crate one layer	50@1.00
Grapes Muscats	1.00@1.50
Grapes Tokay	75@1.00
Grapes Isabellas crate	1.00@1.25
Grapes Cornichon	75@1.00
Huckleberries per lb	12@15
Loganberries	4.00@6.00
Cantaloupe River nutmegs	25@60
Muskmelons	75@1.00
Nectarines white	50@60
Winter Nellis	75@1.25
Persimmons	50@75
Pomegranates per box	1.25@1.75
Aligator pears per doz	7.00@9.00
Quinces per box	75
Raspberries per chest	5.00@9.00
Strawberries per chest	10.00
Longworths per chest	6.00@8.00
Watermelons per doz	1.25@2.00

Dried Fruits.

Prunes 4-size basis	3¼@3¾
Santa Clara	3¾@4

New crop contracts, 25-lb. lots—Apricots per lb.: Choice 7½@8½; fancy 9½@11.

PEACHES—Choice 5@5½; fancy 6@7.

Apples Evap	6@6¾
Pears	5@8

RAISINS—1907 crop f. o. b.; Clusters and layers. 30-lb bxs—Imperial Clusters, 6-crown, $2; Dehesa Clusters, 5-crown, $1.75; Fancy Clusters, 4-crown, $1.40; London Layers, 3-crown, $1.10; do, 2-crown, $1.05. Seeded, 25-lb bxs—Fancy bulk per lb, 6½@7c; Choice bulk, 6½@7c. Loose Muscatels, 50-lb bxs— Standard, 4-crown, 5½c; do, 3-crown. 4¾c; do, 2-crown, 3¾c; Seedless, 4¾c. Seedless Sultanas— Unbleached, 4¾@5c. Thompson Seedless—Unbleached, 5½@6¼c. Dried Grapes, 4c.

New Crop Raisins—Preliminary prices are named as follows: Cluster—Imperial 6-crown, $2@3; Dehesa, 5-crown $2.50; London Layers, 2-crown, $1.25; 3-crown, $1.35; 4-crown, $2. Thompson's Seedless, 5¾c. Loose Muscatels, 5¾c. for 4-crown, 5c for 3-crown, 4½c for 2-crown and 4¾c for seedless.

Nuts.

Walnuts S S No 1 new crop	13½
Walnuts No 2	9
Almonds nonp	11½
Almonds IXL	10½@11
Ne Plus Ultra	9½

Beans Dried.

Limas	4.35@4.40
Pink	2.50@2.60
Small white	4.50@4.70
Large white	3.75@3.85
Black eyes	3.25
Red Kidneys	3.50
Garvanzas	1.75@2.25
Bayo	3.10@3.15
Horse beans	1.75@2.25

Hops.

Hops new crop	7@9

Honey.

White comb	15½@16
Amber	12@14
Extracted W W	6@7
Extracted light amber	6½@7
Beeswax No 1 per lb	25@27
Beeswax No 2 per lb	24@25

Hay.

Because of the car situation, shipments of hay have continued quite active during the past week, the total showing 3820 ton in comparison with 3750 ton for the week preceding. All receivers of hay have been very firm in their ideas with the consequence that prices have been well maintained. It is now generally conceded however that the market cannot be maintained under a continuation of such heavy shipments so it is now generally reported that shipments have been ordered discontinued from many points.

The recent showers have also had a little tendency to discourage buyers so although prices are really no lower, yet at the present writing the market can be reported as being rather easy.

The discussion as to the future of the market owing to the apparent light stocks throughout the country still continues. Several operators are very strong in their ideas as to the future of the situation, maintaining that nothing can prevent a raise of from $3.00 to $5.00 per ton over the present range.

Choice wheat hay	20.00@22.00
Good wheat hay	18.00@19.50
Other grades same	16.00@17.50
Wheat and oat	15.00@20.00
Tame oat	15.50@19.00
Wild oat	14.00@18.00
Stock hay	11.00@13.00
Alfalfa	11.00@15.50
Straw per bale	60@95

Grains.

Wheat No 1	1.67½@1.70
Barley new	1.40@1.45
Corn large yellow	1.80@1.85
Oats white	1.65@1.72½
Oats gray	1.65@1.70
Rye new crop	1.42½@1.50

Feed Stuff.

Bran per ton	29.00@31.00
Feed cornmeal per ton	37.00@38.00
Cracked corn per ton	38.00@39.00
Rolled barley per ton	30.00@31.00
Oil cake meal per ton	38.00@39.50
Cocoanut cake per ton	25.50@26.50
Middlings	33.50@36.00

Yuba county produced about 1,600,000 pounds of cucumbers last year, valued at $40,000.

Citrus Market

The market is good and shipments not large. Northorn and Central sections are shipping fairly and Riverside and Redlands shipped their first cars of navels this week.

Total shipments from Southorn California since Nov. 1, to date, oranges 102; lemons 349; total carloads 451.

NEW YORK, Nov. 27.—One car lemons sold. Market is unchanged. Weather mild, muggy.

LEMONS—
Artillery ch C C U 3.70
Infantry 2.90

PHILADELPHIA, Nov. 27.—One car lemons sold. Market is steady. Three cars on track.

LEMONS—
Flower fy Growers' Ft Co 3.45
Flower ch Growers' Ft Co 3.01

BOSTON, Nov. 27.—Five cars sold. Four cars on track. Weather favorable. The market is easier.

NAVELS—
Cobbler or R H Shoemaker Jr 1.95
Holly ? 2.20

PITTSBURG, Nov. 27.—Two cars sold, two cars on track. The market is weak on small sizes lemons. Steady on oranges. Five cars Florida oranges sold, $2.00 average. Weather cool.

NAVELS—
Pocohantas TCC Ft Ex Zante 2.75
Hiawatha TCC Ft Ex Zante.....2.60

LEMONS—
Bridal Veil or Limoneria Ft Co....2.30
White Cross Limoneria Ft Co.....1.70

ST. LOUIS, Nov. 27.—Weather cool. The market is weak on small sizes, lemons. One car sold, five cars on track. Three cars Florida oranges sold, average $2.10. One car Louisiana oranges sold $2.25.

LEMONS—
Las Fuentes Crocker-S Sumrld....2.60
Montecito Crocker-S Summerld....2.35

NEW YORK, Nov. 30.—Three cars navels, six cars lemons and one car Arizona navels sold. There is a fair demand for good colored navels. Lemons lower, all sizes. Mild cloudy.

NAVELS—	Avge.
Mariposa Cal Cit Union	$3.40
Bear and Eagle Lindsay C A	2.75
Cobbler Shoemaker Jr	2.60

LEMONS—	Avge.
National Peycke	$2.65
Out West G H Voss	2.50
Queen Bee QC Ft Ex	3.40
Pet SA Ft Ex	2.65
Greyhound SA Ft Ex	2.40
Homer QC Ft Ex	3.25
Camel QC Ft Ex	2.85
Chess Queen Ely Gilmore	2.95
Bishop Ely Gilmore	2.65
Stock Label	2.25
Rialto Girl Growers' Ft Co	3.00
Rialto Girl Growers' Ft Co	2.70
Rialto Girl Growers' Ft Co	2.35

ST. LOUIS, Nov. 30.—Weather cool. The market is overstocked with Floridas. The market is strong on lemons. Three cars sold, six cars on track. Five cars Florida oranges sold, average $1.90. One car Louisiana oranges, average $2.25.

NAVELS—
Red &Blue Label TCC F E Lnsy..2.60

LEMONS—
Punch ST Ft Ex Colegrove.....3.10
Club ST Ft Ex Colegrove.....2.85
Valley ST Ft Ex Colegrove 2.55
Selected N W Blanchard 2.65
Loma F N Blanchard 2.60

CLEVELAND, Nov. 30.—Raining. The market is strong on navels. Firm on good stock lemons. Two cars sold, 12 cars on track.

NAVELS—
Forgetmenot TCC F E Porterville 2.60

Cream Separators, all sizes, all prices. O. J. Weber Co., 555-557 S. Los Angeles street, Los Angeles.

LEMONS—
Forgetmenot TCC F E Portervlllo..3.20
Oakleaf TCC Ft Ex Portervillo....3.70

CINCINNATI, Nov. 30.—Weather warm. Market is weak. Ono car sold, one on track.

LEMONS—
Arab SA Ft Ex San Dimas.....2.20
Duck SA Ft Ex San Dimas.....1.50

Eight cars Florida oranges sold. Brights sold $1.20 to $2.10; Russets, $1.20 to $2.00.

PHILADELPHIA, Nov. 30.—Three cars lemons sold. Three cars on track. Weather fair. Tho market is unchanged. 18,000 boxes of Florida oranges selling in Philadelphia today from $1.25 to $2.30 per box.

LEMONS—
Royal QC Ft Ex Corona.....2.33
O I C QC Ft Ex Corona 2.02
Visalia TCC Ft Ex Lemon cove..3.38
Lemon Cove TCC F Ex Lemon C..2.77

PITTSBURG, Nov. 30.—Two cars sold, four cars on track. The market is easier on navels, steady on lemons. Nine cars of Florida oranges sold, average $1.85. The market is weak on Floridas. Weather warm.

NAVELS—
Cobbler R H Shoemaker Lindsay..2.50

LEMONS—
Lemon Cove TCC F E Lemon C..2.65

BOSTON, Nov. 30.—Two cars sold. Two cars on track. Weather cool. The market is easier.

LEMONS—
Arab SA Ft Ex San Dimas 3.15
Duck SA Ft Ex San Dimas 1.95
Silence Flagler Ft Co 2.65

CO-OPERATION IN MARKETING.

Continued from Page 537.

Express shipments are only made to comparatively near-by points, and with such shipments the growers receive exactly what the fruit brings less the expressage and the association's commission. It is usually the early fruits that are expressed, but prohibitive rates prevent any very large amount of business being done in this way.

Such associations often fail in their purpose. The prime causes of failure are well summed up by Waugh, in the following manner:

All classes of farmers are constitutionally and proverbially distrustful of other people and of one another. In a fruit association there arise (such is the experience) the most inveterate jealousies. Each man thinks he is furnishing a better grade of fruit than his neighbor, though all share alike in the profits. Each one fears the other will reap some special advantage somehow. In particular, the appointment of managers, superintendents, supervisors of grading, shipping agents, and all other officials of the company offers a sufficient opportunity for the elaboration of all sorts of neighborhood quarrels. Each man thinks he ought to be manager, and when one man is finally chosen he is usually suspected of all sorts of favorism. In any case he is apt to be hampered in his business relations by committees, boards of directors and various kinds of red-tape and foolishness. Often he has to consult a committee before taking any important action.

Another difficulty which arises from the same cause is that subscribers to such an asociation never want to pay a manager's wages. Two or three dollars a day is considered good pay. Yet such a man is compelled at times to handle thousands of dollars' worth of business. The position is such as in ordinary business life would command a salary of $5000 a year or more.

Must have Confidence of Members.

Where such conditions exist there is little chance of success. They may be avoided to a great extent if inexperienced shippers will limit the size of their organization until the minor details connected therewith have been thrashed out. A few selected growers are sufficient to demonstrate to the community the advantages of cooperation, and a healthy expansion will soon take place. When the volume of business is sufficient to warrant such action, the management should be turned over to a man who is especially equipped with a knowledge of the details of marketing, and who has no crop interests of his own. He should receive the confidence of the members and be given a chance to work out his own ideas. The manager's salary should be adequate for the work and responsibility involved. It is sometimes the custom to give him a percentage on the total amount of business transacted. Well-established associations, however, can afford to pay a good manager a straight salary and thus feel more certain of retaining his services from year to year. The Colorado bulletin, previously referred to, contains a report of the Grand Junction Fruit Growers' Association, which "is the oldest and is doing the largest business of any in the state."

A Successful One.

This association was started in 1891, when a few growers combined and appointed one of their number salesman of their fruit for the season. This arrangement continued with varying success up to 1897, when it became apparent that the increased business, if no other cause, would necessitate employing a manager by the year, who should devote his entire time to the association. Accordingly, this was done, and the business has increased year by year. That the majority of the stockholders are satisfied with the workings of the association is proven by their loyalty and by the fact that the capital stock has recently been increased to $100,000 for the purpose of accommodating the increasing number of members.

WINE GROWERS NERVOUS.

Continued from Page 536.

necessary appliances. Should the prohibition wave gain headway and include wine among other condemned beverages it would spell ruin to many Californians. It is the fear of this that is causing our winemakers to hedge and trim their sales for a possible coming storm. As a result, there has been a poor demand for wine grapes this season and prices have been lower than in the past ten years, as low as six dollars per ton being paid. Very much less wine will be made than usual this season and both growers and makers are already feeling the result of the temperance wave in the East, in their uneasiness as to the future. Hop growers are in somewhat of a like condition, and hop prices are so low that many of the yards in the Sacramento valley will be plowed up in the spring and planted to other crops.

This is a good time of the year for a person to enjoy reading nursery catalogues which are being put out in greater numbers than ever this year. The latest to reach the Cultivator table is that of the Fresno Nursery, with main offices at 928 I street, Fresno, Cal. The catalogue is not exceptionally large, having forty pages, but is full of information and descriptions of many varieties of commercial fruit.

Accompanying the catalogue is the 19th annual price list, giving the prices which will prevail upon all plants for the coming year. It may be had for the asking by writing the Fresno Nurseries, Fresno.

Pink Cherokee Rose.

A FINE PAMPHLET.

The illustration of the pink cherokee rose on this page is from the beautiful 50 page catalogue of the John S. Armstrong Nursery of Ontario. Mr. Armstrong's catalogue last year was spoken of at the time as a very strikingly attractive one, but it is excelled by his effort this year. The cover is not the flashing red of last year, in fact is much more subdued; but with it all the tasteful cover design makes a most attractive booklet. In its contents, especially as to its illustrations, it is much more complete than last year. Of course one of the strong points of the book is the complete list of orange trees which Mr. Armstrong offers for sale, prices being given in every instance, and full description of each variety. In deciduous fruits Mr. Armstrong has a bigger collection than ever before. In the ornamental department, of course the rose, which is one of Mr. Armstrong's specialities, has the greatest number of pages; and some beautiful illustrations give added value to the rose department.

SOMETHING NEW.

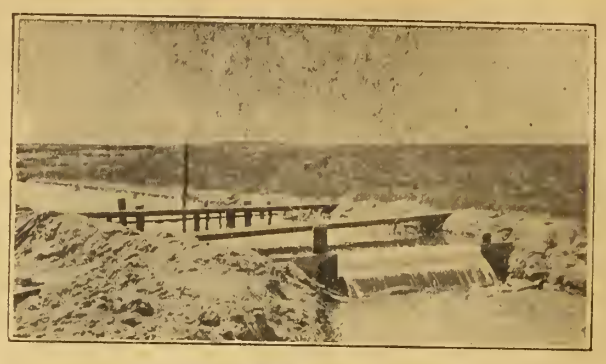
The Success Incubator catalogue that is being given away by the E. E. McClanahan Incubator Company, 112, East 8th St., Los Angeles contains the most interesting poultry and chick lectures ever written. These are written especially for this book by the best writers in California today and apply to conditions here and not to eastern conditions as most books refer to. This book gives complete description of the famous Success incubator and brooders. These machines have gone to the front rapidly and where ever used more follow. By sending your address on a postal card the book will be mailed free to you if you mention this paper.

The Popular Western

Built In the West **Best** For the West

FACTORY AT YOUR DOOR

LONGEST LIFE LEAST FUEL FEWEST PARTS ALWAYS GOES



Weir of the Iowa Meadow Company

Irrigation Plants Designed Constructed Installed

Note results obtained with a 40 H. P. **"WESTERN"** at Ontario, Cal.

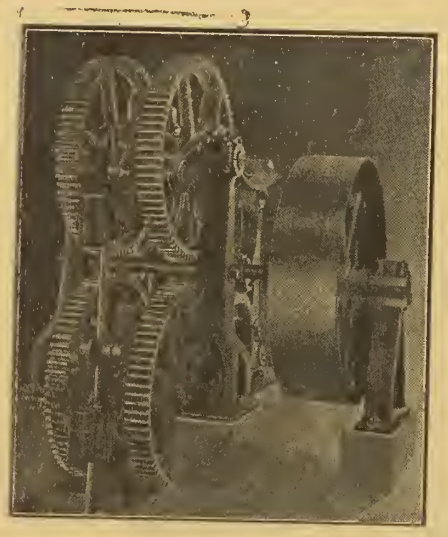
"We are lifting 175 inches of water against a head of 46 feet above pump; vacuum guage stands at 13, with a shade over 3¾ Gallons No. 2 Distillate per hour."

IOWA MEADOWS COMPANY
(Signed) S. J. Ulrey, Manager

Western Gas Engine Co.

Works and Office:
908-932 No. Main St. - Los Angeles, Cal.
Send for Catalogue

New Pomona Double Plunger Deep Well Pump Head



Most Efficient Deep Well Pump in the State

It Is Made in California

Built in Three Sizes—from Ten to Forty Horse Power

It is the smoothest running deep well pump because there are no dead centers, no jerk or jar, and no danger of breaking the pump rods. Be sure and write for our big catalogue. Watch this space for further information.

Pomona Manufacturing Co.
Pomona, Cal.

THE Latest Deep Well Turbine Pump

Guaranteed to deliver from 100 gallons per minute upwards, depending on the diameter and capacity of well, from a depth of 50 to 300 feet below the surface. Can be either belt driven or direct connected to electric motor as occasion requires.

Write for Catalogue 46B.

A deep well pump that has no valves or plungers to wear or get out of order, no gears, consequently no noise or breaking of teeth.

Compact, durable, always primed and ready to operate, constant flow, hence increased capacity of well.

This type of pump is fast taking the place of Vertical Steam, Deep well Plunger and Propeller Pumps.

Byron Jackson Iron Works

Main Office and Works:
Carlton Station
West Berkeley, Cal.

Wood Pipe

Made from California Redwood or selected Washington Douglas Fir

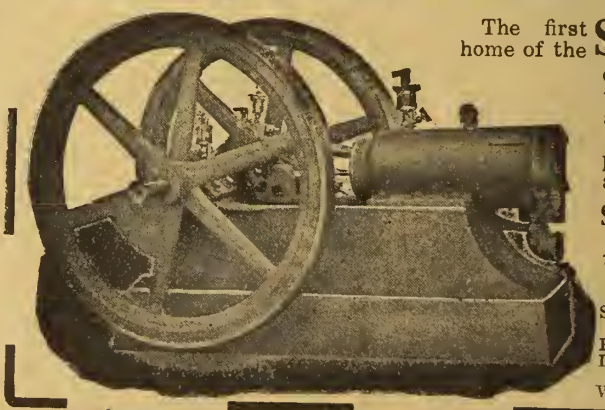
2 Inches to 10 Ft Diameter

National Wood Pipe Company

San Francisco Office
318 Market Street
Los Angeles Office:
404 Equitable Bank
Northern Office:
Olympia, Wash.
Salt Lake City:
Dooley Block

Address Nearest Office as Above.

Samson Gasoline and Distillate Engines



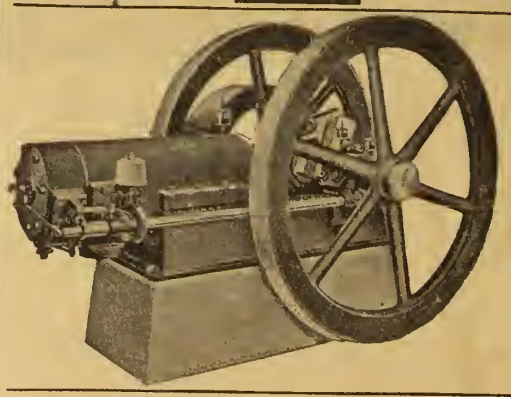
The first home of the **SAMSON** engine is a large one. Its second home, which is everlasting, is a happy one.

They may be compared with the sea—always ready to roll.

Samson Iron Works

Office and Factory:
1100 to 1198 Aurora St.
Stockton, Cal.

BRANCHES:
San Francisco,
Cor. Market and First Sts.
Fresno, 920 J St.
Los Angeles,
204 N. Los Angeles St.
W. L. Cleveland Co., Agent



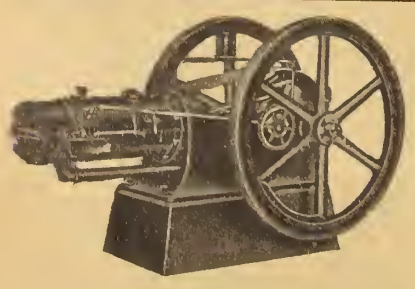
HERCULES DISTILLATE ENGINE

Heavy, Strong and Simple in Construction

The Right Engine at the Right Price

Horizontal and Vertical; All Sizes. Buy direct from the manufacturer and save agent's commission. Send for our new Catalogue C.

The Hercules Gas Engine Works
351 Market St., San Francisco
Telephone Douglas 3630



For the Land's Sake!

IRRIGATE WITH A

Commercial Gas Engine

SEND FOR BULLETIN NO. 12
AND YOU WILL

Commercial Engine Company
953-955 No. Main St. - Los Angeles, Cal.

BOSTROM'S IMPROVED FARM LEVEL

Used for irrigation and drainage work. Cheapest and best level yet invented for farm use. Has the latest patented improvements in simplicity and usefulness. Can be operated by any one. Price including telescope tripod and target rod $15.00.

PALACE HARDWARE COMPANY
581 Market Street, San Francisco.

Coast Agents. Send for Circular.

ARNOTT HARNESS $10.00 to $80.00
Everything guaranteed. Money back if not satisfactory. Factory in Los Angeles. California leather for all uses. Send for No. 10, eighty page FREE Catalogue.
ARNOTT & COMPANY 112–118 So. Los Angeles St. Los Angeles, Calif.

California Cultivator

Published Weekly — One Dollar a Year

Los Angeles — December 10, 1908 — San Francisco

The State Fruit Growers Convention

A Good Meeting is Held at Sacramento. A Short Account of It in This Number. The First State Convention Was Organized in Sacramento 27 Years Ago

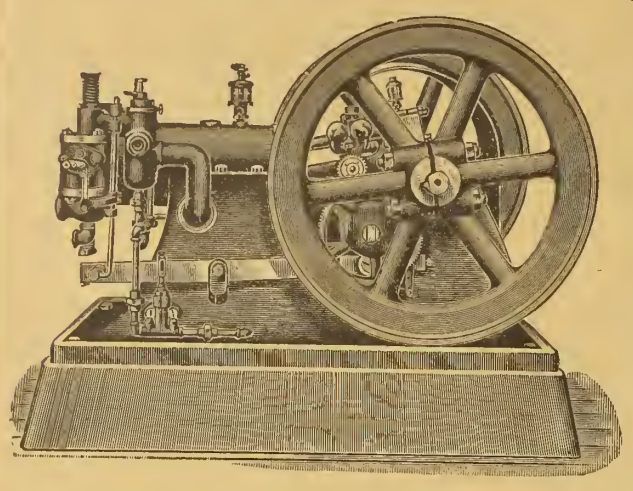
Courtesy Sacramento Chamber of Commerce.

CALIFORNIA may well be proud of her State Capitol. Beautiful in outline and beautiful in its immediate surroundings of forest trees brought years ago from all parts of the world.

It is on these grounds, covering some 15 acres, that the State Insectary described on another page is located. It is on these same grounds that the old state fair pavilion was located. We say "was" for now all that remains of that mammoth structure which has been the center of state fair work for many years, is a great pile of broken timbers. In another few weeks they will be removed and trees and shrubs given a place where it stood.

It is said that no country of the world is without a tree to represent it on the Capitol Grounds.

Alamo Gas and Oil Hoisting and Stationary Engines



Best in price, appearance and quality. Self-starting and small operating cost. A complete line of repair parts and accessories always on hand.

Complete pumping plants installed and we are prepared to construct all kinds of mining machinery on contract.

Write for catalog and prices

Harrison Machine Works 719-721 N. Main St. Los Angeles, Cal.

"XXX" (TRIPLE STRENGTH) Squirrel Poison GOPHERGO

"XXX" is superior to any squirrel poison sold because it:—
Has three times the strength.
Has the poison IN the grain, not ON it.
Will not weaken with age or rub off.
Is sweetened and scented.
Is thoroughly dried and will not mould.
Will go farther and act surer.
Is guaranteed.
Sold in bulk in any quantity.

"Gophergo" is a sure exterminator, and will kill ten gophers where traps or other devices kill one. Small cost and no trouble to apply.

Sold everywhere in cans, 25 cents to $2.50

We make a business of exterminating gophers and squirrels, and can save you time and money. Write to us.

KNOX MNFG. CO.
320 S. Main St., Los Angeles, Cal.

Do Irrigation Work---Quicker and Easier

For Leveling Fields—For Cutting and Clearing Laterals

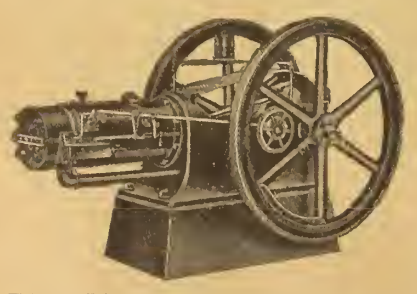
The photo is from an actual field-scene in New Mexico, where a 20th Century Grader is leveling seed-beds on the great truck-farm of Herman Blueher. He says: "Your 20th Century Grader has no equal for land-leveling, seed-bed making, ditching and for all kinds of irrigation work. I have reduced my force one-third since buying this machine." The

20th Century Grader

weighs only 600 lbs—light and handy—and is easily handled by one man and two horses. It is all steel and malleable iron. Price very reasonable. It pays for itself in one season. If your dealer hasn't it ask for name of nearest agent. Write now for new free booklet with large cuts showing every part.

Baker Manufacturing Co.
281 Dearborn St. Chicago, Ill.

Commercial Gas Engines



Pump More Water

a given height with one gallon of No. 2 distillate than our competitors. Send for Bulletin No. 12 and see how we do it.

Commercial Engine Co.
953-955 No. Main St. Los Angeles, Cal.

Southwest Supply Co.

No. 127 South Los Angeles Street, Los Angeles, Cal.

From Manufacturer Direct to Consumer

The Celebrated Sattley Line

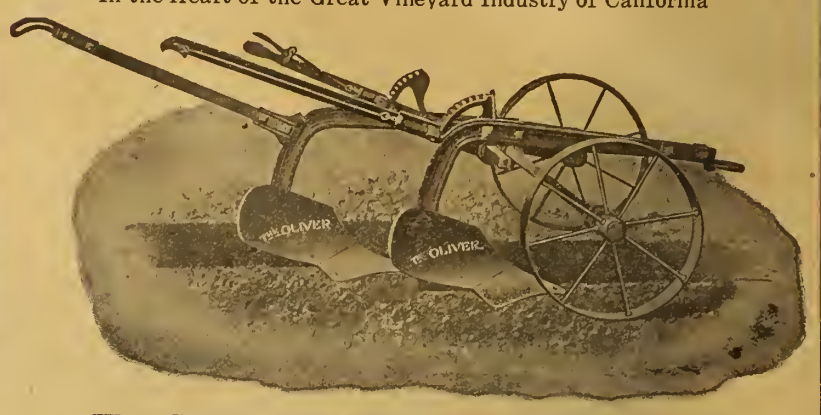
Best Disc Harrows—Spiked Tooth Harrows—Disc and Sulky Plows

On the Market at the Very Lowest Living Prices

Winner of the First Award

The Nos. 17 and 18 Oliver Orchard and Vineyard Gang Plows

At the Great **Fresno County Fair**
In the Heart of the Great Vineyard Industry of California



The Greatest Improvement of the Age in Plows for Orchard and Vineyard

Get particulars from your nearest Oliver agent, or write to

Newell Mathews Company

Southwestern General Agents 200 N. Los Angeles St., Los Angeles, Cal.

Red Cross Wind Mill
Is built right, Works right. Runs in light wind. Has ball bearing turntable and outer thrust. Easy mill to set up and take care of. Built upon honor.

Woodin & Little Pump House

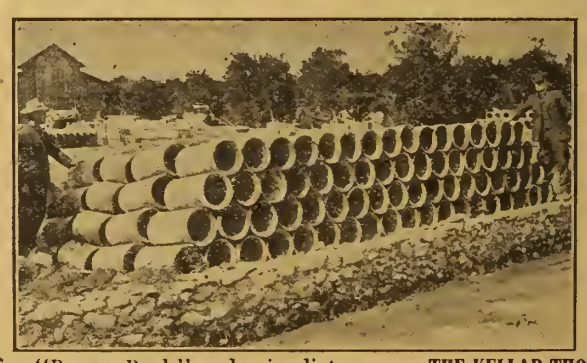
33-41 Fremont Street, San Francisco

PUMPS FOR EVERY SERVICE AND USE

Pumps for Irrigation, Road Sprinkling, Electric Motors, Gasoline Engines, Spraying, Whitewashing, Wine Pumping, Wind Mills, Hand and Power Use, Steam, etc.

Gasoline Engines Wind Mills
Tanks Pipe Pipe Fittings

SEND FOR CATALOGUE



From photograph showing amount of

Ten-Inch Pipe

made by four men from 10 bbls. of cement in 9 hours — 280 two-foot joints, or 560 feet. This pipe was made with the

"K T" Moulds

An equal amount can not be made with any other tools in the same period of time. Write for "Brown Book" and price list.

THE KELLAR-THOMASON MFG. CO., Covina, Cal.

A Handy Little Engine

Just the thing to run the feed cutter, the pump, the churn, the grinder, or anything on the ranch. It's well named

The Little Wonder

Write or call on

Wm. Gregory
602 No. Main St. Los Angeles, Cal.

SECOND HAND PIPE

We will sell you pipe that can be used for any purpose. ***Satisfaction guaranteed*** or money returned. We handle all sizes of standard pipe and casing. Shipments made on same day as order is received. Price of pipe is low now. Write for our prices.

Pacific Pipe Company
S. W. Corner Howard and Main Streets, San Francisco, California

EUCALYPTUS

Growers of Commercial and Ornamental Eucalypti
EKSTEIN & EKSTEIN, Modesta Euc. Nursery, Modesta, Cal.
EKSTEIN BROS., Vignolo Euc. Nursery, Anaheim, Cal.

When writing advertisers, mention Cultivator.

California Cultivator

Vol. XXXI—No. 24 Los Angeles, California, Thursday, December 10, 1908 Subscription $1 a Year

Thirty-Fifth Fruit Growers' Convention

The State Organization Holds Sessions at Sacramento, at Which Many Valuable Papers Are Read

IT is easy to say that the dominant note running through the Thirty-fifth State Fruit Growers' Convention which closed last Friday in Sacramento was voiced in the answer to the question "How can we market our fruits?" That question was liable to be sprung at any moment. During the discussion of the question of humus which was led in an excellent paper by Prof. Shaw, this question again came to the front in the form of "If we cannot market our fruit at a living price what is the use of our discussing soil conditions?" So, while there were practically no set papers or addresses on co-operation we believe that one thought which continued to be sprung the oftenest was that one question.

The reason for it was, of course, that that thought is uppermost in the minds of those attending, and besides it was touched upon at some length by State Commissioner Jeffrey, who was, of course, President of the Convention, in his annual address. On this point Mr. Jeffrey said:

Part of the President's Address

"The farmer is not up-to-date in all the departments of his pursuit. He has not considered it within his sphere to create, control or even influence his selling agencies. On the contrary, the manufacturer has not neglected this most essential matter. The farmer has not created the demand for superior service in merchandizing his crop and consequently the make-believe methods of our commercial schools speak only in the language of the factory and county house. And this condition will prevail until finally a chair of farm economics will be established in all our universities and schools.

"No question is more important than that which ..as been the theme of this address, namely, the getting down to fundamental principles in the handling of fruit markets. This involves a study of transportation, of the distribution of fruits and of carrying the risk of getting your fruit to the consumer, for this always falls upon the grower.

"I have tried to show you the folly of going forward in producing more and better fruits and not providing for their disposal. I have intimated that if we do not delve into the economical problems affecting our California fruit markets, overproduction is already upon us. Let the members of this convention lead in discussing these difficulties and join all the fruit growers in their prompt solution, recognizing the burden of this address, that they will be at the mercy of all circumstances adverse to rural progress till they learn to secure their portion of the profits of horticulture."

In the quality of the addresses and in the excellent program and possibly in results accomplished we do not believe any previous State Fruit Growers' Convention has excelled this one. In attendance, especially of local people of the producing class, there was a marked lack. Sacramento people from the various business houses occasionally dropped in but Sacramento county farmers could almost be counted on the fingers of the hands. The Southern California delegation was large and took active part in the program.

The meetings of horticultural commissioners from various counties of the state brought to the convention large numbers to discuss with the fruit growers as well as for special meetings of the commissioners to discuss methods of enforcing the present law more rigidly and of securing, if possible, the enactment of new laws which would accomplish the desired results for the fruit interests. In fact Tuesday evening brought forth the very interesting discussion that was characterized by some slight manifestations of heat. This was occasioned by the resolution presented by Harry P. Stabler of Yuba City which called for the maintenance of the present horticultural laws, especially with reference to three members being required on each horticultural commission.

The movement had been started to secure the passage of a law reducing the number of commissioners to one who should have entire and absolute control of quarantine interests of the county. This movement is especially urged by nearly all Southern California commissioners. The working out of the present law in the hands of northern counties has been so satisfactory however that almost the entire northern end of the state opposed the move.

The South has found the working out of the present law very expensive. For instance, Los Angeles county at the present time is spending about $12,000 a year on its horticultural commission Riverside county, practically the same. In San Bernardino county, while it has a three-man commission the active work is done by one meember, Mr. Pease, and hence is not so expensive to the county. Many of the northern commissioners evade the expensive feature of the present law by appointing three commissioners, two of them consenting to fulfill merely honorable positions while the active work is done by the third who draws all the salary. Santa Cruz and Monterey county combine and together employ a county entomologist who takes practically the same power as the horticultural commissioners although in the same counties commissioners are appointed, at least this is true in Santa Cruz county where

Continued on Page 558.

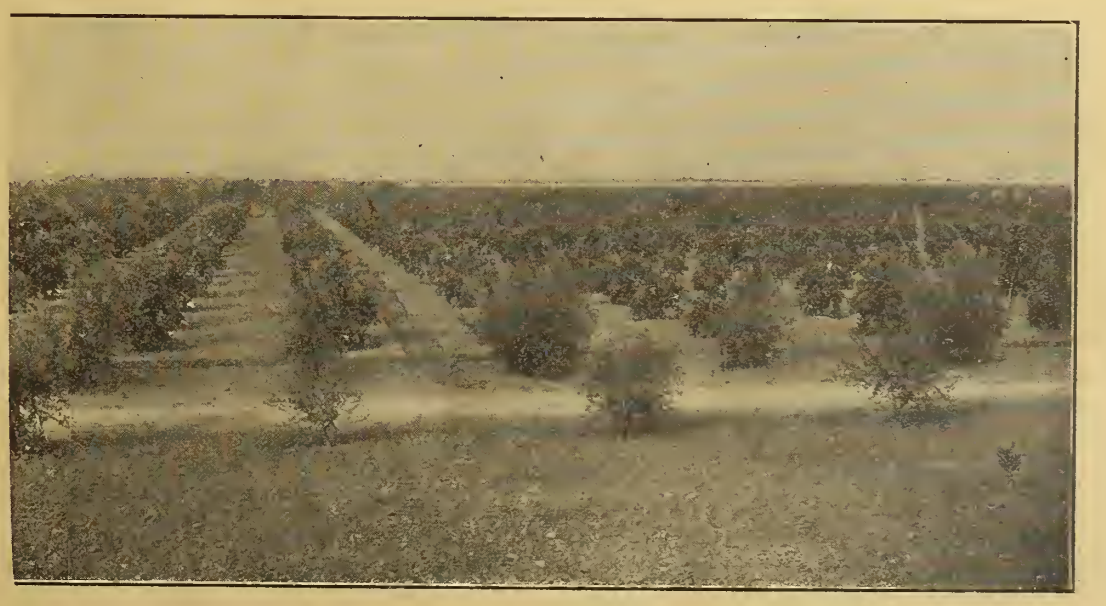
Tulare County Oranges and Lemons

A Fine Exhibition of Citrus and Other Products of Central California at the Tulare County Citrus Fair

ALL Central California in general and Tulare county in particular had a jolly gathering at the Tulare County Citrus Fair which was held in Exeter last week. As an exhibit of the products of that section it was satisfactory, and as an occasion of gathering together all the people it was equally so. The older people visited in the pavilion where the exhibits were made or in the machinery annex at one side, while the younger enjoyed the afternoon in sports at the grounds only a short distance away. Each evening a special program was rendered, different communities having charge on the different evenings. The principal exhibitors at the fair were the communities of Porterville, Lindsay, Exeter, Lemon Cove and Dinuba.

This is the third annual exhibit of the Tulare County Association. The first was held at Porterville, the next at Lindsay and now at Exeter. The association holding the fair is to a certain extent a permanent one, but the direct management each year is in the hands of a local committee appointed by the Board of Trade in the town in which the exhibit is held. Financially, the fairs have been ordinarily successful though the first one held at Porterville was somewhat short in

Continued on Page 568.



Courtesy Exeter Sun.

A Citrus Grove in Exeter, Tulare County.

Save Time--Save Fruit

With the Brewster Picking Sack

A new method sack—invented and perfected by lifelong growers. Eminent orchardists pronounce it perfect. Those who have tried it say they would not be without it. Actual tests show that a man can pick twenty-five per cent more fruit with it and with greater ease.

Sack forms semi-circle about picker's body—is supported by straps over both shoulders and held tight by belt around body. The picker can thus work with ease either on ground or ladder. When full, it does not extend below the hips.

A great feature of the Brewster Sack is the patent gate (see illustration), WHICH PRACTICALLY ELIMINATES BRUISING. Simply unfasten a hook—the gate drops—and the fruit can be quickly but very gently poured out.

The sack holds as much fruit as the old style sack.

Made in two grades.

Regular picking sack grade, sent express prepaid for $1.50.

Special extra quality—that will outlast two ordinary picking sacks—express prepaid $1.75.

Sierra Madre Sack Company - Sierra Madre, Cal.

We want reliable men in every locality to demonstrate this sack and act as our agents.

Citrus Trees

Navels Valencias Lemons Pomelos

Sweet and Sour Orange **Seed-Bed Trees,** strictly first-class stock, free from scale. We also have several hundred Phoenix Canariensis and Washingtonia Robusta Palms for sale cheap. Write for prices in large or small quantities.

Southland Nurseries, F. H. Disbrow, Prop.

Phones: Main 949; Home 2520 **R. D. No. 1, PASADENA, CAL.**

TREES

Season 1908-9

Order Now for Future Delivery

If your trees are purchased from the Fancher Creek Nurseries they will be true to name, well developed, with good roots.

FOR 25 YEARS we have been engaged in growing reliable nursery stock. Our thorough knowledge of every branch of the business makes it possible for us to raise and deliver stock that meets the demands of this country, and gives satisfaction to growers.

Last year we did the largest business in our history. This year our stock of

Deciduous, Citrus and Ornamental Trees, Grape Vines and Rose Bushes

is more complete and better than ever.

We are sole propagators and disseminators of

Luther Burbank's New Creations

Valuable Burbank Booklet illustrated in colors mailed for 25c.

SALESMEN WANTED

PAID-UP CAPITAL $ 500,000.00

FANCHER CREEK NURSERIES

INC.

Geo. C. Roeding Pres. & Mgr.

Box 12 Fresno, California, U.S.A.

YELLOW MONEY AND YELLOW FRUIT

Are a pair that travel together in good shape in an orange or lemon grove. Especially is this true if you will plant only the robust and true-to-name

Citrus Trees

grown by the San Dimas Citrus Nurseries, the largest growers of choice orange and lemon nursery stock in the world. No branch of horticulture offers better inducements in the way of profits, nor is there one more alluring to the person contemplating commercial fruit culture. For the past twenty years we have supplied the leading growers with their trees, and hope to number many more among our friends and patrons. Orders now being booked, subject to future delivery. Send for book on

"The Citrus Fruits: Historically, Horticulturally, Commercially."

Beautifully illustrated, and some 20,000 words of text. Price 25 cents.

The San Dimas Citrus Nurseries

R. M. Teague, Proprietor
San Dimas, California

EDISON PHONOGRAPHS, VICTORS, ZONOPHONES

Records and Supplies, delivered at your nearest railroad station upon receipt of full retail price. Write for particulars and ask for catalogue. Peter Bacigalupi & Sons, 1113-15 Fillmore St. San Francisco

Some Butte county orange growers have harvested their entire orange crop.

With the Citrus Growers

FUNGOUS DISEASE OF SCALE.

FLORIDA is succeeding in fighting white fly and scale with fungous diseases. Probably such remedies will have little or no value to California fruit growers, it is interesting to learn of their methods as given in Bulletin 94 of the Florida Station from which we quote:

Favorable Conditions in Florida.

Nowhere else in the world have fungous diseases been employed to combat scale insects and similar pests to so large an extent as in Florida. This is largely due to the fact that our climatic conditions are especially favorable to the spread of fungi. In an arid or semi-arid region to use these species as natural enemies for combating our pests would be entirely in vain. It happens, however, that Florida, in addition to having an abundant rainfall, has also a moist atmosphere.

The use of fungi and bacteria to produce diseases of insects has been advanced from time to time as a means of repressing these pests. The conditions, however, under which many species of insects live are such as to make it a difficult matter to apply the remedy. Wherever insects occur that are gregarious in their habits, the disease method of combating them can be used with advantage. This has been repeatedly proved by the success that has been attained in destroying the chinch-bug of the wheat fields and corn fields of the Northwest. While the climate there is ordinarily too dry to permit fungi to flourish, the wheat plants and corn plants in their growth give off enough moisture to make the atmosphere in the fields a rather moist one. It thus happens that rather unnaturally we have a moist condition in a field situated in what is usually a dry region.

Many species of scale and similar insects in Florida suffer great annual diminution from fungous diseases. This can be readily proved by simply treating a scale-infested plant with a fungicide, such as Bordeaux mixture, which will then destroy the fungi that kill scale insects, and a great increase of the latter will ensue. That there are still many undiscovered species of fungi which attack these forms of insects is clearly shown by the fact that within the last year three species of fungi have been found to attack the white fly, which heretofore had not been known to be enemies of this pest.

Scale Fungi do not Attack Trees.

It is frequently asked whether it is not dangerous to introduce these fungi into an orchard, the questioner fearing that when introduced they might produce a disease of the trees, or attack the fruit. No such dangers need be anticipated from any of the scale-destroying fungi that we have so far discovered. As soon as these fungi have destroyed the scale insects and other pests upon which they live there is no more food for them to exist upon, and consequently they must perish. One of our best orchardists, having extensive orchards in the state, has frequently said that he would prefer to have always two or three scale-infested trees in the orchard. As long as he had these scale-infested trees he was sure of knowing just where he could put his hand on fungous material to keep down scale insects in the other trees. Of course in a short time the trees that were originally scaly would become entirely free from scales, and he would have to look for fungus in other places. The same speaker stated that one among the many regrets he had after the great freeze was that he had lost not only a considerable amount of well-grown wood from his trees, but had also lost all of his friendly fungi; and that he would be somewhat perplexed to know just where to get these fungi again to protect his trees against the scale insects.

It is nearly certain—one might say almost beyond question—that for the most part the diseases of scale insects and white fly are native to Florida. While this cannot be stated with absolute certainty, still the fact that the different fungous diseases appear spontaneously in widely-separated orchards of the state rather confirms one in this opinion. In addition to this, quite a number of the fungi which attack scale insects have been found on trees growing near hammocks in localities where it would not be probable that they could have been carried from cultivated orchards.

Care Necessary for Success.

To control scale insects and white fly by means of the fungous diseases one must pay close attention to minor details, and must make intelligent observations. It is as impossible to carry out this work successfully without due regard to the needs of the fungus and the peculiarity of the insect pest that is to be controlled, as it would be to use insecticides with the same disregard to details. The writers have frequently met orchardists who have pinned in a few leaves bearing white fly diseased with fungus, and who in six weeks had actually forgotten where these leaves had been pinned. In some cases the orchardists expect the fungus to be disseminated to all parts of the grove after simply tying a few sprigs of such fungous material in one tree. For such work to be effective it would be necessary to make close observations of the entire orchard; to find where the greatest amount of scale or white fly was located, and to introduce the fungi in such positions as would give the best opportunity for the spores to spread from one limb to another, and from one tree to another.

It sometimes happens that orchards become very badly infested with scale insects before one is aware of the fact; or, stating it in other words, the orchardist becomes careless and neglects to make observations in his field as frequently as he should. When such a condition has arisen, especially in connection with recently-planted or scattered trees, it will be best to relieve the condition temporarily by spraying with some contact insecticide—such as whale-oil soap or kerosene emulsion. This will give the trees relief by reducing the amount of scale present; and as soon as the insecticide has disappeared the fungi may be introduced.

Imperial Valley Collegiate Institute is creating much interest among the farmers of Imperial valley and it is hoped it will prove of great value in educating the young of that section as to agricultural conditions and the best plan of meeting them as they appear in the Imperial valley.

Deciduous Fruit Culture

By J. W. Mills

IMPROVING VINEYARD SOILS.

IN our last number we referred to the hard and unfriable condition of vineyard soil in many sections of Sacramento Valley. These particular soils are naturally inclined to break up into clods which become very hard when dry. This has always been the case to a greater or less extent, ever since the land has been used for plowing purposes. Land that was once heavily timbered and cleared for agricultural purposes was for a number of years very productive and easy to get into a friable condition, as compared with adjoining land which had been cleared and brought into cultivation years before. The reason of this is that the humus produced from the rotting of the twigs and leaves is soon used up by the growing crops and is also converted into the universal elements of the soil. This leaves the soil devoid of humus, and the richest soil without humus is a poor one.

The Importance of Humus.

A soil analysis that does not take into account the humus content will not indicate its agricultural value. An interesting experiment was once made at one of the experiment stations. The horticulturist wished to satisfy himself on the much disputed question of soil analyses and took three samples of soil to his chemist. One sample from a naturally barren clayhill, an adobe brick and some productive garden loam were used. The garden loam was the poorest in mineral plant food, but full of humus. The adobe brick and yellow clay were the richest in plant food but devoid of humus and consequently non-productive. Here was a lesson that should be heeded by all tillers of the soil. The results obtained from stable manure are almost always credited to the nitrogen given to the plants by it. It is true that much of the increased growth is due directly to the mineral fertilizers contained in the manure, but there is an after effect due to the improved physical condition of the soil. This shows up several seasons after the soluble minerals contained in the manure are leached out.

The Action of Humus.

Humus increases the absorbant properties of soils and retards the capillary action of water and thus it is that soils rich in humus retain their moisture much longer than others. If a small cube of soil containing humus is placed under a microscope small particles of fiber can be seen. This is vegetable matter being converted into humus. This fibrous material holds the particles of fine heavy soils slightly apart and prevents their sticking together and thus it is that the soil water cannot travel so fast from one particle of soil to the other and come to the surface and evaporate, which process is the capillary action of water in soils. In light sand soils, humus has a binding effect and prevents the too rapid passage of air through the soil and for this reason the soil water is not so rapidly carried off as it would be in such soils devoid of humus. Humus in the pure state will absorb more water than any soil and when incorporated with the soil it does not lose this property.

The decomposition of vegetable matter produces humus, and while this process is going on acids known as humic acids are produced, which act upon the insoluble mineral plant foods, liberating them and thus enable otherwise barren soils to produce good crops. It is known that 50 per cent or more of the available plant food in soils is found in the humus. Is it not, therefore, important that humus is abundantly supplied to the soil?—J. W. Mills.

APPLE PACKING

Claude I. Lewis, Professor of Horticulture at the Corvallis Station, gives the following advice on packing for any paying market. When a local market is dull or sluggish, it might be advisable to send in a box or two carelessly packed in contrast with a larger quantity of fruit shipped at same time by same party in first class style, as the following describes. The seller will find less difficulty in getting a good paying price for his best when the fruit is placed in visible comparison with the inferior grade and pack offered at a less price, provided the owner or his representative can be present at the selling.

The Box.

In buying boxes select the best on the market. Cheap boxes are often worthless. You will need two sizes. The standard box has the following inside measurements: 10½x11½x18. The special California box measures 10x10x20. It is an advantage to have both sizes as some apples do not pack well in the standard box but will pack very nicely in the special. These boxes should have three-quarter inch material for ends, three-eighth inch for sides and quarter inch for top and bottom. Experience has shown these measurements to be the best to avoid splitting and bruising of the fruit and to allow for necessary elasticity.

Paper.

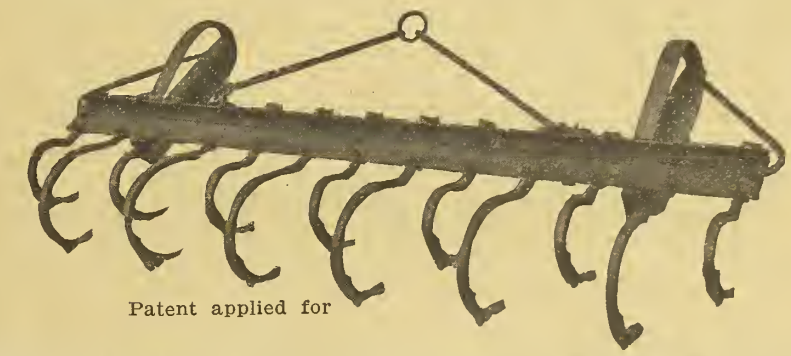
Next you need a good supply of paper. Lining paper should always be used on all good grades of fruit. It requires two sheets for a box. This paper is very light in weight. If using the boxes of both sizes remember this in placing orders for lining paper. This paper assists materially in keeping fruit clean and in taking up surplus moisture. Layer paper should also be used. This comes in two sizes and is very valuable in soaking up any excess of moisture that might otherwise assist decay. This paper should be used in the bottom and top of the box and between the layers. Wrapping paper should be obtained. The 8x10 size is the more commonly used. This paper aids one in putting up a solid pack and protects the fruit from bruising, slipping, etc. Experiments conducted the past two years at this Station have shown conclusively that fruit that is wrapped keeps much better than that which is not. Again, when the paper is used it conveys to the buyer the thought that he has a superior article.

Other Necessities.

A good supply of nails should be obtained. The cement coated are very satisfactory. Some prefer the twisted nails. Never use poor nails, as it may mean the loss of the fruit. Where a large amount of fancy fruit is used it is a very good plan to use a lithograph label of your own. This advertises your fruit and generally pays in the end.

You should also supply yourself with rubber stamps. Have one stating that the fruit is grown and packed by yourself. This covers the state law and also is an additional advertisement. A stamp is needed for each tier—3, 3½, 4, 4½ and 5. The number of apples contained in the box should always be stamped on. You will need the following: 45, 54, 64, 72, 80, 88, 96, 104, 112, 128, 150, 165, 175 and 200. Stamps like "choice" and "fancy" can also be used to advantage. If a number of packers are to be employed it is well to give each a number and have him stamp every box he packs.

WILLIAMS' GOOSE-NECK CULTIVATOR



Patent applied for

Especially adapted for Citrus Orchards. Sizes 7 to 14 feet. Lightest draft. Free trial to responsible parties. No agents. You pay only one profit. Write today.

WILLIAMS & SON, Manufacturers
Orange, California

The Roessler & Hasslacher Chemical Co.

100 William Street, New York
Works: Perth Amboy, N. J.

THE ROESSLER & HASSLACHER CHEMICAL COMPANY NEW YORK CHEMISTS

CYANIDE guaranteed 98-99% for generating HYDROCYANIC ACID GAS

The only positive eradicator of the SAN JOSE SCALE, RED and BLACK SCALE and other insect pests

FOR SALE BY

F. W. BRAUN - Los Angeles and San Francisco
HAAS BARUCH & CO., " "

Fruit Growers and Vineyardists
We Would Advise You to Use Our P.N.K.

This is a Fertilizer well adapted to produce a good, vigorous growth to your trees and vines, and the best quality of fruit in quantities that you desire, consequently paying you large interest on the money expended. Make a trial of this brand and you will use no other. Write for our pamphlet, ***"The Farmers' Friend,"*** for 1909.

The Pacific Guano and Fertilizer Company
268 S. Market Street - - San Francisco, California

TENTS

Fumigating and Lemon Curing Tents our Specialties

Irrigating Hose, all sizes. Prices and Samples quoted upon application. Write your wants
Wagon Covers, Hay Covers, and Canvas Covers of Every Description.

Mellus Bros. & Co
Phones—Home, F 4871; S. S., Main 3500
250 East Fifth St., Los Angeles, Cal.

TREES TRUE TO NAME

AND

Propagated From the Best Specimens of Their Kind

TWO IMPORTANT FACTORS

Placer Nurseries

(Established 1878)

OUR ASSORTMENT

Comprises all the Best Commercial Varieties of

Peaches
Plums
Pears
Apricots
Almonds
Cherries
Apples
Persimmons
Grapes, Etc.

Order Now
Write Us

and our stock is the best that years of experience, care in selection, and care in growing can produce. That is what you want.

Catalogue and Price List Mailed on Application

The Silva-Bergtholdt Co.

Newcastle, California

Agents Wanted

TREE TANGLEFOOT

A Sticky Preparation Applied Directly to the Bark of the Trees

Will not injure trees. A band 5 inches wide and 1-16-inch thick cannot be crossed by any climbing insect pest. Remains sticky five to ten times as long as any other known substance. You can test it at slight expense, as no apparatus is required. Used by the carload in New England against the Gypsy and Brown-Tail Moths. In California it preserves prune orchards from the Canker Worm. Wherever the Gypsy or Brown-tail Moths, Tussock Moths, Fall or Spring Canker Worm or Web Worm appear TREE TANGLEFOOT is of great value, and should be used when the caterpillars begin to crawl while they are very young.

Price 25c per lb. Liberal discount on quantities. The only safe and effective banding preparation. Send for testimonials

THE O. & W. THUM COMPANY

Manufacturers of Tanglefoot Fly Paper — Grand Rapids, Michigan

Trees Grape Vines

Full Line of Commercial Sorts

Grown on Virgin Soil. True to Name, and Healthy. Nineteen years of fair and square dealing makes us the most popular nursery in the West. ***Wilson's Trees and Grape Vines*** long noted as the very best. Catalog and Price List for the asking. Address

The Fresno Nursery
F. H. Wilson, Proprietor
Box 615a - - Fresno, California

Farmers, Take Notice

Get the Most for Your Money by Buying the TOM LEWIS FERTILIZER

Increases everything that grows in quality and quantity. My fertilizer will actually do the work. It is the poor farmer's friend—cheap and practical. No trouble to use. It produced 6 pounds of grapes to the bunch on R. D. Steven's ranch at Mayhews, California. For catalogue and prices write

THOMAS LEWIS, 1916 Tenth Street, Sacramento, California
(For 20 Years the Fertilizer Man)

FRUIT GROWERS' CONVENTION.

Continued from Page 555.

the commission is entirely honorary and advisory.

Mr. Pease of San Bernardino finally presented a resolution which did contain much that the southern end of the state was appealing for, and that is the lifting out of politics of the appointment of commissions and putting them under civil service rules. In effect his motion was that the convention recommend to the legislation committee that a horticultural commissioner before appointment should pass some sort of an examination which would show him to be qualified not only as an active fruit grower, but by education and experience to judge on entomological and plant disease questions. This motion was finally voted upon, with the result that 33 voted for and 7 against.

O. E. Bremner of the State Commission put the entire convention in a most amiable mood by his humorous observations of the work with the demonstration train which toured the Sacramento Valley.

Insectary Dedication.

Wednesday afternoon occurred the dedication of the State Insectary, which has just been completed and the insects, many of them, installed. This insectary has long been the need of the state, especially so since the partial destruction of the former collection which was in the Ferry building at San Francisco at the time of the earthquake.

A very attractive building has been built on the State Capitol grounds near where the old pavilion stood, which is fitted in every way to properly test out and breed beneficial insects which may be brought to this country from others.

Mr. E. K. Carnes is in charge of and has general supervision of the construction and installing of the colonies of insects. At the entrance the visitor is confronted with a large exhibit of all kinds of insects in cases, well worthy a day's study by the up-to-date fruit grower who might wish to post himself as to insects both injurious and beneficial. Opening off from this room is the court filled with various plants which is entirely surrounded by the propagating rooms. These rooms are all supplied with steam heat, so that the attendant may regulate the temperature day and night, year in and year out. These rooms are nearly all filled with insects which are now being bred ready for distribution to the various sections of the state.

The address of dedication and tribute to Elwood Cooper, founder of the Insectary, was to have been made by State Senator Estudillo, but in his inability to be present, Mr. James Mills of Riverside was called upon for the address, which was largely a tribute to Elwood Cooper's work in the interest of horticulture of this state. At the entrance or approach to the steps is a marble slab imbedded, "Founded by Elwood Cooper, 1907."

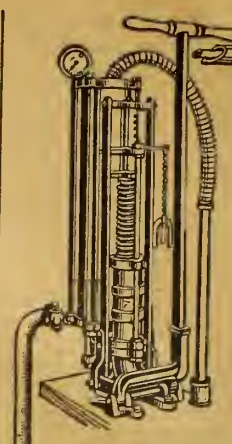
In his tribute, Mr. Mills said: "In being called, in a measure, to express a tribute to so great a man as Elwood Cooper, a better voice than mine ought to be heard. There are all too few of the citizens of this state, and of other states, who are like-minded with Elwood Cooper, who are willing to give of their lifetime, of their younger days, of their mature days and of their advanced years, years of work when others are seeking rest and leisure—I say there are all too few men like Elwood Cooper who, through many years, have given to horticultural interests of this state the very ripest of their talents in the service of the fruit growers and the agricultural people of this great state."

A committee of five consisting of Messrs. Carnes of Sacramento, Maskew of Whittier, Pease of San Bernardino, Cragg of the San Joaquin Valley and Messenger of Los Angeles were appointed to unveil the tablet.

* * *

CONVENTION NOTES.

The addresses and discussions which followed them were many of them worthy of almost the whole issue of the Cultivator, and will be the source of many an instructive article later. The fact that most of the speakers' names are not even mentioned in this issue is no indication of lack of worth



This is the Pump

that can be operated continuously at high pressure without the muscle-racking, exhausting, "man killing" exertion required for ordinary pumps. High pressure spraying means more and better fruit—and consequently more money for the grower.

Bean Magic Spray Pumps

are different from other pumps. They run smoothly and easily without clogging, and one man keeps up high pressure for two lines of hose. And they **save one-third the labor.** The Bean patent spring does it. The operator does half the work at each stroke of the handle, and works against but half the pressure indicated on the gauge. A trial quickly removes all doubt.

Our illustrated catalog No. 21 describes ten sizes of handpumps, and contains much valuable spray information, and formulas. Catalog No. 18 describes Power Sprayers. Both books sent free. Write for our special offer; state number of acres and kind of fruit.

BEAN SPRAY PUMP CO.
212 West Julian Street
San Jose, Cal.

THE "BOSS"
Tree Protecter

Made of Yucca Palm

Is cheap, durable and quickly put on the tree. It prevents Rabbits from destroying your trees. A sure protection against frost, sun-burn, grasshoppers or dry winds. Can be easily removed; will last for years.

Send for samples.

Prices

12 inch long,	$ 9.00	per 1000
14 inch long,	10.00	per 1000
16 inch long,	11.50	per 1000
18 inch long,	12.50	per 1000
24 inch long,	15.00	per 1000
30 inch long,	17.50	per 1000

Agents Wanted Everywhere

YUCCA MANUFACTURING COMPANY
1380 Willow Street Los Angeles, Cal.

Semi-Tropic Nursery

The undersigned takes pleasure in announcing to all who desire to raise choice fruits that his **Kodota Fig** and **California Concord Grape** are still in the lead as the choicest of table fruits. I am prepared to furnish these trees and vines in retail or wholesale lots. Circulars sent to all who send for them.

S. H. Taft
Sawtelle, Cal., Nov. 27, 1908.

E. H. Learned, Tropico, Cal.
GROWER of STRAWBERRY PLANTS

Plants now ready. ***Brandywine, Klondike*** and ***Excelsior.*** Price $2.50 per thousand. Of the very best selected stock. Reduced rates in quantities a matter of correspondence.

Address mail R. F. D. No. 5, Los Angeles

Improved Berry Plants

Strawberry, Blackberry, Raspberry, Loganberry, Himalaya, Phenomenal Berry and Dewberry Plants in variety. You will save money by getting our catalog before ordering.

G. H. HOPKINS & SON
Burbank, Cal.

of what was said. The one question of space alone prevents even mention of the good things of the convention.

Mr. Dartgitz of San Joaquin county maintained that labor people were all organized; the railroads all have a "gentleman's understanding;" the big packers and shippers are reasonably close to a trust condition; but the farmers never seem able to get together. He was reminded that the orange growers of the South had succeeded in a most complete organization which had been successful for a period of over 15 years. In fact, the California Fruit Growers' Exchange was held up as a model of co-operative marketing which many others would be wise in following.

The suggestion of Mr. Bowen of Los Angeles was that it would be to the interest of the state in general if a building were constructed on the land formerly the property of the 6th district Agricultural Fair Association in which exhibits might be made by all sections of the state which would show agricultural possibilities and give to visitors to the southern end of the state an idea of the productiveness of all portions. As a rule Sacramento and San Joaquin counties favored the move believing it a good opportunity to put their exhibits in a permanent form.

E. F. Adams, agricultural editor of the Chronicle, gave a most interesting paper on the history of the free market movement at San Francisco, describing it as one of the principal ones to push this marketing venture to the front and work earnestly to secure it. The paper was somewhat in the nature of a confession of the fact that he was unable to do politics sufficiently swift to win out in the face of work done by large steamship and railway interests.

Another resolution which was not so unanimously accepted and called for very strenuous discussion was the one relating to reciprocity arrangements with Canada. This called for "such trade relations as Congress may deem wise which might secure the introduction of California prunes and other dried fruits to Canada without payment of duty." The idea expressed by protectionists and others who opposed it was that our efforts should be to secure the present or higher tariff on our fruits without calling for reduction of manufactured or other articles as an offset for the desired advantage to us.

Another discussion which called forth some good hot stuff was the charge by Prof. Chase that Johnson grass seed had been introduced to this state by the San Francisco Bulletin in a free seed distribution. Mr. Rixford, for many years business manager of the Bulletin but now connected with the Department of Agriculture as special agent, promptly denied the charge saying that the Bulletin had never for any purpose introduced any Johnson grass seed. Be that as it may, it was plain from the talk on the floor of the convention that Johnson grass is becoming one of the most serious pests and a menace to all lines of agriculture. The only remedy recommended was a continuous and clean cultivation.

The reception tendered the delegates at the Crocker Art Gallery opened the eyes of every one who attended to the fact that this state surely has a great exhibit of fine art which but few have been aware of before. This collection was gathered at great expense by Judge Crocker and his wife, covering a period of many years of their later life. Before the death of Mrs. Crocker she transferred the collection, together with the land and the building, to the city of Sacramento. The collection is made up of nearly a thousand works of art, many of them almost priceless.

Judge Shields' address at the art gallery on Country Life was one of the most eloquent efforts of the convention.

It is needless to say that the discussion of the 10 per cent increase in freight brought forth the most emphatic protests. A committee consisting of J. P. Dargitz, A. Brinck, B. F. Walden, and J. W. Anderson, was appointed to meet with a general committee of commercial organizations in San Francisco to protest against this threatened advance.

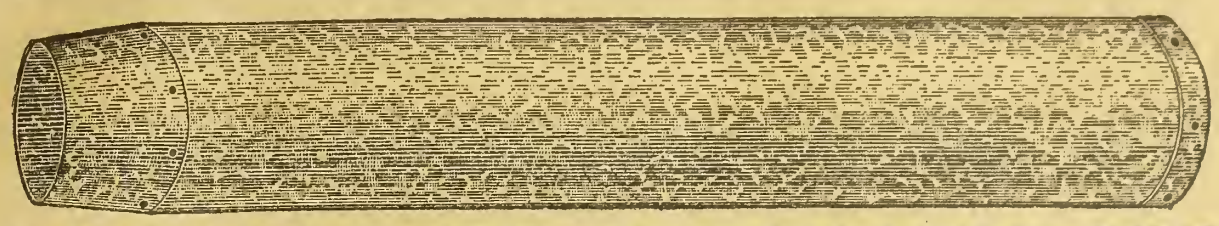
POLYTECHNIC BUSINESS COLLEGE
306 Twelfth Street
OAKLAND : : : : : CALIFORNIA

COME TO OAKLAND
For a Business Education

Polytechnic Business College

Offers the most thorough and complete courses ever devised for young men and women who wish to prepare for the highest and best paying positions.

Six Months will prepare the average young man or woman for a good position. We secure the position. Homelike accommodations, with private families, practically at cost. Oakland is a city of schools, churches and homes. Write for catalogue. Courses in Business, Shorthand and Typewriting, Electrical, Civil, Mechanical and Mining Engineering.



AMERICAN SURFACE IRRIGATION PIPE

SAVES WATER, GRADING AND TIME

The **only** way to **irrigate Alfalfa. Cheaper** than **Flumes.** This is only **one** of our **specialties.** We make **Riveted Water Pipe** in lengths of **ten feet** from **single sheets.** Let us **prove** to you that we make **Pipe** and **Tanks right.** WRITE FOR CATALOGUE.

AMERICAN STEEL PIPE & TANK COMPANY
FORMERLY TALLERDAY MANUFACTURING COMPANY
636-7 Pacific Electric Building Los Angeles, Cal

The Seed House
OF THE
Great Southwest

1909 Seed Catalogue We are now mailing 45,000 copies of the most complete Manual of Garden, Field, Flower and Tree Seeds, Nursery Stock, Eucalyptus, Incubators and Poultry Supplies.

If you do not receive yours by the 20th of December, write for it and get your name on the list.

Aggeler & Musser Seed Co.
Successors to Johnson & Musser Seed Co.
113-115 No. Main St. Los Angeles, Cal.

Practical Proven Seeds

Send for our illustrated price list of market gardener's seeds. We supply 95 per cent. of the seed sold to growers of vegetables for the only wholesale market in San Francisco, the great Colombo market, one of the sights of the city. All seeds sent out by us are positively guaranteed to be true to name. Write us.

COLOMBO MARKET SEED CO.
614 Front St., San Francisco, Cal.

VEGETABLE SEEDS GRASS SEEDS
GARDEN SEEDS FRUIT TREES

We have built up a flourishing business by supplying the best seed obtainable. Many we grow ourselves, others we import from Holland, Germany, Italy, etc. Send us a trial order. At least get our illustrated price list.

California Short-Horn Sale

Get of the Noted Sires **King Edward** and **Straight Archer**
From the Herds of
Mrs. J. H. Glide and **Howard Cattle Co.**

40 Bulls Sale to Be Held at **Chase's Pavilion** 478 Valencia St. San Francisco, California **20 Heifers**

January 5th, 1909

Write for Catalogue
Mrs. J. H. Glide Sacramento, Cal.

Write for Catalogue
Howard Cattle Co. 641 Mission St., San Francisco

Fred H. Chase & Co.
Geo. P. Bellows
Auctioneers

When writing advertisers, mention Cultivator.

PEACHES

Best Policy to Plant When Prices Are Down

Muir
Sellers Free
Regular bearers; fruit dries heavy.

Tuscan Cling
Sellers Golden Cling
Bear heavy crops; always money makers

$150.00 per 1000

Write for Full Catalogue

LEONARD COATES NURSERY CO., Inc.
MORGANHILL, CAL.

Marshall's Nurseries..

Growers of
Fruit Trees, Grape Vines, Shade and Ornamental Trees and Plants.
Catalog sent on application
S. W. MARSHALL & SON
Fresno, California.

5000 Grafted Walnuts

1 and 2 year old grafts

On California black and English walnut roots. The stock of the California black are all from northern grown seed from large trees.

Prices very reasonable.
Eucalyptus in variety.

GEO. S. WEINSHANK
505 Magnolia, Ave. Whittier, Cal.

EVERYTHING FOR THE FARMER

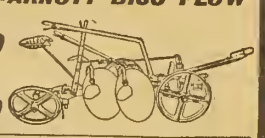
ARNOTT ORCHARD CULTIVATOR

Acknowledged the BEST Five feet wide. Spring teeth if wanted. Horizontal lift, No neck weight.

Steel and Malleable Iron. Dust proof wheels..... $45.00

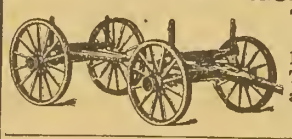
SANDERS-ARNOTT DISC PLOW

SINGLE $60.00



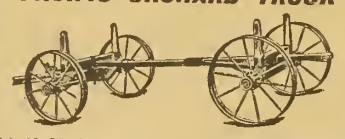
DOUBLE $80.00

COLUMBUS WAGONS



Three inch Skein. Four inch Tire. Brake and Pole. $80.00

PACIFIC ORCHARD TRUCK

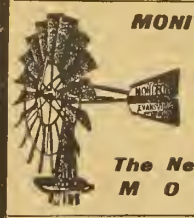


3¼x10 Skeins. 28x30 in. wheels..$32.50

LEATHER TRIMMED

Guaranteed Twelve Months $65.00

MONITOR WINDMILL



8 ft.....$30.00
10 ft..... $45.00

The New 8 and 10 Foot MONITOR

MONITOR ENGINE

Simple Economical

2 H. P....$130

4 H. P. $250

6 H. P. $350

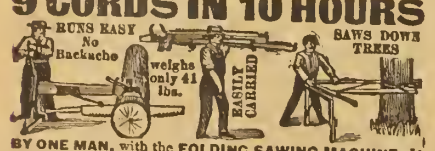
Catalogue No. 9 Sent Free on Application
Address Department G.
ARNOTT & COMPANY Inc.
112-118 South Los Angeles Street
QUALITY ARNOTT GUARANTEED
Los Angeles California.

SECOND HAND PIPE AND CASING

All our pipe and casing has newly cut threads with new couplings attached and dipped in asphaltum. Guaranteed good as new. Prompt delivery on carloads or less. Small orders receive same attention as large ones. All sizes of pipe, also fittings and valves.

WEISSBAUM PIPE WORKS
133 Eleventh St., San Francisco

9 CORDS IN 10 HOURS



BY ONE MAN, with the FOLDING SAWING MACHINE. It saws down trees. Folds like a pocket knife. Saws any kind of timber on any kind of ground. One man can saw more timber with it than 2 men in any other way, and do it easier. Send for FREE illustrated catalog, showing latest IMPROVEMENTS and testimonials from thousands. First order secures agency. Address
FOLDING SAWING MACHINE CO.,
168-164 E. Harrison Street, Chicago, Illinois.

PIANOS Slightly used Steinways; 1909 Model Lyon & Healys, and other remarkable Bargains. Lyon & Healy, 80 Adams St., Chicago. World's Largest Music House
Our Great Re-Building Sale is Now in Progress!

Live Stock and Dairy

By Mrs. [Minna] E. Sherman

CONSUMPTION.

THE good English word consumption is a better understood name for the great white plague than the medical term of tuberculosis. Scientific men are not affirming that the bacillus of bovine consumption is the same as that producing the disease in the human family. It is believed by many of the best of the medical men that the human race sometimes has the bovine or cattle form of this disease. Many people understand the term consumption at once, and I will use it here, for there are numbers that are not apt readers that use agricultural publications for information. These people are not ignorant in the larger sense of the word but simply not used to book language. Not long ago I was asked to draw off a Holstein calf's markings for Mr. Jones. We went to the barn; Jo Jones held the calf still, Mr. Jones stood by watching, while Harry Jones also looked on with interest. After completing the outlines, I turned over the application blank and starting to fill it in, asked, "What sex?" There was a moment of doubt. Mr. Jones politely answered, "Yes it is a fine little calf." Harry did not think that answered the question and hazarded the remark, "It is black and white all right." while Jo said, "It's mother is that the white heifer." I made no reply but filled in some other parts of the blank and then said, "Is it a boy or girl?" All three replied in chorus, "It is a girl."

Colds.

While colds are bad for cows and may prepare the way for the reception of this disease, they cannot cause it. The bacilli or seed come from another infected animal and will grow when they find favorable conditions. Light, cleanliness and plenty of fresh air make immune many cows. A better way is to see that no diseased animals are introduced into the herd. This is simple, for if only tested animals are added to the herd, the disease never has a chance to become spread. I do not believe in close stabling of cows; yet it is well to shelter them from the heavy rainfalls. Now it is fashionable to plant eucalyptus trees and these can be made into shelters if the right kinds are planted. The Rudis makes good shelters when planted in rows twelve feet apart.

Family Cows.

The lungs of family cows are often diseased for years, yet with the simple life they lead the animals keep fat and eat well. When the end comes it is often in this way. The cow comes in fresh and instead of giving a full flow of milk the owner is surprised to have only a quart or two instead of a gallon or more. The cow stops eating or eats irregularly and grow thin and soon dies. Whole herds have gone in this way. I had a Swiss milker once that inherited a good dairy herd of fifty cows and a lease of land from his father. He told me, "We had never heard of consumption in cows, so when a few died each year we thought it was bad luck." One year twenty-three fresh cows died within a few months after calving and the rest of the fifty gave so little milk that the man was bankrupt and sold them for what he could get.

Remedy.

When the herd is tested it is no longer thought desirable to destroy the entire herd. The cows that are convicted of having the disease are simply put by themselves and the milk from them is boiled and fed to calves or pigs. The calves of these cows come into life free from the disease and in three years' time a new cow can be in place of every cow removed from the herd. Every cow in a herd should be tested, as it is the best form of insurance from consumption. A new herd is built up before the old one is extinct. The careful work of breeding up a herd of fine cows is retained, and though the individual cow may prove diseased, the inheritance is passed on to healthy calves.

Ranch Tests.

When a cow freshens in an untested herd and gives little milk, the rule has been to try her by giving her a little run; cutting her out of the bunch; letting the cowboy touch her up into a run with the swinging rope. When she stops running, listen for short breathing and husky cough. While it will make many fat cows pant it should not make them cough in a muffled tight way. We have spoken before of the application of the tuberculin test, as well as of the other tests under experiment as to their reliability.

It is surprising how careless people are about consumption in the human family. There is no need of having it except in as rare cases as small pox.

Resolutions.

If we could learn by heart the following as the final summing up of the knowledge of the medical world on consumption it would be well. These resolutions were passed at the International Congress on Tuberculosis, recently held in Washington D. C.:

1. That health authorities should be notified of and should register every case of tuberculosis.

2. That all means should be used to prevent contagion from man to man, which is the most important source of the disease.

3. That all means should be used to prevent contagion from bovine tuberculosis and that the possibility of the propagation of this to man be recognized.

4. That the public and all governments be urged to establish hospitals, sanatoria and camps.

5. That well-considered factory laws, child labor laws, laws regarding women's work, be insisted on.

6. That instruction in school and personal hygiene be given in all schools.

Continued on Page 562.

The Monarch Stump Puller

The Monarch is a Puller constructed on the most correct and scientific principles, and is made of the strongest and best materials obtainable.

The Monarch

Is the most successful and most popular Stump Grubber on the market today.

Write Us for Catalogue of Stump Pullers, Farm Implements, Wagons and Vehicles.

Pacific Implement Co.
133-153 Kansas St. San Francisco

LOS ANGELES PACIFIC CO. BALLOON ROUTE ELECTRIC RAILWAY

Los Angeles Pacific Co
Electric Lines

The Shortest and Quickest Line

LOS ANGELES to the OCEAN

VISIT
VENICE, OCEAN PARK
REDONDO, SANTA MONICA
PLAYA DEL REY

Fish at Long Wharf, Port Los Angeles

Try a Trip on the BALLOON ROUTE DAILY EXCURSION, One Whole Day for ONE DOLLAR. Car leaves Fourth St. 9:30 A. M.

Los Angeles Stations:
Hill Street Between 4th and 5th
Fourth Street Bet. Hill and Broadway

Oldest and Largest in the Southwest

SECURITY SAVINGS BANK
Los Angeles, California

CAPITAL AND RESERVE $1,200,000.00
TOTAL RESOURCES OVER $20,000,000.00

We Pay Interest

4% on Term Savings and on Six Months Certificates of Deposit

3% on Ordinary Deposits

By special arrangement 'Ordinary' accounts may be checked against without presentation of a pass book, and 3 per cent. interest will be paid on the minimum monthly balances.

The Lafayette Stock Farm

Lafayette, Indiana J. Crouch & Son, Props.

Percheron, Belgian German Coach Stallions and Mares

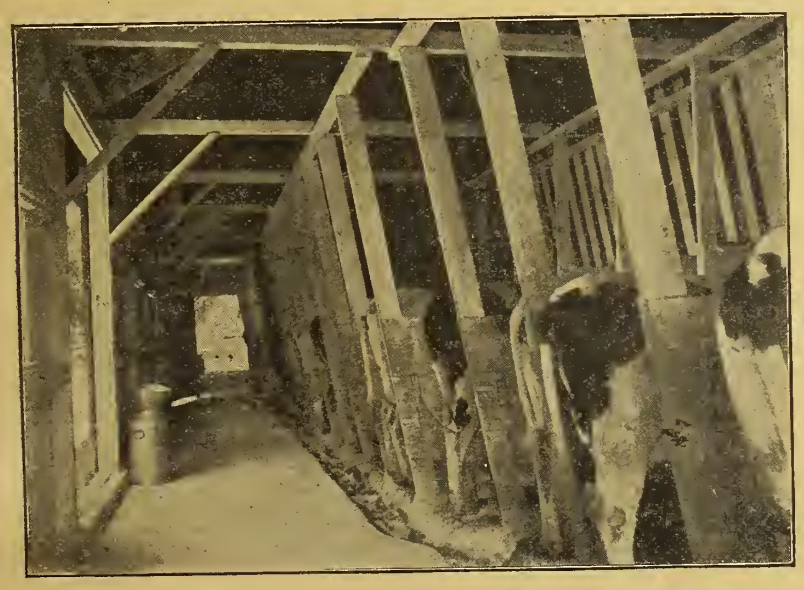
Our last importation of Percheron, Belgian and German Coach stallions and mares arrived in our barns August 1st, among them the prize winners of France, Belgium and Germany, and we can show buyers over 200 head of high class stallions, which we will price as low as any reliable importer can, and give liberal guarantee & terms. If your locality needs a stallion, write us.

J. Crouch & Son
1309 J St. Sacramento, Cal.

A Great String of Dairy Cows

A Public Sale of High-Class Stock Which Should Attract Attention From All Sections of the State. A Rare Opportunity to Buy Stock for Starting or Grading Up a Dairy

WHAT promises to be one of the most important events among the breeders of live stock in Southern California for years is the sale at public auction of the famous San Pedro herd of one hundred Holstein cows and four thoroughbred Holstein bulls on the Palos Verdes ..anch near San Pedro, which will occur December 22, 1908. This herd is the property of Mr. A. C. Heisterman who has spent the last fifteen years in building up the berd and who has succeeded beyond his expectations. Mr. Heisterman has been a very careful breeder and has spared neither money nor energy in breeding and assembling this herd. He has kept a careful record of all the cows, which can be had by those interested. This record is suprisingly large and is a good asset to any herd of dairy cows.



California has certainly made a record on the Holstein cow. On few, if any, other lines of stock has such a record been made. The East has taken to itself all the glory and demanded the reputation, and the prices which go with it, of being the only Simon pure producers of the purest strains of high bred stock. But with the Holstein, the best producers in the world have been bred within our borders. Easterners have come here and paid long prices for some of our stock. Bear in mind, we do not mean lucky buys made by shrewd investors in high bred stock, but purchases from strains which have, after long years of breeding, commanded a place among Holstein fanciers. This San Pedro herd is no exception to this rule of careful selection and breeding. There is some magnificent stock in this bunch which every fancier should thoroughly investigate.

Besides the registered Holsteins there will be offered a few Durhams or Shorthorn milk strain. Some of these are remarkably fine animals both as to amount of milk produced and as to size.

To please the buyer who is not able to command the higher priced stock offered at this great sale a number of grade cows, both fresh and dry, coming in soon, practically all of them of very large capacity, will be sold. The large capacity is not a mere claim for advertising purposes. Records of every cow have been kept and purchasers will be furnished with accurate information regarding them. A positive guarantee is made that every cow will prove as represented, or the coin will be returned. There will also be offered about twenty fine heifers which will be coming in during the next two months.

This sale offers an exceptionally good opportunity for some one to step into the dairy business with the best and heaviest lot of milkers in the state.

The milk route will also be sold. This route offers to a man desiring such a business, a fine opportunity, and will go, as does the stock, to the man with the coin in his hand there to talk business that day

Any one wishing a good cow or a bull to grade up their herd should take advantage of this sale and get started with some good high-bred stock. The sale is for cash and those wishing to buy will not have to bid against time bidders but can be sure of some grand bargains. We give herewith the pedigrees of two famous bulls that head the herd; the other two are eligible to a place in the register.

Prince Wayne Kornbyke, Number 51803 H-F. H. B. Fifteen months old and built on magnificent lines.

Pieterje De Kol's Promise, Number 38060 H-F H. B. Two years eleven months old. A promise of that strain which is making good.

The magnificent qualities of the Pieterje and De Kol blood are too well known to every Holstein breeder in the country to need any extolling in these columns.

This sale is to be conducted by the well known firm of live stock auctioneers of Briggs & Weber of 555 South Los Angeles Street, Los Angeles, California. Both are thorough live stock men and understand the sale business. Mr. Weber having been identified with the dairy business for over twenty years and Mr. Briggs having also conducted public sales of dairy stock for a great many years, puts them in a position to conduct sales along lines calculated to benefit the dairying interest of this section. The cash sale business is comparatively a new venture in the sale business, but live stock should be sold for cash only and we believe sales conducted on this basis will be better for all interested.

Messers. Briggs & Weber handle some of the largest sales in the country and the business-like manner in which they handle them proves that they understand their business.

Those desiring to attend this sale can take Gardena electric car at Third and Hill streets, Los Angeles, get off at the half way house station, walk south 500 feet. Or take the San Pedro electric car at Sixth and Main streets, get off at Sixth and Palos Verde streets, San Pedro, where teams will be waiting.

A free lunch will be served and a great gathering is promised to examine this magnificent herd. The sale will be held rain or shine. Should it rain, the sale will be conducted under cover.

For further particulars call at the ranch or see Briggs & Weber 555-557 South Los Angeles street, Los Angeles, California.

Let us repeat:

There are fresh cows.

There are dry cows which will be fresh within a few weeks or months.

There are young heifers coming in in two months.

Records have been kept to show each animal's performance.

Every cow is guaranteed.

Every prospective bidder is welcomed before the sale to see the cows milked.

It is spot cash or no sale, so you are not compelled to bid against people who buy on time.

There are four fine bulls which would be a credit at the head of any herd.

Milk route for sale.

Free lunch and a great big time.

Creamery Supplies

Cream Separators Milk Cans
Combined Churns Milk Bottles
Babcock Testers Brushes
Butter Moulds Wrappers
Engines and Boilers Milk Coolers
PASTEURIZERS
MILKING MACHINES
Creamery and Dairy Supplies and Machinery of all Styles and Sizes
Send List of Goods Wanted and we will Quote Prices
O. J. WEBER CO.
555-57 S. Los Angeles St.
LOS ANGELES, . CALIFORNIA

300,000 Feet Water Pipe Cheap

ALL SIZES

150,000 feet of this shipment is second-hand pipe, practically as good as new, and is now on sale at a big discount by the Adams Pipe Works, 2025 Bay street. Sizes and prices: ¼-inch 2 cents per foot; ⅜-inch, 2 cents per foot; ½-inch, 2¼ cents per foot; ¾-inch, 3 cents per foot, 1-inch, 4¾ cents per foot; 1¼-inch, 6 cents per foot; 1½-inch, 7 cents per foot; 2-inch, 9¾ cents per foot; 2½-inch, 15 cents per foot; 3-inch, 19 cents per foot; 3½-inch, 24½ cents per foot; 4-inch, 30 cents per foot.
Oil well casing prices and sizes: 2-inch. O. D. 7 cents per foot; 2-inch, I. D. 9 cents per foot; 3-inch, 13½ cents per foot; 3¼-inch, 16 cents per foot; 3½-inch, 17 cents per foot; 4-inch, 20 cents per foot. All pipe is carefully inspected, new couplings and new thread are put on every piece, every joint is guaranteed to be first class, serviceable pipe. Mail orders promptly filled. To reach the Adams Pipe Works in Los Angeles, take car marked Pacific Boulevard, starting east on Seventh street from Broadway. Ask conductor to let you off at Bay street and go east half a block. Phones, F1917, Broadway 1264.

PASPALUM DILATATUM

King of dairying and fattening grasses. The great Australian drouth resister. Primest heavy seed direct from the grower, 4 lbs. (ample for trial) post free, $2.00. Full information.
C. F. JULIUS
Central Bucca, Coffs Harbor, New South Wales

HOLSTEINS

We Have For Sale a Number of Registered Young Bulls and Heifers $100
All our stock comes from the celebrated herd formerly owned by the Pierce Land and Stock Co., the premium herd of Holstein Friesians in California. Oakwoods Stock Farm Co., Lathrop, Cal

John Lynch Breeder of Registered **Shorthorns**
MILK STRAIN
Box 321 Petaluma, Cal.

Berkshires--Shorthorns
My Berkshires took 9 First, 6 Second and 4 Third Prizes and both Gold Medals. 60 Head For Sale.
G. A. MURPHY, PERKINS, CAL.

THIRTY THOROUGHBRED
Poland China Hogs and Pigs
FOR SALE
W. R. McCaslin, R.F.D. No. 1, Rosevelt Ave, Sacramento

The Whiting Jersey Stock Farm Company
Is making the very best strains of blood fresh from the island of Jersey a specialty.
Whiting Jersey Stock Farm Co. Heber, Imperial Co., Cal

Hay For Sale. Buy your hay in car lots. Special attention given to supplying alfalfa to dairies.
E. R. LONG
Bakersfield, California

Geo. C. Roeding, Fresno, Cal., breeder of
Thoroughbred Holstein Bulls and Heifers
Thoroughbred Berkshire Boars and Sows

Thoroughbred Poland China Swine
Black Minorca and Barred Rock Poultry
High Grade Stock of Best Strains.
Young Stock For Sale
M Bassett Hanford, Cal

PURE BRED BERKSHIRES
Young Stock For Sale
Wm. H. Bird Box 6, Compton Cal.

CONSUMPTION.

Continued from Page 560.

7. That colleges require for entrance and for graduation studies in hygiene and sanitation.

It is said if every consumptive could be filled with love for his fellow man enough to prevent his spreading of the disease that twenty-five years would bring it under control. The greatest of all is love, just as the Bible declares it to be. Love that is kind toward others, kind to those not dependent on them, kind in the broader way of loving all mankind. A little of this love would stamp out the "great white plague."—M. E. Sherman.

CREAMERY SHORT COURSE.

On November 24th, the Creamery Short Course at the University Farm at Davis closed, and the members of the class disappeared as mysteriously as they came. The registration in the course reached 25 and was well distributed over the state. Most of the students came directly from the creamery or farm for the purpose of learning more about the handling of milk and making of butter. We are greatly pleased with this first class at the University Farm and doubt if in the future we shall have a more congenial lot of earnest, clean minded young men to instruct.

Mr. Harold Ostergard, as the result of previous experience and attendance upon the creamery course, has been placed as butter-maker with the Colusa Creamery at a good salary. He had two and one-half years' experience in the Fresno creamery and spent last summer with the Hazlewood Creamery Company at Portland.

Mr. George Kloekler, who has been assistant butter-maker at the Ceres creamery for some time, has been engaged as assistant butter-maker at the University Farm Creamery at Davis. We are receiving calls frequently for butter-makers, and as soon as it is generally known that we have men to recommend they will all be placed—who do not prefer to return to their previous employers.

On November 24th a special effort was made to place the students in touch with actual market conditions. To this end, men of prominence were secured to address the class. Mr. C. L. Mitchel, federal butter inspector of San Francisco, outlined the principles of scoring butter, allowing the class to score the various exhibits reserved from the previous regular churnings, following it up by his scores and criticisms. Having previously visited the San Francisco market the students were prepared to receive great good from this excellent demonstration.

Following this, Mr. W. H. Roussel, President of the California Creamery Operators' Association, and also President of the San Francisco Wholesale Dairy Produce Exchange, discussed the cheese trade, illustrating his remarks with references to different cheeses made by the students. He pointed out that we are not as a people using cheese to a sufficiently large extent in our diet and that the possibilities of making money through special brands of cheese in California are worth considering. There are many local types of cheese that command high prices and are worthy of study; they are usually of soft texture, mild flavor, and consumed while comparatively new.

Mr. H. R. Timm, who recently began producing certified milk at Dixon, Cal., outlined the objects and requirements of the business, stating his success so far. He is enthusiastic in his efforts to set high standards and impressed all with the importance of improving the milk supply. His output goes to San Francisco.

Besides local visitors, several creamery men from a distance were in attendance. We hope to enlarge this occasion and make it an annual occurrence.—Herbert A. Hopper, University of California.

For Mehring Foot-Power Milking Machines see O. J. Weber Co., 555-557 S. Los Angeles St., Los Angeles, Cal.

BOOK OF ALFALFA.

The Book of Alfalfa. Its History, Cultivation and Merits, Its Use as a Forage and Fertilizer, by F. D. Coburn, Secretary of the Kansas Department of Agriculture, in its 1908 edition, is on the table of the Cultivator, fresh from the publishers. It is a book of 344 pages, 26 chapters, touching upon alfalfa from its earliest history, yields in comparison with other crops, soils and seeding, cultivation, harvesting, storing, for the dairy, for swine, for horses, for sheep, for bees, also enemies and difficulties and discouragements in growing and, in fact, every point touching upon alfalfa which the grower may wish to know.

It has an excellent frontispiece of Mr. Coburn who has been a great factor in encouraging the culture of alfalfa in the Middle West. It also has a large number of other half tone engravings which increase the value of the book.

As an indication of the scope of the book, in the chapter on pasturing and soiling for cows, it refers to the danger of bloating from pasturing on this crop, gives hints on how to avoid it, how to treat animals affected by it, also other general rules for pasturing.

In the Introductory written by former Governor Hoard of Wisconsin, he says: "I am exceedingly gratified by the preparation and publication of a new and larger work devoted to the subject of alfalfa. The earlier work by Mr. Coburn upon the same subject was in many respects a classic, and I am sure farmers everywhere will now hail with joy the advent of a kindred work by him, still more complete.

"It is strange, this late awakening all over the Union and in Canada, to the feeding value and possibilities of this marvelous plant. Again, it is wonderful to me that within a few years farmers everywhere are being compelled to revise their judgment as to their chances of success with it. A large correspondence on this subject comes to me from every state in the Union and the provinces of Canada, and success is being had in the growing of alfalfa where not more than three years ago it was deemed impossible to make it live. Of course the question of growing alfalfa contains a thousand or more chances for good or poor judgment. Men who are not too conceited, too ignorant or too stubborn to learn by reading other men's experience will go ahead rapidly and soon make a success of it.

"I believe this alfalfa movement is the most important agricultural event of the century. For the production of beef, mutton and milk, the combination of corn ensilage and rightly cured alfalfa hay, furnishes almost a perfect ration, requiring but a small addition of grain feed. Both of these can be cheaply and easily produced on nearly every farm in the land. In my herd of nearly fifty registered and grade Guernsey cows these feeds constitute the sheet anchor of my dairy work.

"No one more literally abets the growth of two blades of grass where one grew before than he who effectively urges the cultivation of alfalfa upon those who are strangers to it, and no one is more truly working for the benefit of agriculture, the basis of all prosperity, than he who proclaims its excellence as the foremost forage."

The book is published by the Orange Judd Company, New York, price $2.00, and should be on the table of every alfalfa grower in the country. This book and the Cultivator one year for $2.50.

Anthrax Cure, Milk Fever Outfits. See O. J. Weber Co., 555-557 S. Los Angeles street, Los Angeles.

"By-the-Way"

Have you ever read anything about the cream separator?

Have you ever seen one?

Have you ever seen a

Tubular Separator

If you haven't seen one, you have missed a great deal and if you are skimming without a separator, you are losing more than $10.00 per cow.

With a Tubular you not only get all the cream, but a richer unwhipped, unchurned grade.

Don't take our word for it, but investigate our claims by trying a Tubular.

Catalog 260 tells how. Write for it.

The Sharples Separator Co.,
WEST CHESTER, PENNA.
Toronto, Can. San Francisco, Calif. Chicago, Ill.

Pioneer Rubber Sanded ROOFING

The Roof that "proves," sun-proof and rain-proof; needs no paint or repairs. Following are a few "Wont's" about Rubber Sanded Roofing:

Won't chip. Won't warp.
Won't tear. Won't crack.
Won't rust. Won't decay.
Won't shrink.
Won't crumble.
Won't need repairing.
Won't absorb moisture.
Won't attract electricity.
Won't need any paint to preserve it.
Won't be affected by any climatic changes or conditions.
Won't cost as much, in the long run, as other roofing.

What Rubber Sanded WILL do is told of in our booklet "ROOF TALK," which will be sent free upon request, together with samples of the Roofing itself.

Pioneer Roll Paper Co
Makers of Rubber Sanded Roofing and Refiners of Asphaltum
Department 11, Los Angeles, Cal.

CUTTER'S Anthrax and Blackleg VACCINES

Are given the preference by 80% of California stockmen because they give better results than others do.
Write for prices, testimonials and our NEW booklet on Anthrax and Blackleg
The Cutter Laboratory
Berkeley, California

Live Oaks Farm

Frank A. Meacham, Proprietor.
Importer and breeder of RED POLLED CATTLE, SHROPSHIRE SHEEP, RAMBOUILLET SHEEP, HORNLESS AMERICAN MERINO SHEEP. Both sexes for sale. Take electric car at Petaluma or Santa Rosa for LIVE OAKS STATION. Address all mail to
Petaluma, Sonoma Co., Cal.

VENADERA HERD OF REGISTERED JERSEYS

I have for sale a number of richly bred young bulls, some of them from cows that have high official yearly records.

GUY H. MILLER,
Route 8, Modesto, Cal.

When writing advertisers, mention Cultivator.

100 Dairy Cows

4 Thoroughbred Holstein Bulls

At Public Sale

Tuesday, Dec. 22, 1908

Palos Verdes Ranch near San Pedro

This is the famous San Pedro herd of thoroughbred and selected grade Holstein and Durham dairy cows. Many of these cows ***are fresh;*** records of all cows are kept and buyers will be furnished with accurate information regarding them. Each cow is ***guaranteed,*** and if not as represented your money will be returned. These cows have ***very large capacity,*** and you are invited to inspect the cattle and see them milked before the sale. This will be a ***SPOT CASH SALE,*** and you will not be compelled to bid against people who buy on time. Herd consists of sixty fresh cows, thirty dry cows coming in soon, twenty heifers coming in within two months.

Registered Holstein Bull, "Prince Wayne Korndyke," 15 months old, No. 51,803 H. F. H. B.

Registered Holstein Bull, "Pietertje de Kol's Promise," 2 years 11 months. No. 38,060.

Holstein bull, eligible to register, 18 months old; Holstein bull from thoroughbred (2-year-old.) This is the finest herd of ***Holstein Dairy Cows*** ever offered to the public. They have all passed inspection and can be shipped to any part of the State; will load on cars free of charge.

Milk Route For Sale
Free Lunch

Place—Take Gardena electric car at Third and Hill, get off at half-way house station, walk south 500 feet. Or take San Pedro Pacific Electric car at Sixth and Main, get off at Sixth and Palos Verde Streets, San Pedro. ***Teams waiting.*** For further particulars inquire of Auctioneers, or

A. C. Heisterman, Prop.
San Pedro, Cal. **Phone Home 251; Sunset 183**

SALE WILL BE HELD RAIN OR SHINE. Should it rain, sale will take place under cover.

BRIGGS & WEBER
AUCTIONEERS

555-557 So. Los Angeles St. ***Los Angeles, Cal.***

Home Phone F3657; Sunset Broadway 5006

California Cultivator

ESTABLISHED 1889

Subscription Price One Dollar per year, payable in advance. Dates of expiration of subscription accounts appear each week on the address label. John Jones 7-08 means July 1, 1908. Notify us by mail if you desire to discontinue.

Thursday, December 10, 1908

Address All Communications to

CULTIVATOR PUBLISHING CO.
115½ No. Broadway, Los Angeles.
733 Merchants Ex. Bldg., San Francisco.

Copy for Change of advertisement must be in office on Saturday preceeding date of issue. New advertising copy should reach the office not later than Tuesday to insure insertion.

CULTIVATOR PUBLISHING COMPANY
H. A. PERKINS, EDITOR AND GEN. MGR.

C. B. MESSENGER - - - - Associate Editor
FRANK H. THOMAS - - Advertising Manager
H. G. HUTCHINS - - Subscription Manager

EDITORIAL CONTRIBUTORS:

J. W. MILLS - - Deciduous and Citrus
JOHN ISAAC - - - - Horticuiture
J. B. NEFF - Walnut Culture and Irrigation.
Mrs. M. E. SHERMAN - Live Stock and Dairy
Q. A. LOBINGIER - - Vegetable Garden
RALPH E. SMITH - - Plant Pathology
S. A. PEASE - Plant Diseases and Injurious Insects

Entered at the Post Office at Los Angeles, California, as Second-class matter.

Contents

STATE CAPITOL, Cover.

STATE FRUIT GROWERS' CONVENTION, 555.

TULARE COUNTY ORANGES AND LEMONS, 555.

CITRUS.—Fungous Disease of Scale, 556.

DECIDUOUS.—Improving vineyard Soils; Apple Packing, 557.

LIVE STOCK AND DAIRY.—Consumption; Creamery Short Course; Book of Alfalfa, 560, 561, 562, 563.

EDITORIAL.—State Convention; Forest Protection; Citrus Fair; Polish Their Fruit; Fruit Exposition; Crop Breeders' Association. 564.

AGRICULTURAL NOTES OF THE PACIFIC COAST. Northern, Central, Southern, the Coast, 565.

POULTRY.—Chicken Chat; How to Build Cheap Bantam House, 566, 567, 568.

BEES AND THEIR CARE.—Organized Bee Keepers; Introducing Queens; Among the Bees, 569.

QUERIES AND REPLIES.—Planting Nuts in Field; Spineless Cactus; Lawn Seed; Smut; Planting Alfalfa; Planting Fruit Trees; Pruning Peaches; Mushrooms; Cornichon on St. George Root; Cement in Plaster; Nursery Stock; Arsenic to Hogs, 570, 571.

VETERINARY.—Bad Feet, 571.

HOUSEHOLD.—If I Had Known; Sargent's Sacrifice; Country and City Life; At the Commencement, 572, 573.

PRODUCE MARKETS.—Los Angeles Market; San Francisco Market; Citrus Markets, 574, 575.

STATE CONVENTION.

A convention which will be valuable in many of its results was the one closed last week in Sacramento. As to attendance there was nothing remarkable other than that it was rather small. In total registration, not far from two hundred, nearly all of them from outside of Sacramento, wrote their names on the big register.

But we trust the results will not be gauged by the size of the audience which greeted the speakers. And we believe it will not, for many steps were taken looking toward legislative and other action which will, we trust, lead to good results for fruit growers.

While fruit marketing had but small place on the program, it was, through the President's address and otherwise, brought to the notice of the fruit growers in a way that will make them very thoughtful as to the possibilities of marketing fruit which California's climatic and soil conditions have made possible.

The next question of interest, we believe, was that of soil conditions. There was not only continual asking of questions, but most intelligent discussion. The one calling for most spirited discussion was that on humus.

The anticipated report of the legislative committee appointed at Riverside was not made, but the committee will formulate its line of action and present it direct to the legislature at the next session.

All told, it was a lively session, and one which was full of action from start to finish.

FOREST PROTECTION.

Mr. Olmstead, who came from Washington to deliver an address before the convention, remarked that it seems a far cry from fruit growing to caring for forest trees on the high Sierras. But the relation is very close, as he showed most conclusively by referring to many sections, especially of the old world, where productive industries have been wiped out of existence by destruction of the forests on water sheds. He showed conclusively the direct as well as the indirect influence of these watersheds. This, to say nothing of other benefits coming to fruit growers from a convenient source of lumber and of fuel. Those who heard the address realized more than ever the necessity of fruit growers joining hand in hand with government rangers and state wardens in more complete protection of the forests which are such a great asset of the State.

Californians have already a more perfect appreciation of the necessity of protecting these water sheds than any other section of the United States. More disastrous fires have occurred during the past year in Eastern and Middlewestern States than all told in the history of California. However, the fires which have occurred here, especially the one of such magnitude in Humboldt county, where vast property and many lives were lost, should be a warning to Californians to be on their guard.

THE CITRUS FAIR.

The careful observer at the Tulare County Citrus Fair, which closed a few days ago at Exeter, cannot help but be impressed by the possibilities of Tulare county as a citrus producer. There was fruit of very high grade both in lemons and oranges. There was much taste exhibited by the different communities in the arrangement and displaying of their fruits. In fact, there was much more artistic skill manifested in this matter of arrangement than there was scientific skill in the selection of the fruit exhibited. In the best tray of thirty pieces of fruit might be seen fruit of the finest grade, together with that of a much lower grade. There seemed to be no ideal toward which the grower was striving. This was true botn as to size, shape, weight, fiber, grain, and texture of the fruit. Alongside of an ideal, almost perfect Washington naval would be another orange of more like an apple shape, the grower, or those selecting the fruit, seeming to hold to the idea that if it was a fine orange it would pass.

If Tulare county people before the next fair will make a schedule, or score card, or scale of requirements of the perfect orange and urge their growers to study that set of rules and select accordingly, it will lead to the forming of ideals and requirements in fruit culture which will compel more careful selection of nursery stock, possibly pedigreed. This will surely lead to a higher average standard of orchard trees and ultimately to more perfect commercial pack and to a higher reputation for Tulare county fruit. This is not said in a fault finding spirit or to hold up Tulare people to the State as producing an inferior grade of fruit. On the contrary, purely in the expectation that through this and other criticisms and through the fruit growers' own keen observation, perfection will be reached and greater prosperity come.

POLISH THEIR FRUIT.

Besides the above criticism, we may be permitted to suggest one other change which will, we believe, lead to more satisfactory results in future exhibitions. Practically all the fruit which was exhibited there had been polished with a cloth until it fairly shone. This in some citrus competitions would have absolutely disqualified the fruit from competition. The natural bloom which adds such a richness to the appearance of our fruit could have been kept on these oranges and would have added greatly to the attractiveness of the display. But the old cloth had been brought into requisition and put upon every piece a polish which almost equalled that of a mirror.

This was not only true of the citrus fruits, but a display of the most magnificent Arkansas black apples which we ever saw was treated the same as the dago fruit peddlar treats his at the fruit stand, and polished until every apple shone.

Nature is doing her part magnificently in Tulare county. The growers will meet the situation and do their part, and if we mistake not the next fair which will probably be held at either Dinuba or Visalia will show a marked advance in scientific horticulture.

FRUIT EXPOSITION.

The attention which is being attracted to the apple industry and to the production of a fruit of much higher grade by the coming National Apple Show at Spokane is an indication of the good which may be secured by other branches of the fruit industry by such expositions. At this show premiums aggregating over $35,000 are being offered, one of which is a $1000 gold coin premium for the best single apple exhibited. These facts are causing people to take notice that apple growers, especially in the Northwest, are doing things.

The Citrus Fair held last week in Tulare is primarily meant to attract attention to the section of Tulare county along the foothills known as the citrus belt. It is more in the nature of a good natured competition between neighbors and communities to make a neighborhood exhibit rather than an inspiration to the greatest endeavor to produce the very highest quality of fruit. The citrus fairs formerly held in Southern California were much the same. They were on a somewhat larger scale and attracted great attention to that section and possibly were the means of increasing planting and causing many to go into that attractive industry. But there was not that intense competition which is now prevailing in the effort to make a showing of the very highest grade fruit which may be grown on an apple tree in any part of the world. Citrus and other fruit growers of other parts of California might well consider the advisability of some such great competition which will be the means of greatest endeavor to produce fruit of only the most perfect grade.

CROP BREEDERS' ASSOCIATION.

We have before us the premium list of the second annual exhibition of the Maryland Cereal and Forage Crop Breeders' Association. This association held its meeting at Baltimore, Maryland, last week and offered cash premiums in many classes of corn, wheat, rye, barley, clover, buckwheat, timothy hay, and other forage crops.

The breeding up of the seed of corn and other products has secured for the farming industries such a material advance that it has attracted attention tbe world over. It is a satisfaction to know that this association is enlarging its scope of work and giving us an example of what should prevail in every branch of farming industry. In California this has been found especially true in the selection of seed for alfalfa, and at present in the cereal experiments at the State Farm. May this selection and breeding up be continued until many times two blades grow where one now grows.

Shop Talk

CLUBBING ORDERS.—If you failed to save the list of clubbing offers which was printed in our issue of November 19th, you should write in for it at once. Drop us a card and it will be mailed to you. It is an opportunity not to be overlooked for getting your favorite magazines and books. They may go to one or separate addresses, so it is an opportunity for neighbors and relatives to share the expense at greatly reduced rates on any combination.

CHRISTMAS PRESENTS.—Don't forget the **CULTIVATOR** as the nicest and easiest present you can give to your friends this year. The order blank is on another page, and you need only fill it out and mail to us with a dollar bill or money order. We will then start the new subscription and stop it at expiration, and also give you credit on your own account for three months as a premium for it.

To save you any trouble, too, we write the party to whom you send the subscription, giving your name and the length of the subscription. The order blank explains itself. Look it up.

Agricultural Notes of the Pacific Coast

Northern California

Ferndale, Humboldt county, gardeners are still marketing fine large strawberries.

Land owners in the Antelope district near Red Bluff are sinking irrigation wells which are proving successful.

One stock owner at Redding recently added seven high grade pure blood bulls to his stock ranch.

A large consignment of black bass was planted in the streams near Healdsburg and the Russian river.

The recent rain was quite general over the Sacramento valley and was the first rain of any importance this season.

A State Game Farm is to be established at Woodland, Yolo county, by the State Fish and Game Commission.

Butte county assessor returns make a showing of 787,347 bearing fruit trees, while of non-bearing trees there are 160,999.

Recent rains in the northern part of the state have gladdened the hearts of cattlemen and prices for cattle are now on the up grade.

The Woodland winery from its beginning on the 11th of September to the end of its run last week crushed over 2000 tons of grapes.

The dried fruit crop of Yolo county is nearly all out of the warehouses and it is thought before the first of the year it will be entirely cleaned up.

The fruit inspector at Eureka has been recently returning a large number of boxes of fruit shipped to that section which were badly infested with scale.

Central California

Water will be turned into the ditches of the Turlock Irrigation District by December 15.

Planters of deciduous fruits are already finding shortage along some lines of trees which are desired to fill out sorts.

One citrus orchard near Porterville planted two years ago supplied one full car load of oranges this season from ten acres.

Citrus packing houses of Tulare county are again busy places, sending out great quantities of fruit for the Christmas trade.

Kings County Poultry and Pet Stock Association meeting at Hanford last week was a marked success in every respect. R. J. Venn of Fresno acted as Judge.

New pumping plants are being installed in the neighborhood of Tulare and as a rule are successful in supplying a good quantity of water for irrigation purposes.

At a meeting of the Country Life Commission in Sacramento last week, members claimed that California needs ten to fifty thousand intelligent Chinamen to do farm labor.

A negro colony recently formed in Kern county is reported to have already sold 200 parcels of land ranging in size from 2½ to 40 acres. The Santa Fe railroad runs through the colony.

Up to November 25, 2660 carloads of apples had been shipped from the Pajaro valley. It is expected with continued good weather to ship 20 to 25 cars daily from Watsonville alone for the next few weeks.

Southern California

Oxnard farmers are making an effort to induce Conductor Neff to hold an institute there in the near future.

Frost caused considerable loss to tomato growers in Fullerton, Placentia, Whittier and La Habra last week.

An experimental grove of eucalyptus trees will be planted this year by the government above Vallevista, Riverside county.

Oxnard pigeon breeders are planning to ship a number of fine birds to the third annual exhibition of the California Pigeon Club at Oakland.

Imperial Valley people are talking about cotton growing, developing large orange industry, and in the meantime have a savings bank proposition in alfalfa.

The Farmers' Institute at Hemet last week was opened by Mrs. Frank Metcalf, editor of the Poultry Department of the Cultivator, who talked on the raising of young chickens.

Halliday Brothers of Coachella last year cleared $1000 on two acres of crystal wax onions and now on the same land they have a crop of sweet potatoes which will bring them $300 per acre.

Potato growers in the neighborhood of Fullerton are thoroughly aroused against the potato rot which has occurred in many of the sweet potato fields of Orange county. Fullerton has shipped something like 15,000 sacks of spuds which makes any menance to the industry such as calls for strenous action. Prof. Ramsey of the Pathological Experiment Station is investigating the trouble.

The Coast

Horse breeders of Utah county, Utah, have organized for the sake of encouraging the breeding of better horses and of making that industry one of the greatest factors in Utah's advancement.

A shipment of sweet potatoes from the Orient into Honolulu was found badly infested with a variety of ant which it was feared would prove disastrous and all were fumigated before being allowed to land.

The Hawaiian Agricultural Experiment Station is issuing a bulletin on its fruit marketing investigations. The Islands have found it necessary to organize if better results are to be secured in marketing fruits.

Twenty of the choicest boxes of prize winning apples which are to be displayed at the State Horticultural Society meeting at Portland, Oregon, next week, are to be shipped as a compliment to King Edward and to Emperor William.

Director Pearsons of Chicago in an address before the classes of Whitman College suggested that the boys build up their physical health and strength by hoeing potatoes and getting back generally closer to the soil instead of injuring their bodies by playing football.

A Cultivator representative recently reports a pleasant trip to Ashland, Oregon. He reports this a most beautiful little city in the most beautiful Rogue River Valley. Never saw such apples, and would like to go again in the berry season. He missed the orange groves, but otherwise found crops about as in California, with the people prosperous and happy.

Air Dried Spruce Boxes

FRUIT, EGG, BUTTER AND ALL OTHER KIND

C. A. Smith Lumber Company

Correspondence Solicited BAY POINT, CAL.

SEED OATS

We have the largest stock in the State

Globe Grain & Milling Company

925 EAST THIRD ST., LOS ANGELES

Main 542 Home Ex. 542

George B. Warner's Orange County Nurseries

Established 1889

Grower and Dealer in Citrus and Deciduous Trees of all Standard Varieties

Soft Shell Walnut Trees, 1, 2, and 3 years old. Grafted Placentia on Native Black Walnut Root and Soft Shell Root. Street and Ornamental Trees, Palms, Dracænas, Blue, Red and Sugar Gums (large stock.) Write for prices.

Sales Yard—Corner Sixth and Main
Residence—Tenth and Bush Sts
Santa Ana, California
Phone—S. S. Red 92

TREES We have a full line of Nursery Stock, including citrus and deciduous fruit and nut trees: Also eucalyptus trees, 15 varieties.

ROSE BUSHES, ORNAMENTAL, SHADE AND STREET TREES.

We publish a price list, a descriptive catalogue. and a special Eucalyptus pamplet.

Orange County Nursery & Land Co.

Main office and Nursery
Riverside Branch, Cor. Market and 7th, Sts.
Corcoran Branch, Whitely Ave.
Fullerton, Cal.

SEEDS

TREES PLANTS BULBS

If you are interested in the Best Seeds, Etc., write for our 1909 Seed and Plant Annual, which we will mail to you free. Please mention this paper.

Trumbull Seed Company

Successors to Trumbull & Beebe

61 California St., San Francisco

Grafted Walnut Trees

WHO CAN BEAT THIS

13,600 pounds at 17 cents per pound orchard run sold to Fay Fruit Company 1907 off 10 acres, trees set eight years. This year, 1908, sold 16,000 pounds from same orchard to Guggenheim Company. This variety is the genuine grafted "Placentia Perfection" soft shell walnut. I have 10,000 yearling trees this variety for sale from 8 to 18 feet high. Corky time prices.

Albert Fuller

Corner McFadden and Lyon Streets. Phone Sunset Black 2710 **Santa Ana, Cal.**

PER 2 BUSHEL SACK **$1.95** PER 2 BUSHEL SACK

Buy the World's Famous Egg Food No. 4

MIDLAND

IF YOU WANT EGGS
YOU WILL FEED NO OTHER.

Used by the largest and best breeders in the country. Thousands of poultrymen are using it, and it is the acknowledged standard of the world. Haphazard feeding is no longer profitable. Try Midland Food and be convinced.

Petaluma Incubators and Brooders

The acknowledged standards of perfection. All poultrymen who have used these machines have supreme confidence in their ability to hatch and breed. Hence their ever increasing popularity. Winners of the Gold Medal at the St. Louis World's Fair for the greatest hatch, with 40 different makes of incubators in competition. How's that?

St. Louis, Mo., Dec. 8th, 1904.—Petaluma Incubator Co., Petaluma, Cal.: My Dear Sir—The awards have been held up owing to a controversy between the Exposition officials and the national commission, but today I am able to state the award of a gold medal on your Petaluma Incubators has been confirmed. You are at liberty to make use of this in any way you see fit and in due time the diploma will be issued and the medal obtainable. Congratulating you upon this evidence of the merits of your incubators, in which there was very great competition, I beg to remain, yours very truly, J. A. Filcher, Commissioner.

And Now Comes New Reward for Merit

Read the following telegram received from the Lewis & Clark Exposition at Portland:
"Petaluma Incubators and Brooders just awarded Gold Medal at Lewis & Clark Exposition."

WRITE FOR CATALOGUE 47—A BEAUTY

Petaluma Incubator Co.

Main Office and factory, Petaluma, Cal., Box F.
Los Angeles, 113-115 North Main Street.
San Francisco Office and Salesroom, 83 Market St.

Egg-More

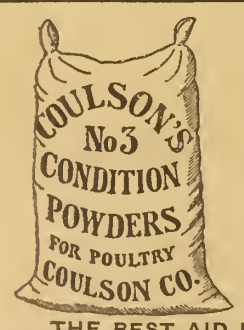
is not a strong tonic and stimulant, but a highly nitrogenous, concentrated Poultry Food, very rich in protein. A little fed with good grains will keep hens healthy and make them lay lots of eggs. Have you tried it? Many have and are pleased. Here is just one:

F. W. Healy, the well-known banker and fancier of Pasadena, writes: "After hearing others praise Egg-More, I determined that if there was anything to keep hens laying through the fall and winter months, I wanted it. I bought a package of Egg-More and fed it and the improvement was very marked. Keeping on with it I soon proved the truth of your statement that 'you can't put all your eggs in one basket if you feed Egg-More.' I have raised poultry nearly all my life and for twenty years in California, but never did my hens lay so well as since I began to use Egg-More. I consider it the best egg producer on the market, and I do not intend to be without it."

You better try it. For sale by many dealers at 12½ lbs $1.00; 25 lbs., $1.90; 50 lbs., $3.60. If not by yours we will prepay freight on sack within 400 miles.

West Coast Mill

707-709 So. Griffin Ave., Los Angeles, Cal.



Coulson's No. 3 Condition Powder

THE BEST AID IN GETTING THOSE HIGH-PRICED EGGS.
It acts as a tonic and digestive. Enables hens to lay more eggs during fall and winter.
Our FREE booklet, "THE RIGHT WAY," gives full particulars.
SOLD BY DEALERS EVERYWHERE.
Manufactured only by
Coulson Poultry & Stock Food Co., Petaluma, Cal.
Germain Seed Co., Distributing Agents, Los Angeles, Cal.

White Wyandottes

My San Jose Winnings: 1st, 2nd and 3rd Cock; 1st Cockerel; 1st, 2nd and 3rd Hen; 1st and 2nd Pullet. The above winnings were made out of ten entries.

Box 60, R. No. 1 Mrs. C. D. Hubbard San Fernando, Cal.

Profit in the Poultry Yard

We solicit short articles of a practical nature from the fancier and utility breeder, giving their experience with poultry. All inquiries pertaining to feed, management, disease and its prevention will be answered through these columns.

CHICKEN CHAT.

"THE time has come, the Walrus said,
To talk of many things,
Of ships and shoes and sealing wax,
Of cabbages and kings."

And it's quite time to talk about that new incubator, if you haven't an old one that is good. I have declared myself in favor of the old hen as a hatcher of the best and longest lived breeders, but there is no use trying to deny the many good features of the incubator. The first one, of course, is the ability to use it when we, not Biddy, will to do so. The next is the increased capacity of the incubator, as few early hens can be persuaded to sit. Then, I have thought that by setting the eggs from the winter layers in incubators, winter layers would be propagated, while if we waited for Biddy only spring layers would be bred from, which would result in less and less winter layers being raised.

It's a wonder some incubator manufacturer hasn't thought of this and made capital out of it long ago, but they have thought of a plenty as it is.

Now, in selecting an incubator, remember that it doesn't take any more oil to run a 200-egg one than a 100 one, and no more time, so get one large enough to pay. If you haven't enough eggs to quite fill it, trade eggs with some good neighbor or buy enough more. Trading eggs might not prove satisfactory, as the neighbor might think you were working her like a woman I heard of once did. She borrowed butter of her neighbors by turns when butter was a big price in winter, selling her own, and repaying them when butter dropped down in the spring until her scheme was discovered. Sometimes one can put in 100 of one's own eggs and 100 for a neighbor, thus getting pay for the oil consumed and a little more.

I think two cents an egg is the rule for hatching in most places, and is surely little enough.

Sometimes one can get a bargain in a secondhand incubator, as a machine which might not do for one will hatch well for another. I owned a very fine Perfected Excelsior once, which never hatched over 50 per cent for me, owing to the jar the children made affecting the thermostat, which was very sensitive. It was a beauty so I sold it to a neighbor who had no children, and who gave it a quiet place in a furnace heated, little used sitting-room, and had a 75 per cent hatch the first time, her first experience with any machine. This was very satisfactory indeed. So you may be able to pick up a bargain like this somewhere. But whatever machine you use be sure to follow the directions that come with that particular make of machine, for the manufacturer thereof surely knows how his own machine should be run.

Set it on the level, and don't rely too much upon the cheap levels sent with it. Get a straight edged bottle, and half fill it with water, and use it for a level. Nine times out of ten it will act more satisfactorily than any spirit level you will be likely to have around.

If there is much jar on the floor where your incubator is to be set, cut old rubber boots into small squares, and put several thicknesses under each leg. Be careful about the position of the thermometer; it should rest about on the level with the top of the egg. That is, the bulb of mercury should. The top of the bulb and the top of the eggs should be about the same. If the bulb drops below the egg, the heat will be too great, while if it sets above it the heat will be insufficient.

A lady came to me in deep trouble one day. She had run a new machine through twice without so much as a sign of a chick. I asked where the eggs came from and found she had bought them of farmers who were having good hatches under hens. I asked all sorts of questions, but she seemed to have run as closely to directions as any one could do, so I thought her thermometer might be at fault, and asked her to bring it down for me to test beside mine. It was a fine one with a block of wood to keep it in corect position (a feature I was not slow in copying for my own use, later.) It tested all right, but as I went to take it from the machine, she remarked: "I didn't have it set right." "How else could it be set?" I demanded. "Why I set it up on end," she replied. So there was the trouble. The thermometer was set so that the bulb rested on the screen wire at the bottom of the egg, and they were over-heated all through, and further inquiry developed the confession that she had turned the blaze away up so as to heat them quickly. Cooked every egg at the start, you see.

I explained that the blaze must never be turned higher than to keep the 103 degree, at any time, as there is where so many chicks lose their little lives.

"But," she complained, "it takes so long for them to heat up." I told her to let it take 24 hours rather than cook them again, and her next hatch, with the thermometer rightly placed was very good, and she never had another failure.

How many would have written the manufacturer demanding the return of their money! But she was sure the fault was in her own management, and patiently persevered and came out a winner at last. And, my friends, that very patience and perseverance is what we call "luck." It is, but it should be spelled with a big P, thusly, PLUCK.

The first inquiry I made in regard to buying an incubator was to that veteran—Rankin—manufacturer of the Monarch. When his letter came, we turned it upside down and sideways, but couldn't read one word of it. We showed it, finally, to our family doctor, who was an expert at reading handwriting, and he had no trouble whatever in making it quite plain, but we didn't get a Monarch. Instead we got an old-fashioned Hammond, which was simply a big box of sawdust, with a tin heater box and an egg drawer. No thermostat, no regulator of any kind. And yet I had some 60 per cent hatches in even that primitive affair.

How many eggs I cooked I don't like to remember.

A cousin made a machine that hatched as many, by taking horse ma-

GENASCO
THE STANDARD OF EXCELLENCE
TRADE MARK

Are you tired of mending your roof?

Genasco
Ready Roofing

is made of Trinidad Lake Asphalt and gives you long years of service. Doesn't dry-out, crack, pulverize, rot, nor rust. Saves you trouble, time, and money.

Mineral or smooth surface. Ask any dealer, and stick for Genasco. Look for the trade-mark. Write for Book 35 and samples.

THE BARBER ASPHALT PAVING COMPANY

Largest producers of asphalt, and largest manufacturers of ready roofing in the world.

PHILADELPHIA
New York San Francisco Chicago

You Get the Most for Your Money

When buying ***"Quality S. C. White Leghorn Chicks"*** from us at 10c each, because we give you ***FREE*** the "Chick Book," containing full instructions for raising them; with every order for 200 or more.

Rancho Los Encinas
R. F. D. 76, Glen Ellen, Cal.

GUTTING'S SUPERIOR WHITE ROCKS

Won 9 firsts out of a possible 10 and all specials and many other prizes at the great L. A. C. P. A. and Pomona Shows last winter. Place your order now for exhibition birds for the winter shows. Eggs now $3 per setting. Send for circular.

E. GUTTING 134 W. SLAUSON Los Angeles, Cal.

F. E. Baldwin's
WHITE LEGHORNS

THEY LAY
THEY PAY
At Every Pop
THEY SHOW
THEY GO
To the Very Top

Cup for Best Display, Petaluma, '07. Trophy for best display, San Jose, '08. Send for Prices and Free Booklet.

46 Washington Ave. - San Jose, Cal.

Buff Orpingtons

Sullivan's COMMONWEALTH STRAIN is bred for egg production, has won the cream of the prizes at leading shows, from Seattle to the World's Fair. We did not show at the State Fair this year but have better stock than ever, and want you to send for our Prize Record and watch the later shows that we win.

Mr. & Mrs. W. S. Sullivan,
AGNEW, SANTA CLARA CO., CAL.

Black Minorcas
Exclusively
"Birds That Lay and Win"

Winnings at Los Angeles, 1908: Cocks, 1, 2, 4, 5; Cockerels, 1, 2, 4, 5; Hens, 1, 2, 3, 5; Pullets, 1, 2, 3, 4, 5, Pens, 1, 2; Cup for highest scoring Minorca male in show. Stock and eggs for sale. Catalogue free.
H.A. Wheeler, Box 123, Lordsburg

YOU CAN BUY A CHEAP INCUBATOR
But Is It Fire-Proof? Is It Insurable?

Why Take Risks when you can buy a **Cyphers Fire Proofed Insurable Incubator**—for years the leader in hatching **more and stronger chicks** than any other? Our 212-page Poultry Guide Book is full of valuable poultry information, as well as illustrated description of these Insurable Incubators. It is **Free** if you send us names and addresses of two acquaintances who keep poultry.
CYPHERS INCUBATOR COMPANY, Buffalo, N. Y.
Oakland, Cal.; New York City, N. Y.; Chicago, Ill.; Boston, Mass.; Kansas City, Mo.

White Wyandottes The best fowl for all purposes. After years of experiment they prove it. Eggs for setting from great laying strain $1.50 and $2.00 per 13. No incubator lots furnished. Orders booked now for delivery after Dec. 1st. A few choice males for sale. ***Wm. C. Parker, 111 Pacific Ave., Santa Cruz, Cal.***

Now is the time to hatch **BANTAMS**
Golden Sebright, Buff Cochin, and Light Brahma Eggs, $2 per 15. Prize winners.
M. E. Dillingham Box 67, San Gabriel, Cal.

nure and packing it as for a hot-bed, and laying the eggs on straw covered with straw and boards, he claimed, but I never saw the "incubator" work.

We then hired a carpenter and had a hot water machine made to order, at a cost about the same as a good reliable machine, and one which gave little satisfaction, and the galvanized iron tank was soon full of holes, so that was money wasted. Since, we have bought a good many different makes, and find all of them will hatch a fair per cent of the fertile eggs, if carefully attended to.

But it is easier to hatch the chicks than to get them raised, so this will be "continued in our next," with a chapter on the care of brooder chicks. —Mrs. Frank Metcalf.

HOW TO BUILD A CHEAP BANTAM HOUSE.

First, get a dry-goods box about 3 feet square, and 3 feet high. Put a slant roof on it, and cover it with a good roofing paper which is cheaper than tar paper in the end.

The sides should be covered with the same roofing, leaving a space about one foot, six inches wide for a door on the south side of the house, and a space 8 by 10 inches for a window, which should be fastened in with strips of pine about ½-inch square, fitting as tight as possible.

The door should be made from a board free from knots or cracks, and must fit tight. Put the doorstops as close as you can, and have the door shut close.

Now build a droppings board, about 12 inches wide, the whole length of the north side, over which place a roost, and hang a muslin curtain in front to keep the birds warm on cold nights.

Next, put two or three nests under the droppings board about 6 by 8 inches and 8 inches deep.

For the scratching shed take a box three or four feet square and about two feet high. Make a slant roof, and cover the same as the other parts.

Put a door 1 foot 6 inches wide, and a window on the east side, and a window on the south side, having both windows arranged so that they will slide back, leaving only a screen of ½-inch mesh wire.

Now have a door, with a slide in it, between the two apartments.

A ventilator will be a great improvement to the house, and is very easy to make. Cut a hole about 2½ inches square in the door of the roosting room, above the window, cover it with muslin stretched, and put a slide over it, which should be closed only part way on cold nights.

You have here a house which will keep from ten to fifteen bantams comfortably.—The Standard.

GEESE.

Goose breeding is not practiced much as an exclusive industry, but can often be made a profitable side line to poultry or ordinary farming. They require but little care and food where good pasture is to be had.

The gander is usually a trifle larger than the goose, has a larger head and neck, but is not as deep-bodied as the goose. The gander has a louder call, also.

Two geese are usually allowed for one gander. The first year of their maturity, young geese lay from eighteen to twenty-four eggs. The second year there is usually an increase of a dozen over this number.

Goose eggs are often set under hens.

Chicks 10c and Up

Send today and get our price list on 19 varieties of thoroughbred chicks and eggs. Prices 10c and up. We can supply chicks in any number. Right now we are hatching several thousand per week. We ship them safely to all points on main lines in Cal., Nevada, and Ariz. Write us; we will be glad to quote prices. We are here to stay, and are the originators of the baby chick business in Southern California. Over 230,000 chicks, ducks, geese, and turkeys have been sold by us so far this year. Largest baby chick dealers in the world.

Pioneer Hatchery Co.
108-112 E. 8th St. Los Angeles, Cal.

Get Your Share
OF THE
High Priced Eggs
BY FEEDING
Coulson's Egg Food

IT TURNS FAILURE INTO SUCCESS, by enabling you to secure eggs in the fall and winter while prices are high.

Improvements have been effected in the composition of the **EGG FOOD** during the past year so that it is now richer in the various nutrients required by the laying hen, and is a better feed than ever before. Proof of this is had in

Actual Results

By Lewis Herbert of Penn Grove, (near Petaluma, Cal.). Began feeding 1900 hens **COULSON'S IMPROVED MASH EGG FOOD** April. Profits for each month over cost of feed:

May	$125.00
June	125.00
July	200.00
August	240.00
September	170.00

October 15th was clearing over $6.00 a day. Feeds 1¼ sacks **IMPROVED MASH** and 1¾ sacks of wheat a day.

COULSON'S BALANCED RATION POULTRY FOODS ARE GUARANTEED to contain nothing but wholesome ingredients. **OUR GUARANTY IS BACKED BY A $500.00 BOND** deposited with the Petaluma National Bank.

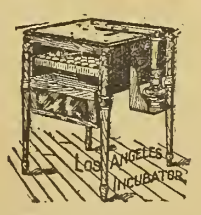
We have agents selling our Poultry Foods in nearly every town in California. If you can not obtain what you want from your dealer, write us and we will tell you where to get it.

Manufactured only by

Coulson Poultry and Stock Food Company *Petaluma, California*

GERMAIN SEED CO., Distributing Agents, Los Angeles, Cal.

Stop That Guessing



The
Los Angeles Incubators

Are now equipped with a moisture guage that will accurately register the moisture; relieves the operator of all guess work and assures better hatches than ever.

Henry Albers Co., 534 So. Main Street Los Angeles

Trap Nested White Leghorns

I trap nest every bird one year before I put them in my breeding yards, and no bird that has not made a record of 13 dozen or better per year as pullet is used. I cannot afford to breed neither can I afford to sell eggs from a hen that has not made this record as a pullet. I mate 15 hens to a well matured cockerel or yearling cock bird. My breeders have roomy yards, thus assuring strong fertility. A few choice cockerels for sale.

Eggs $1.50 per 15; $7.50 per 100; $60 per 1000.

S. E. Gregg East Adams St. Riverside, Cal.

Excelsior Egg Food

Mr. W. W. Howard, the White Leghorn expert, is feeding Excelsior Egg Food exclusively. Mr. Howard's flock is noted as an egg producing strain. If you are not getting satisfactory results, try Excelsior Egg Food.

ExcelsiorScratchFood

Is just what you have been looking for. Give it a trial and you will never be without it.

EXCELSIOR

EXCELSIOR

None Others So Good

No others "just the same." Insist on **Excelsior** or write to us direct. Mention Cultivator.

Excelsior Cereal Milling Co.

242 Central Ave.
Los Angeles, Cal.

West Coast Seed Co.

Don't plant poor seeds—get the best.
Send for free catalogue and price list.
Also of the best

POULTRY SUPPLIES and INCUBATORS

115 W. 7th Street, Los Angeles

Poultry Supplies

To Be Successful:

Buy Petaluma Incubator and Brooders

Feed Midland Poultry Food
Makes Hens Lay

Get Our Prices on Egyptian Corn, Swift's Beef Scraps, Bone Mills, Clover Cutters, and all Poultry Supplies. **Send for Our Large Illustrated Catalogue.**

Aggeler & Musser Seed Co.

113-115 North Main St. Los Angeles, California

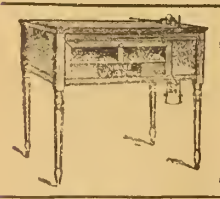
Southern California Agents for Petaluma Incubators and Brooders and Midland Poultry Food

When writing advertisers, mention Cultivator.

WANTED

1600 GOOD EXHIBITION POULTRY
AT THE
Poultry Breeders Association Big Show
Chutes Park, Los Angeles
Dec. 31st, 1908 to Jan. 6th, 1909

SEND FOR PREMIUM LIST TO
Dr. S. E. Salisbury, Secretary, Monrovia, Cal.



WHY?

Do All Prosperous Poultrymen Use
Jubilee Incubators and Brooders
Our Catalogue A Will Tell You. It Is Free.
Jubilee Incubator Company ***Sunnyvale, Cal.***

Starbuck & Son's Heavy Laying Barred Plymouth Rocks

We now unhesitatingly make the proud boast of the best laying strain on the coast, if not in the world. We will publish prices later.

Do you want to hear about our beautiful prize-winning Buff Orpingtons and Silver Wyandottes. We have something to crow about.

Wm. Starbuck & Son, Fullerton, Cal.

Ranch Mirasol

EGGS FOR HATCHING—WHITE LEGHORNS—MITCHELL STRAIN

Large birds, heavy layers, bred for highest utility only. Order book now open for season 1909

Carl C. Curtis, Owner Cor. Lincoln Ave. and Ventura St., Pasadena, Cal.
North Fair Oaks Altadena Cars

Poultry owners of Yuba county are seriously concerned over a most virulent form of roup which is sweeping off large numbers of fowl.

JAMES R. TOWNSEND
Solicitor of American and Foreign **Patents** Copyrights, Trademarks and Labels Registered. Rooms 426-433 Bradbury Bldg. Los Angeles, Cal. Phones: Home, A4619; Sunset, Main 347

COULSON'S POULTRY FOODS
MADE IN PETALUMA
GUARANTEED
SOLD EVERYWHERE

It is a good plan to set as many hens at a time as possible, and at the end of the first week test the eggs and give each hen four eggs, which is about as many as an ordinary hen can cover satisfactorily. At hatching time care must be exercised that the hen does not injure the goslings, as their queer appearance often excites the wrath of the hen.

Various methods of feeding goslings are practiced. A good mash, not wet enough to be sloppy, is all right. Where they have all the grass or clover they want, stale bread makes an excellent food for them.

The goslings may be marketed when nine or ten weeks old, if desired, when they should weigh from 12 to 14 lbs.

A patch of rye will help out wonderfully with the winter feeding.

—Poultry Success.

TULARE COUNTY ORANGES.

Continued from Page 555.

its receipts of sufficient to meet expenses. Last year at Lindsay a nice balance was held in the treasury. When the writer left Exeter Saturday afternoon Secretary Balaam felt reasonably sure that this season would leave a nice balance to the credit of the Exeter Board of Trade. This, notwithstanding rain on a couple of days of the fair.

The Exhibits.

On the whole the exhibits were rather better than those made at the Porterville and Lindsay exhibitions; that is, results were more generally good. The principal exhibit which one saw on entering the hall was a mammoth pyramid made of preserved fruits in glass from the Tulare County Chamber of Commerce. This exhibit of all kinds of deciduous fruits, citrus fruits, olives and grapes, was solely from Tulare county products. Next to it was the Porterville exhibit which took first premium as a community exhibit and a photograph of which appears on this page. Across the aisle was Lemon Cove, with by long odds the finest exhibit of lemons made at the fair. This exhibit wore the green ribbon, indicating second prize in the locality contest. The Lindsay exhibit, which took third place with its mammoth cornucopia, made the largest showing of oranges of any one section. Dinuba won first place as exhibitor of the finest display of deciduous fruits, with a very diverse line of exhibits.

Exeter had a very tasteful pavilion but did not enter into competition with her sister cities who were her guests at the fair. Almost every other section along the Tulare county foothills made exhibits which were most attractive. That of Three Rivers was the showing of the most diverse line of products of any community there.

Growers' Winnings.

The best display of citrus fruit by any one grower in Tulare county was won by Martin & Dudley of Orange Heights. The best display of lemons, all varieties, by any one grower in Tulare county, was won by the Kaweah Company of Lemon Cove. The best thirty specimens of navels exhibited by one grower of the county was won also by the Kaweah Lemon Company. The second premium in this class was won by D. R. Griffith of Exeter. The best thirty specimens of budded oranges other than navels were exhibited by T. A. Pogue of Lemon Cove. The best thirty specimens of seedlings, won by M. E. Griffes. The best thirty specimens of lemons, one grower, W. H. Moffet, Lemon Cove; second premium in same class, Kaweah Lemon Company. Best thirty specimens grapefruit, Chio Lemon Company; T. A. Pogue, second place. Best thirty specimens of limes, Mrs. A. M. Morris, Porterville.

Some Other Exhibits.

Best display of grapes, Allan Campbell, Dinuba; second premium, Poso Grande Vineyard Company, Exeter.

Olives, best display, E. J. Norcross, Exeter; second, E. D. Woolbert; third, W. N. Armstrong, Exeter.

Apples, first place, George Dillon, Milo; one of the most striking features of the exhibit. W. A. Stewart, Exeter, won second place.

Pumping machinery.

The exhibit of pumping machinery was certainly most complete. Many of the houses of San Francisco and Los Angeles were represented directly or through their agents residing in Tulare county. Deep well pumps, centrifugal pumps, pumps of small capacity, and others more immense, were exhibited, and many of them were in actual operation; one of them threw a volume of water twenty or thirty feet high which was poured back into the tank.

Space forbids a more extended notice of this exhibit which was certainly most attractive. It is gratifying to see such an exhibit of fruits which proves the wonderful range of products in this state.

Bees and Their Care

ORGANIZED BEE KEEPERS.

A MEETING of the Imperial Valley Bee Keepers' Association, held in El Centro recently brought about definite steps toward the erection of a honey warehouse in that city for the use of the association.

The assessment of twenty cents per colony of bees was levied upon the members of the association for a building fund. Two lots on the west side of the railroad spur, extending from the main line of the Southern Pacific to the shops of the Holton Power Company, have been selected as the site for the new warehouse.

The building will be 20x40 feet, with galvanized iron walls and roof, and cement floor. It will have storage room for four carloads of honey, and will be planned so that it may be enlarged at any time the demands for more storage require the room.

The advantage of this storage for the honey producers is that the association will thus be able to maintain a stable market at a profitable price, holding the crop when prices are down and releasing it when they advance. On honey in storage the owners will be enabled to obtain a loan from the valley banks of two-thirds of the standard price.

The Imperial Valley Bee Keepers' Association received three new members at this week's meeting, and now numbers twenty-six apairy owners. This means that practically every bee keeper of the valley is in the association, and it represents fully 6000 stands of bees.

This year the general honey crop of the United States is short, and it is estimated the whole country has not more than two-thirds of a normal crop. Texas is the only state which reports a full return from the bees. In Southern California it is estimated the honey crop will not be over one-fourth of the normal amount.—El Centro Press.

INTRODUCING QUEENS.

J. P. Terry in the Deseret Farmer has the following on the introduction of queens into swarms that have lost the queen. This may be done by cutting out a two-inch square of comb to which a capped queen cell is attached from a frame in one hive. Then take a frame from the hive that has no queen; cut out enough of the comb to let the piece containing the queen cell fit in snugly; set this frame with the queen cell inserted into the center of the swarm, and in a few days you will have a new queen. If you have a queen already hatched you may introduce her into a new swarm safely by putting her in a small wire cage and inserting this cage into a frame of comb. Set this back into the center of the queenless swarm for about three days, then open the cage and let her crawl out among the bees and she is safe. It is true I have seen live queens successfully introduced by sprinkling the bees with a little sweetened water to which a little oil of peppermint had been added, then wetting the queen a little with the same scented water and letting her crawl among the bees. However, this method is not always safe, as there will often be a smell about the queen resembling that from the hive from which she has been taken and the bees of the new hive will seize upon her and sting her to death. A number of times I have tried to introduce a queen in this way and by watching the bees have seen them ball up around her and actually sting her to death. I have also seen them accept a queen thus introduced and show by their anxiety to feed her that they were particularly pleased to have her come. I have seen a queen successfully introduced by simply smearing her with a little honey and turning her loose among the swarm where she was needed. The bees would at once suck the honey from her body and wings and she was at perfect liberty to go where she pleased among them.

The most difficult place I ever found to introduce a live queen was where a worker bee had tried to take the honor of queenship. This a worker will sometimes do and will be successful in laying a few scattering eggs. The eggs thus laid, however, will never hatch a worker bee, but will always hatch drones even though they are laid in a worker cell. A worker bee who has tried to take the place of a real queen will usually fight the introduction of a real queen and will many times be successful in killing the queen sought to be introduced, especially if the latter is only a few hours old.

AMONG THE BEES.

No more ennobling pursuit exists than that of beekeeping. It is the poetry of apiculture. It is uplifting and inspiring, health-giving and useful, fascinating and profitable. It improves the mind, trains the eye and hand, cheers the heart and fills the pocketbook. No other rural pursuit is more safe, pleasant and reliable. Beekeeping, if it is not an occupation in which one can easily become wealthy, can be depended upon to furnish a comfortable living, and perhaps enable a man to lay up a few thousand dollars. Fortunately, however, the professional man's happiness bears little relation to the size of his fortune, and the man with the hum of the bees over his head finds happiness deeper and sweeter than ever come to the merchant prince with his cares and his thousands. In reply to the query: "What will best mix with beekeeping?" I have always replied, some more bees. When the conditions are favorable, I am decidedly in favor of beekeeping as a specialty of dropping all other hampering pursuits, and turning the whole capital, time and energies into beekeeping. Every beekeeper with several strains, even of the same variety, knows that some are far superior to others, that there is scrub among stock bees, just as there are scrub horses, cattle, sheep and poultry. With such scrub stock the cost of hives, combs and appliances remains the same; it is no less work to care for such stock. In proportion to its cost, no investment brings the beekeeper greater profit than superior stock.—Minnesota and Dakota Farmer.

The recent organization of a new fruit company with a basis in the Sacramento valley has given impetus to fruit planting in that section as it is felt it is an additional surety of continued prosperity.

The Anti-debris Association has decided to bring suits against dredger miners in Butte county.

TURKESTAN ALFALFA

The great drouth resister. Try it and be convinced. By repeated experiments in this State and Mexico, it has been grown with one-third less water than the common variety. Its foliage is of a finer texture and its stalks contain less wood, therefore it is all consumed.

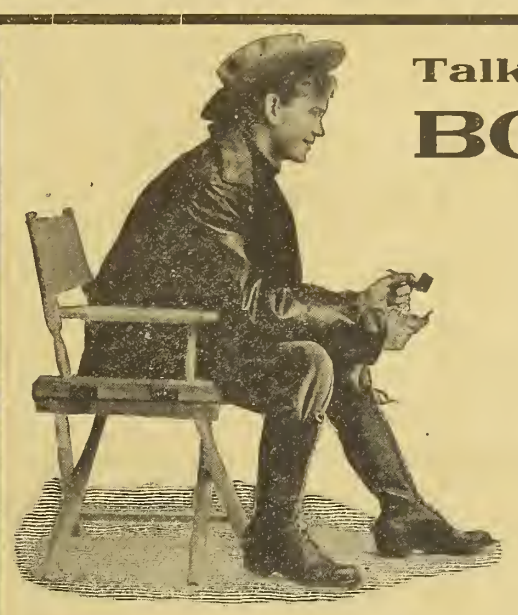
Our seed is imported and is absolutely free from dodder or love vine.

Write for prices. Special quotations for large quantities.

Send Us Your Name for Our 1909 Catalogue
Ready January First

GERMAIN SEED AND PLANT CO.

326-330 South Main Street
Los Angeles, California



Talking About BOOTS

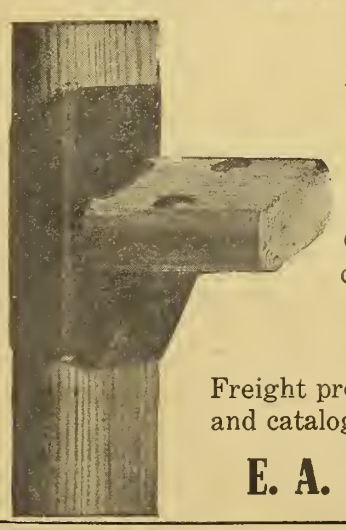
Perhaps the most acceptable Christmas gift for a young man would be a pair of our handsome high-laced Boots. If you will drop us a postal, we will mail you our No. 15 Catalogue, which tells all about them.

Our new Gymnasium catalogue is chock full of Christmas ideas, too.

Are you needing storm clothing or Arctic shoes for bad weather? Just mention it.

The Wm. H. Hoegee Co., Inc.
138-40-42 South Main
Los Angeles, Cal.

Security Ladders



A profit to you on every hour's use. Long lived. Acknowledged to be the

Lightest Strongest and Best

Our bid for your patronage is this. For cash with order,

Straight Ladders 25c per Ft.

Freight prepaid on 5 or more ladders. Price list and catalogue showing many styles on application.

E. A. MEACHAM, Riverside, Cal.

Write for Catalogue

Madary's Supply House

Is the Largest West of the Rocky Mountains

For Beekeepers

All kinds of bee supplies, orange shook, packing boxes, berry crates, grape baskets, etc. The best goods and the lowest prices. Personal attention to correspondence and prompt attention to orders.

Warehouse and Salesroom, 733-9 Aliso Street
Phones—Sunset, Boyle 168; Home 1125

C. H. Clayton, Agent **Los Angeles, Cal.**

When writing advertisers, mention Cultivator.

Bank by Mail at 4%

IT is an advantage to have your money in a large Institution, located in a large centre of population. We have special banking facilities for out-of-town depositors. Write for information.

German American Savings Bank

Spring & 4th Sts., Los Angeles

PLUMBING

Plumbing Materials

WATER SEWER PIPE

ALL PLUMBING REPAIRS

We contract to furnish all the materials and do the work or furnish the materials only.

GET OUR PRICES

JAMES W. HELLMAN

Hardware, Stoves, Etc.

157-161 NORTH SPRING STREET

LOS ANGELES, CAL.

Seed 75 varieties of ***Sweet Peas*** Separate Colors, 5c per Pkt. 15 Leading Varieties, post paid, 50c. 4 Varieties, that bloom in 45 days, 25c. This is the best time to plant.

Get Seed Where Seeds Grow

We are headquarters for ***Lettuce, Onion, Melon, Radish, Turnips,*** Etc. Make up a list of your wants and submit to us for prices also ask for catalogue.

Eucalyptus All the Leading Varieties in seed @ 15c per package. (Six of the leading varieties, E. Rostrata, E. Leucoxylon, E. Rudis, E. Globulus, E. Corynocalyx, and E. Tereticornis for 50c, with cultural directions). 500,000 Plants, all varieties. State your wants and get prices.

Send 10c for large packet each of our new ***Cabbage Head Lettuce, King of May*** and ***Brown Dutch***, earliest and finest flavor.

Cannon Ball Cabbage is finest grown. 5c packet, oz. 25c

Morris & Snow Seed Co.
425 So. Main, Los Angeles, Cal.

Hickey & Vonsen

Garden Field Grass SEEDS

Jersey Kale Seed
10c per oz.

P.O.Box C, Petaluma, Cal.

Write for Booklet

Queries and Replies

Questions to be answered in this department should be received at this office one week before reply is expected. Write plainly on one side of the paper and sign full name and address. Unsigned communications receive no attention.—Ed.

Planting Nuts in Field.

Wishing to plant walnuts grafted to California native roots, I understand the method employed in starting the trees in nursery rows, but I am of the opinion that if the wild black nut could be planted in the field in its permanent place where its root system would never be disturbed by transplanting a better tree would result. For instance, if I plant two or three nuts in a radius around each stake and later thin down to one and next year graft right where the tree is to remain permanently, has this plan ever been carried out? If a graft should miss and the root be left standing until it was two years old and then grafted again would the tree practically be one year behind the others? At what time should the nuts be planted and how deep?—A Subscriber, Oxnard.

To which Mr. Neff replies: The objection to planting walnuts where they are to grow in orchard form is that it is very much more trouble to take care of them than in nursery rows, both as young plants and when the grafts are placed. There would be but little loss in size of tree by the failure of a scion the first year. Your plan has been frequently adopted but the results are no better than when trees are planted in nursery and the thriftiest trees selected for planting. Nuts should be planted in February and about three inches deep in well drained land.

Spineless Cactus.

Please give information as to value of spineless cactus.—A Subscriber, Banner, San Diego county.

The best information on spineless cactus may be secured by writing to the Department of Agriculture at Washington, D. C., for the bulletin on spineless cactus. This touches fully all varieties of it and treats at some length of its commercial value. In any case, we think at your altitude it would not be satisfactory. It is naturally more of a desert plant.

Lawn Seed.

Which is the best lawn seed to sow and one which will require the least water and yet be green?—F. G. S., Rumsey.

Of course blue grass makes the handsomest lawn, but where water is a factor, possibly rye grass would suit your condition better. In many sections, Bermuda grass has been used, but unless it is in your vicinity it would be unwise to introduce it as it is a serious pest. But where neglect and short water are factors, Bermuda gives a very satisfactory lawn and will stand a large amount of tramping. While not a grass, lippia repens makes a very satisfactory lawn and will withstand drouth and some trampling.

Smut.

Can you tell me what is the trouble with the apple leaves which are enclosed? What shall I do with them?—G. H. B., Petaluma.

The leaves are badly infested with smut, which is generally caused by black scale. It may be eradicated by any good contact insecticide. Rex Spray has been recommended. Kerosene emulsion will rid your trees of it, or even the kerosene spray, which is kerosene and water at the rate of 10 to 15 gallons of kerosene to 100 gallons of water, thorough mixing to be maintained during the process of spraying.

Planting Alfalfa.

I wish to plant alfalfa and have manured very heavily with cow manure. Which would be the best, to plow now and sow with barley, or to plow in the spring and sow alone with alfalfa? When should I plant cow peas?—F. L. D., Vacaville.

If your weather conditions are such that you can plow and plant your alfalfa at this season and be reasonably sure that they will form two or three true leaves besides the seed leaf before frost would catch them, it would be safe to plant at once. Planting with a nurse crop is generally considered as undesirable. If there is danger of frost wait and plant in January or February, according to the time when you expect your last frost. Cow peas are of no value planted at this season of the year. They are a hot weather crop and will succeed only when planted in the spring. They are not a pea but really a bean, though called cow peas. If you wish a winter growing crop, a vetch or blue Prussian pea, or Canadian field pea, will answer your purpose and grow all the winter through. Your other question has been referred to Mrs. Sherman.

Planting Fruit Trees.

Please inform us when best to plant fruit trees in this part of the country. Is it safe to set them this month?—Subscriber, Rivera.

It is yet rather early. We would prefer January, as the young trees in the nursery are not yet entirely dormant. As soon as they are, remove and plant so as to get the earliest spring growth of the roots.

Pruning Peaches.

In pruning peaches planted last season, about what length should the spurs be left? Trees have made a good growth and are about one and a quarter inches in diameter, and have much fruit wood.—A. B., Modesto.

Leave three or at most four branches with, say, three buds on each branch, or approximately five or six inches in length. Do not be anxious to leave longer spurs for the sake of saving fruit wood unless your main thought is for next year's crop. Bear in mind these spurs which in the future will be the main large branches of the tree will be of no value as fruit bearers except as they will support large quantities of fruit on the ends of longer branches near the extremities of the tree. If you leave them too long they will surely be weaker and give you a tree which will be more liable to break down than if you keep them back close to the trunk. Next year's spurs from these branches should again be cut approximately the same way.

Mushrooms.

Is it possible to ship mushrooms, and how long will they keep after picking? Is there a great demand for them in San Francisco?—M. K., Cave Gulch, Santa Cruz county.

At this time of the year mushrooms will keep several days if packed in small shallow boxes. The demand in the markets of our larger cities is usually very good at some seasons of the year, often as high as $1.00 per pound being charged for them at the retail stands.

Cornichon on St. George Root.

"In a recent issue you advised E. M., Newport Beach, to plant Purple Cornichon on Rupestris St. George. This combination has been extensively planted here (Contra Costa county), and without a single exception has been a complete and disastrous failure. St. George and Tokay, St. George and Muscat and St. George and most wine grapes do well here, so the fault of the St. George and Purple Cornichon is not to be laid to the fact that the St. George is not in agreeable soil."—Thos. R. Hanna, Martinez.

Cement in Plaster.

Does it benefit plaster to add cement? That is, will it make it stronger and a better wall to put a certain percentage of cement in the hair coat?—E. S. W., Oak Park.

Some plasterers who make a very

Send for Catalogue
Now Ready, of

Berries, Trees, Bulbs, Etc.

Special Offer for Four Weeks:

	PER LB
1000 lbs. Australian Brown Onion Seed	$1.00
200 lbs. Yellow Danvers Onion Seed	1.00
50,000 Rhubarb, cheap, ready now	
100,000 Strawberry Plants, ready now	
10,000 Superlative Raspberries, ready now	
5,000 Dutch Hyacinths, every color, $2.00 per 100.	

Lots of Other Stuff Ready to Ship Wholesale and Retail

A. MITTING

17-23 Kennan St. Santa Cruz, Cal.

EUCALYPTUS SEED

Eucalyptus rostrata, the Red Gum
E. corynocalyx, the Sugar Gum
E. tereticornis, the Forest Red Gum
E. globulus, the Blue Gum
E. citriodora, Lemon-Scented Gum
E. cornuta, the Yate Tree
E. polyanthema, the Red Box
E. leucoxylon, Victorian Iron Bark

and Many Other Valuable Sorts

I shall be pleased to correspond with prospective buyers and give particulars as to prices on the seeds I am offering. Trial packets of any variety 15c each, 2 for 25c, or twelve for $1.25. Also young trees of many varieties for sale. Send for circular and cultural directions.

THEODORE PAYNE
NURSERYMAN AND SEEDSMAN
Home Phone A2480
345 S. MAIN ST., LOS ANGELES

300,000 Eucalyptus

Fruit Trees
Shade Trees
Roses Shrubs
Palms Ferns

And everything that you need for your ranch or garden. Send for free catalogue

Sycamore Grove Nurseries
SAINT & WARNER
4584 Pasadena Ave. Los Angeles

EUCALYPTUS

Balled in moss and leaf mold. All the roots saved. None sent out too small to plant. Sample lot of 100 in flats, tops protected, $1.60.

Henry Shaw
320 River St. Santa Cruz, Cal.

Hawaiian farmers are becoming alarmed at the rapid increase of lei which is their word for what is known amongst California farmers as dodder.

firm, hard wall, mix the plaster as usual and then add one-seventh of the bulk in cement.

Nursery Stock.

Has the rancher in this state any recourse if nursery stock after planting in orchard form proves untrue to name?—Subscriber, Glendora.

We believe that all nurserymen of the state have united in putting a similar guarantee in their catalogues, in which it is guaranteed to use all possible caution in securing trees true to name and to hold themselves in readiness to replace all stock which may prove untrue or refund the amount paid. To this is always added, "It is mutually understood and agreed between our customers and ourselves that under no circumstances shall we be liable for a greater amount than that originally paid us for stock that may prove untrue to label." Whether the grower would have cause for damages beyond this we presume could only be determined by recourse to the courts, in which, if it could be shown that the nurseryman had not used due diligence to protect his customers, or had purposely substituted, there might be possibility of still further damages.

Arsenic to Hogs.

In your issue of August 6 in the Veterinary Department, a query about a lame hog was answered as kidney worm. While I am not a veterinarian, I must disagree as to the cause as I have had three such cases in my experience and cured all of them. I bred two of them, raising three litters each of as fine pigs as I ever saw, large Yorkshires. The only effect I saw was in one litter, where one pig was affected at birth the same way. I butchered all three of the pigs, one a farrow on recovery, and had a veterinarian examine them. The only thing found was that one kidney was large and on being opened was found to have a smaller kidney fully developed inside. Now I do not say this was the cause, but it was the only thing abnormal found in the three hogs.

Now for the cure. I fed each hog teaspoonful doses of arsenic twice a day, morning and evening, until they refused to eat. In fact, I thought I had killed the first one. If this man will try this I am almost sure he will cure the hog if I am not too late. In that case it may benefit the next one in that difficulty.—F. E. Simon, Pasadena.

We spoke of this remedy to an old time farmer, asking if it were safe and he replied that he never had the nerve to try it, but his father had told him that he could not kill a hog with arsenic. Mr. Simon seems positive in his conclusions. Have other hog raisers experience on this line?—Ed.

Veterinary

Dr. R. T. Whittlesey, veterinarian, of 714 East Seventh street, Los Angeles, will answer questions in this department. In writing of sickness or injury to any animal be explicit in giving symptoms and particulars. Always enclose full name and address, but if assumed name or initials are preferred they will be used.

If an immediate mail reply is wished enclose $1.00 for such service, but for replies in paper only, no charge is made if the answer will be of general interest.

Please address all questions that are to receive gratuitous replies through these columns to California Cultivator, 115½ N. Broadway.

All communications to Dr. Whittlesey direct should contain a great big dollar.

Bad Feet.

I have a horse that has very bad feet. I am told it is hoof rot or puss in his feet. They have a very bad odor. Will you please tell me what to do for them.?—J. E. M., Pomona.

Your description is very ambiguous If the discharge is from the hoof alone it is probably "thrush" and easy to cure.

If the discharge comes from inside the wall of the hoof, between hoof and bone, it is most likely "canker" and one of the most difficult diseases to cure.

Treatment for thrush will be a saturated solution of sulphate of copper; wet a small roll of cotton with this and pack the cracks in the hoof with it, change every day, cut out all ragged pieces of hoof.

If there is any doubt in your mind as to whether it is thrush or canker call in your best veterinarian (Dr. Lee of Pomona) as delay may hurt it beyond recovery.

RELIABLE REMEDIES.

Under this heading will be mentioned some of the Veterinary Remedies used by Dr. Whittlesey and which the readers of the Cultivator will be most likely to find useful. They are not ordinary proprietary mixtures put up to sell but are from old well tried formulas, whose effects have been tried in an extensive practice in Southern California of nearly a quarter of a century.

Dr. Whittlesey's Sulpho-Arsenical Salve for the cure of deep fistulous ulcers in any part of the body. "Pole evil," "Fistulas," "Quitters," "Thrush," "Scratches or Grease Heal," "Warts," "Collar-sores," "Sit-fasts," in fact any chronic, indolent sore that refuses to get well under other treatment. $1.00 per package post paid with full printed directions for its use in different sores.

Dr. Whittlesey's Antiseptic Healing Powder for forming a coating or scab over large raw surfaces, to exclude the air, keep away flies, and destroy floating germs which may lodge on the sore, makes a very cheap and convenient dressing for wire cuts, fresh collar sores, and any of the many sores occurring to stock on the ranch. $1.00 pound can post paid. Enclose your dollar in an envelope and we will take all chances of its being stolen.

Imperial Valley Lands have a greater earning capacity per acre than any land on earth. For price list and information address, James S. White Jr., and R. A. Holt, Holtville, Cal.

GOMBAULT'S
CAUSTIC BALSAM

A safe, speedy and positive cure for

Curb, Splint, Sweeny, Capped Hock, Strained Tendons, Founder, Wind Puffs, and all lameness from Spavin, Ringbone and other bony tumors. Cures all skin diseases or Parasites, Thrush, Diphtheria. Removes all Bunches from Horses or Cattle.

As a **HUMAN REMEDY** for **Rheumatism, Sprains, Sore Throat,** etc., it is invaluable.

Every bottle of **Caustic Balsam** sold is Warranted to give satisfaction. Price **$1.50** per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars, testimonials, etc. Address

THE LAWRENCE-WILLIAMS COMPANY, Cleveland, Ohio.

AUCTION
120 Hogs

On the Menker Ranch, formerly known as the Triplett Place, one and one-half miles northeast of

CYPRESS

On the Santa Ana electric line, 3 miles southwest of Buena Park.

TUESDAY, DECEMBER 15th
AT 10 O'CLOCK, A. M.

Twenty head Poland China brood sows, some thoroughbreds, nearly all with pigs; 1 registered Poland China Boar; 100 hogs, all sizes, from brood sows down to suckling pigs, all in fine condition. About 40 head now ready for the butcher. Food steaming plant, consisting of boilers, steam tanks, etc. On account of retiring from business we will positively sell every hog to the highest bidders. No limit or reserve. Terms cash. Jones & Menker, owners. Rhoades & Rhoades, Aucr. Office 830-822 South Main St. Phones F1259. Main 1259.

THE BEST Orange Groves

The finest and best paying orange groves in California are located in Eastern Tulare County. Fruit comes six weeks earlier than any other locality. For full particulars address

EXETER SUN
Exeter, Tulare Co. Cal.

P. S.—A 21-acre bearing orange grove with fine residence and other improvements and water shares at a bargain. $5000 taken from it this year. Adjoining town and railroad. A perfect paradise. Sun.

SEED GRAIN
Black and Red Oats, Wheat, Barley, Bean Screenings, Etc.
constantly on hand and for sale at lowest market rates
Bray Brothers Buyers of grain and beans Members Merchants Exc.
220 Clay St. San Francisco, Cal.
Established in 1855. Correspondence Invited.

Wood Soled Boots and Shoes. Boots, $3.25; Shoes, $2.00. O. J. Weber Co., 558 South Los Angeles St., Los Angeles, Cal.

Classified Liner Columns

Rates 1½ cents per word per issue. No ad. accepted for less than 25 cents. Our classified columns are the clearing house for the readers of the Cultivator. Here you can insert an ad. for the small sum of 1½ cents per word per issue, and be sure that it will be read by thousands.

FARM LANDS FOR SALE.

FOR SALE—AN 80 ACRE FARM, WELL stocked with vegetables, berries, grain, chickens, houses, corrals, etc. Lots of good water, piped to different parts of place. Plenty nice timber. Well supplied with farming and garden implements, vehicles and all kinds of tools. Two horses and cow, good gasoline engine which operates pump, grain mill, green bone cutter, washing machine, wringer, vegetable cutter, grindstone. Good 6000 gallon tank. Large brooder house and runs; also 4 large Jubilee Brooders. Good roads, and best of all, good markets. Six room house with all furniture. Telephone. As I have the "Imperial Valley" craze, $5500 takes everything. $2000 cash, balance 6 per cent. See the crops on this place. You'll find it's a sure enough bargain. WM. MANTZ, Santa Maria, Cal.

FOR SALE—FARM LANDS ON ROGUE River, 440 acres, 160 under hog-tight fence. $30 per acre. Would consider house and lot Los Angeles at $3000 or $4000. Balance cash. All good tillable land and some timber. Fine for apples and pears. Also have other property. J. H. GRACE, Beagle, Jackson county, Oregon.

FOR SALE—GOOD BEARING 10 ACRE prune orchard, healthy place to live, 5-room house, 846 square feet, barn room space, mill, tank and tank-house. One mile from Campbell, near school. For further particulars address OWNER, Campbell, Route 8 Box 96 Santa Clara Co., Cal.

FOR SALE—10 ACRE RANCH, NICELY IMproved. Close to growing town and railroad; 200 bearing fruit trees; 1000 vines; small poultry-plant; house, etc. Only $2500. Address, H. F. BLUHER, Novato, Marin Co., Cal.

FOR SALE—A FINE LOT OF GRAFTED walnut trees, Placentia Perfection variety, on black or English roots. W. A. LETTEN, Whittier, Cal., Home Phone, 1734.

FIFTEEN ACRES IN KINGS COUNTY, sandy loam, good house, water, trees and vines; ¼ mile from town. Drop me a card. G. C. O. Box 175, Lemoore, Cal.

I make a specialty of orange and alfalfa ranches, and exchanges. 826 MAIN St., ROOM 9, Riverside, Cal., N. R. BELL.

POULTRY

BLUE ANDALUSIANS—MRS. GRIFFITH'S Blue Andalusians are still in the lead; noted for their utility and show records, layers of large white eggs weighing from 26 to 28 ounces per dozen. Eggs for hatching $2.50 per 15 guaranteed; also few trios $7.50 to $10. MRS. GRIFFITH, 3957 HALLDALE AVE., Los Angeles, Cal. TEL WEST 841.

BLACK BEAUTY POULTRY YARDS—Black Minorcas exclusively, bred for eggs and size, unsurpassed as layers or table birds. Eggs $6.00 per 100, single settings $1.50. Incub. chicks $12.00 per 100. cockerels $2.50 each. Mrs. A. F. Frese, Box 19, Dixon, Cal.

CHAS. E. SMITH—BREEDER OF BARRED Rocks exclusively. Winners of the blue wherever shown. Eggs $3.00 per 15, stock for sale. GARDENA, Cal.

FINE THOROUGHBRED RHODE ISLAND Red roosters and hens for sale, also a good chance for a chicken man. Address B. F. YOUNG, Huntington Beach, Cal. Phone Smeltzer Ex. 160.

FOR SALE—100 S. C. WHITE LEGHORNS, twenty months old, good layers, strong and healthy. Ten dollars per dozen. D. CLAYTON, Colusa, Cal.

PARTRIDGE WYANDOTTES—C. Andrews, 823 W. Franklin Ave., Hollywood. Cal.—1st cock, hen, cockerel and pullet; 2 cups, Poultry Breeders' Show, 1908.

O. L. CRANE. BREEDER OF PIT AND Cornish Indian Games. Rural No. 3, Santa Rosa, Cal.

SITUATION WANTED.

MARRIED MAN, EXPERIENCED IN MOST branches of farming, desires to take charge of ranch. W. T. B. WILCOX, Capertino, Cal.

HELP WANTED.

WANTED—COMPETENT MAN, WITH small family, to take partial charge of orchard. Must have best of references as to sobriety and reliability. J. B. NEFF, Anaheim.

SHOPPING BY MAIL.

IT IS PROFITABLE, CONVENIENT AND absolutely safe to have us do your shopping in Los Angeles. We will save you money on every order and guarantee satisfaction. Our services are free. Write today for particulars. Address H. THOMAS MUIR CO. 720 S. Broadway, Los Angeles, Cal. Reference, First National Bank, Los Angeles.

TREES WANTED.

WANTED—10,000 TO 25,000 SEED-BED orange trees, spring delivery. BOX 50 Glendora, Cal.

MACHINERY.

FOR SALE—SEVERAL SMALL GASOLINE engines slightly used but guaranteed the same as new, also large line of new ones all sizes as well as all kinds of other machinery. Let us figure with you. BAILIE & BRANDT CO. Agents Union Gas Engines, 943 N. Main St., Los Angeles Cal.

WIND-MILL FOR SALE CHEAP. ALMOST new. Fairbanks-Morse 30 foot steel tower, 10 foot wheel. 4-inch brass cylinder. Also pump jack. 2 miles south of San Gabriel, Cor. Del Mar and Garvey Ave. F. T. EDMISTON, San Gabriel, Cal.

FOR SALE—MEHRING MILKING MAchine with extra parts and covered pail, all in good order. WM. H. BIRD. Box 6, Compton, Cal.

FOR SALE—AC AND DC MOTORS AND generators, both new and secondhand. We also rent them. Let us know your wants. We can supply them and save you money. BAILIE & BRANDT CO., 943 N. Main St., Los Angeles.

FOR SALE—RENT OR EXCHANGE, BOILers and engines, gas engines, pipe and oil well casing, pumps, all sizes and makes; get our prices before you buy. A. CANNADY & CO., 691 N. Main st., Los Angeles, Cal.

FOR SALE—10x10 BELT DRIVEN AND compression, never been used. Will be sold cheap. 117 Bruno St., Los Angeles.

TREES.

A LARGE STOCK SEEDLINGS AND GRAFTed Walnuts, Elberta, Muir, Lovell, Phillips cling and all other peach, Apple, Pear, Plum, Apricot trees. All varieties trees, grapes and roses. A thrifty well rooted stock and will please you.—A. R. MARSHALL, BOX 64, Santa Ana, Cal.

WALNUT TREES—5000 LARGE, STOCKY seedlings. Seed from grafted trees of Placentia Perfection variety. Will sell very cheap if taken before Jan. 1st. as land must be cleared. G. W. SHERWOOD, Fullerton, Cal.

LEMONS, VALENCIAS, NAVELS, SANTIAgo. Frostless Nursery. L. F. Thurston, proprietor. Cleanest, largest and thriftest stock in Orange Co. Frostless. 1½ miles east of Villa Park. Address Santa Ana, R. D. 1; Sunset Telephone 354 Orange.

FOR SALE—AT RIGHT PRICES, FRUIT trees, Ornamental Trees and Shrubbery, Field grown roses, finest assortment. Write for catalogue. H. L. BAUER & SONS, 737 S. Spring St., Los Angeles, Cal.

FERTILIZERS.

PROFIT IN FERTILIZING
depends as much on judicious purchasing of fertilizers as on the intelligent study of the requirements of the crop. You may get the analysis you want, but from cheap materials of slow availability. When you buy
ARMOUR'S ANIMAL FERTILIZERS
you are assured of the highest grade of materials. They can be depended upon for results. Send for copy of Fertilizer Facts"
THE ARMOUR FERTILIZER WORKS
Los Angeles, Cal.

BERRY PLANTS.

WANTED—NO. 1 STOCK OF THE FOLLOWing: Loganberry plants, Mammoth and Grandale blackberries, Euthbert, Himalayas and Black Cap raspberries, Horse-radish and rhubbarb roots, asparagus (Palmetta) roots, Arizona, Klondike and A 1 strawberry plants. State amount you have, size and prices. Write for catalogue. H. L. BAUER & SONS, 737 S. Spring St., Los Angeles, Cal.

FOR SALE—STRAWBERRY; PLANTS Brandywine, Excelsior and Arizona, $3.00 per thousand. Mammoth and Himalaya Giant Blackberry, $3.00 per hundred. FRED L. WING, Upland, Cal.

HOGS.

REGISERED BERKSHIRE AND POLAND China hogs, both sexes. C. A. STOWE, Stockton, Calif.

CABBAGE PLANTS.

FOR SALE—250,000 WINNINGSTADT CABbage plants @ 50 cents per thousand. Address F. W. Jones, R. F. D. No. 1, Box 52, BUENA PARK, Cal. 1½ mile northeast of Cypress, Menker Place.

GRAPE CUTTINGS.

FOR SALE—CAREFULLY SELECTED grape cuttings from all the standard varieties. 50 cents per hundred, $4.00 per thousand. J. L. WININGER, Central Ave. Grapery, Compton, Cal. Home Phone 192 Compton Ex.

JACKS.

FOR SALE—JACKS—ONE MALTESE AND one Black. 15 and 15½ hands. Particulars by addressing G. W. DANFORTH, Calabasas, Cal.

GRAFTED WALNUT TREES
Different varieties on black and soft shell roots, **25c** and up.

Orange and **Lemon Trees, 50c** and up. Special Prices on Large Orders. **Deciduous, Eucalyptus** and **Ornamental, Berry Bushes, Grapes, Roses,** Etc., Etc.

Magnolia Nursery
A. R. Rideout, Proprietor **Whittier, California**

The Oldest Savings Bank in California

FOUNDED IN 1857. CAPITAL FULLY PAID $1,000,000.00

The Savings and Loan Society

101 Montgomery St., Cor. Sutter St., San Francisco

Exclusively a Savings Bank whose policy is for ***Conservatism*** and ***Safety,*** the result of ***Fifty-One Years' Experience.***

Deposits may be made and withdrawn by mail.

San Francisco Savings Union

Founded June 18, 1862 Northwest Cor. California and Montgomery Sts., San Francisco

Conducts a Savings Bank Business Exclusively

Capital Paid Up, $1,000,000.00 Surplus, $1,183,632.00

Total Assets, $27,508,850.00

E. B. POND, President.

W. C. B. de FREMERY AND C. O. G. MILLER, ... Vice-Presidents

LOVELL WHITE, Cashier. . . . . R. M. WELCH, Asst. Cashier.

Directors: John F. Merrill, Wm. A. Magee, W. C. B. de Fremery, H. C. Breeden, Jacob Barth, Fred H. Beaver, Wakefield Baker, C. O. G. Miller, E. B. Pond.

Every facility afforded for opening accounts and making deposits and withdrawals by mail. Correspondence invited.

Malthoid Roofing

L. B. Valk, a leading architect of Los Angeles, Cal., U. S. A., writes:

"Many of the finest churches designed by me are covered, and satisfactorily, with Malthoid Roofing. I shall continue its use."

The Paraffine Paint Co. San Francisco California

E. G. Judah, General Representative, Security Bldg, Los Angeles

$16.30 buys this handsome six-hole Nickle-Trimmed Cast Range direct from the Manufacturer

without high shelf. With high shelf, just as shown in the cut, $19.97; large oven, six cooking holes, best quality of iron. Burns coal or wood. Handsome nickle trimmings. OUR TERMS are the most liberal ever made. You can pay after you receive the range. You can take it into your own home and use it 30 days. If you don't find it exactly as represented, the biggest bargain you ever saw you won't have to keep it.

Write today for our beautifully illustrated Stove Catalogue No. 101-C. A postal card will do it. Don't buy until you get it.

P. F. Ross & Co.

268 Market St. San Francisco, Cal.

Cultivator Christmas Order

_____1908

Cultivator Publishing Co.,
115½ No. Broadway
Los Angeles, Cal.

Gentleman—Enclosed find $_____ for which please send the **Cultivator** to the following until January 1, 1910, stopping same at expiration.

NAME	P. O. ADDRESS	STATE

Also please credit my subscription account three months for each new name above.

SIGNED_____

ADDRESS_____

Household Department

IF I HAD KNOWN.

If I had known in the morning
How wearily all the day
The words unkind
Would trouble my mind
I said when you went away,
I had been more careful, darling,
Nor given you needless pain,
But we vex "our own"
With look and tone
We might never take back again.

For though in the quiet evening
You may give me the kiss of peace,
Yet it might be
That never for me
The pain of the heart would cease.
How many go forth in the morning
That never come home at night,
And hearts have broken
For harsh words spoken
That sorrow can ne'er set right.

We have careful thoughts for the stranger
And smiles for the coming guest;
But oft for our own
The bitter tone.
Though we love "our own" the best;
Ah! lips with the curve impatient,
Ah! brow with that look of scorn
'Twere a cruel fate
Were the night too late
To undo the work of the morn.

—Margaret E. Sangster.

SARGENT'S SACRIFICE.

HERBERT Sargent's eyes wandered from his admiring friends to Julia Guilford, his opponent. He took in every detail, the mass of jet black hair and the cheeks, dyed a deep crimson flush that rose even to the eyes, which gleamed with wonderful brilliancy as she nervously clasped and unclasped her slender fingers.

It was not like Julia to go to pieces as she had done in class today. He felt mean at taking advantage of her weakness to forge ahead, still it was fair and Julia always played fair.

He longed to go up and speak to her but lately she had ignored his existence and he would not force himself upon her. It had not been always this way. Some of his sweetest memories were of winter afternoons and moonlight evenings, of long stretches of gleaming ice and Julia beside him, trig and trim from white cap and sweater to gleaming skates. Or again, summer afternoons boating on the river and roaming through the woods.

He wondered what had caused the change. Surely not the contest for the scholarship, the winning of it could not mean to her what it meant to him. To her it would be simply an honor, to him a means of earning his daily bread.

He lingered about, and as he entered the dressing room his attention was arrested by the sound of a smothered sob and low voices. He felt guilty but he could not help listening as he heard Julia's voice.

"Alice, I must win. Aunt Amy has it all planned to take me into the city into society this fall and marry me off to some one in a high position. And she'll do it, too, unless I win the scholarship and force her to let me go to college."

He understood it all now, and whistled thoughtfully to himself as a vision of square-jawed Aunt Amy rose in his mind.

From that moment he tried to let her get ahead, but the more indifferent he grew the greater seemed his chances of winning. He pitied Julia, growing thinner and more nervous every day. At last everything was over but the announcement of the percentage in mathematics. They stood even already in every study, and he knew he would pass ahead of her in this. He knew by the pathetic droop of her head that she realized it too.

"Sargent, your paper has been unaccountably lost. We have made unavailing search for it, and so give you your choice—we will pass you on 75 per cent or allow you to take another examination."

Herbert thought a moment. His glance took in a white face and nervous, twitching fingers.

"I'll take the 75 per cent, sir," he said.

A few days later he saw a slender girl come forward to receive the scholarship, a girl whose face was as white as the dress she wore. He strained forward and his eyes met hers, and suddenly her cheeks were dyed with a crimson flush.

It was fifteen years later. In the office of the big machine company of which he was senior partner, Herbert Sargent sat, dreaming. He was living again that graduation day and he saw again in his dreaming the white face which so suddenly dyed crimson.

The paper before him brought back the dull ache which he had tried for years to stifle.

"Graduation at Benton.

"Miss Julia Guilford, the noted writer, addresses graduates at Benton Academy. A former graduate of noted school, etc."

A light step aroused him and he turned about to face the object of his thoughts. There stood Julia Guilford, whom he had last seen fifteen years before, and on every line of her self-reliant figure and beautiful face was written success.

"Miss Guilford—Julia," he stammered in astonishment, and placed a chair which she refused.

"No thank you I have something to tell you, which I can say better standing. Yesterday," she said in a low voice, and she tried to meet his eyes, "yesterday I spoke at Benton."

"It brought back many memories—may I never live through another such day. However, it gave me courage to say what I have tried to say for a long time." She hesitated, then raised her eyes and met his. "I stole your paper on mathematics and cheated you of the scholarship."

And as she stood quietly she stammered on: "I intended to make it right. I intended to have uncle put you through, but they turned on me and he was guardian of my money. I had not the courage to confess. Then when I had gained control of my property you had won success in the business world and my chance for restitution was past."

He still stood quietly, his hand playing with his watch charm, which he unfastened and held in his hand. She continued:

"I have watched you advance step by step, and the remembrance of what I did has never left me. Yesterday was more than I could bear, and I have come to tell you that whatever success I have won belongs to you."

"Julia," he said, "I knew fifteen years ago."

She stared in amazement.

"I found the paper in the hollow oak," he said, and she gasped as he held out the watch charm, a heart-shaped bangle, "and found this with it."

"Why—" she stammered.

This quick-firing "three-shot" gun is the handiest and most up-to-date article ever made in the shot-gun line. It's yours for $8.00

Sent by express, prepaid, to any address in the United States, upon receipt of price. Absolute satisfaction and safe delivery guaranteed.

The HOPKINS & ALLEN "Three-Shot" Gun

is unequalled for quick shooting. The three shots, one in the gun and two in the clip, can be fired with the rapidity of a repeater. No more missing good shots because your ammunition isn't with your gun. There are always two shells in the clip. No need of keeping a loaded gun in the house—a shell is slipped into the breech at a second's notice. Your gun is always ready for a shot at hawk or game, and you don't have to hunt for shells while the game gets away.

You were never offered a gun as good as this for the price.

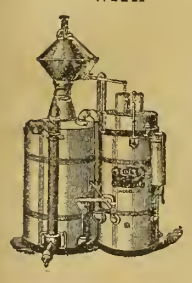
Fine decarbonized steel barrels bored full choke for close shooting and deep penetration. Frame case-hardened. Stock and fore-end fine walnut. Top snap action, locks automatically, and joint takes up its own wear. Rebounding hammer, rests in safety notch after firing, eliminating danger of accidental discharge. Hard rubber butt plate. This gun is guaranteed to shoot factory-loaded nitro powder shells. 30 or 32 inch barrels. Automatic ejectors.

1908 GUN GUIDE, FREE!

Our Gun Guide and Catalog for 1908 describes in full 11 styles of double guns, 8 styles of singles, 10 styles of rifles and innumerable kinds of revolvers. Gives lowest prices and offers most complete line. No sportsman or gun lover should be without it. Write for it now.

THE HOPKINS & ALLEN ARMS CO.
Chestnut Street Norwich, Conn.

Light and Cook with COLT Acetylene



Favor us with an inquiry concerning Colt Acetylene. We shall take pleasure in sending you free of charge our excellently compiled 44-Page Catalogue containing complete and instructive matter regarding piping, fixtures, stoves and burner pertaining to this wonderful and inexpensive lighting system.

Fowler Shankland, Pacific Coast Distributor
204 Severance Building
Cor. 6th and Main, Los Angeles
Phones: F7514; Main 4830

Make Yourself and Family the finest Christmas Present on Earth. My Portable Billiard Table means worlds of undiluted enjoyment for all. A postal will bring catalog showing many styles and sizes, at prices easily within your reach.

C. Ridderhof, Laughlin Bldg., Los Angeles

AGENTS WANTED

GOPHER DOPE to exterminate gophers, ground squirrels, rats, mice.

KILLS A BUG Moths, Mosquitoes. Bed Bugs Ants, Roaches, Fleas, Lice and Mites on Fowls, Disinfectant and Germicide.

PUROLINE A Powerful Antiseptic and Deodorizer. Odorless, non-poisonous. For use in hospitals, homes, public institutions, boards of health and ranches. ***B. & G. Disinfecting Co.,*** 417 Laughlin Building, Los Angeles, Calif.

Save Money and get a better choice by shopping in a Large City. We will do your Shopping for you. Send for our Free Book No. A. It Tells You How. ***Los Angeles Purchasing Co.,*** Pacific Mutual Bldg., 3d and Hill Sts., Los Angeles, California

When writing advertisers, mention Cultivator.

"Because, Julia, I loved you and wanted to help you. I knew and waited—know that some time the old-time Julia would come back."

His mouth was tremulous.

"I was a long time, and I paid a big price for honor—for, Herbert, all the time I loved you, too."—Spokesman Review.

COUNTRY AND CITY LIFE.

Country life has its drawbacks, but it has its great advantages which overcome them. True, those who live in the country are "Rubes and "Farmers" and "Hayseeds" to the cigarette smoker in town, but the boast of the business men in the world today is that they we born on a farm. Take away the surrounding evils that beset the young men or women on the threshold of life's journey in the city, and substitute the helpful influence of nature, and you fortify them for the sterner walks in life. The few things which they do not know about table etiquette and when it is proper to leave two visiting cards and when but one, they will catch onto much quicker than city boys or girls will learn to properly stoke the furnace or make good bread. No boy or girl need be ashamed of living on the farm, for if they have taken advantage of what it has offered they are well fortified for after life.

There are 125 ways of cooking eggs. All the brides we know have but one way—frying. After they have kept house a number of years they learn how to soft boil them. We once heard of a woman who knew how to cook eggs four ways, but we regarded it as a fairy tale.

Every girl should be educated how to pick out a good steak, how to tell when a chicken is tender, how to tell when fish is fresh and when celery is of the right quality. The bargain counters in the groceries and meat markets are more worthy of attention than those of dry goods stores.

AT THE COMMENCEMENT.

The president of the board of education had risen to present the diplomas. He had never officiated in this capacity, and was a little shaken.

"Class of 1908," he said, "you have gained the threshold of life. You have—you have—you—you—"

The crowd tittered, and the members of the class trembled for the speaker and the success of the exercises.

"As I said," the speaker resumed, gathering his wits for a fresh start, "you have now a threshold on life."

Laughter rose in the house, and the other board members held their hands over their mouths, showing very red faces.

"No!" cried the speaker, by this time fairly in the throes of stage fright, "I meant to say that you are now in the hole for life!"

The crowd shrieked with amusement, and one of the board members fell from his chair, howling with glee.

The president's eyes rolled in a fine frenzy, and he ran his fingers through his hair.

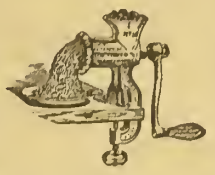
"No—no!" he exclaimed, "I don't mean that!"

He made one last and futile effort to regain his composure, and advanced a step nearer the class.

"Class of 1908," he said in a voice husky with emotion and suppressed excitement, "you have now a tail-hold on life."

The richest jewel in th' world is unselfishness.

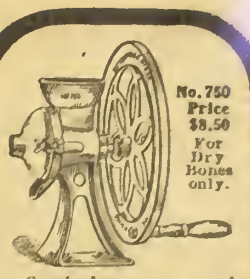
Large Family Size. No. 10—Price $2.50.



It is really better to own an "Enterprise" Meat Chopper and cut your sausage meat easily, quickly and well, than to trust to a borrowed machine to "grind" it. The

No. 25. 4 Quart Japanned. Price $5.50. 4 sizes. Tinned and Japanned.

Half the work at butchering time is spent in lard and sausage making. You can increase your products and lessen the time and labor of Sausage Stuffing and Lard Pressing if you use an



No. 750 Price $8.50 For Dry Bones only.

Cracked corn, ground bone, oyster and other shells, etc., are important items of egg-making material and *must* be furnished in winter to secure an abundance of high-priced eggs. They *can* be furnished at lowest cost by the use of an

ENTERPRISE

Meat and Food Chopper

is made in standard family sizes, and not only saves half the work at butchering time, but is useful in the kitchen every day in the year. "Enterprise" Meat Choppers *cut* the meat with a revolving steel knife against a perforated steel cutting plate without crushing, and make tough meat tender. Easily cleaned, practically unbreakable, and will last for years.

Made in 45 sizes and styles; for Hand, Steam and Electric power. No. 5, Small Family size, $1.75; No. 10, Large Family Size, $2.50. Sold direct if not to be had from your dealer.

Sausage Stuffer and Lard Press

Stuffs sausage quickly and uniformly. Patented Corrugated Spout prevents air entering the casing, thus assuring the preservation of the sausage. Cylinder is bored absolutely true. Meat cannot rise above the plate.

Can be changed into a Lard Press in a jiffy. Machine is strongly made and will last for years.

Other famous "Enterprise" household specialties are Coffee Mills; Raisin Seeders; Fruit, Wine and Jelly Presses; Cherry Stoners; Cold Handle Sad Irons, etc., etc.

Look for the name "Enterprise" on the machine you buy.

Bone, Shell and Corn Mill

Order one early in the season, and the hens will surely pay for it. The mill shown in cut costs only $8.50. Will grind corn, *dry* bones, oyster and other shells, etc., making valuable poultry food. May be used for making bone meal fertilizer.

A good all-round mill for farmers and poultrymen, and for strength and durability is unexcelled. Weight, 60 lbs. Capacity, 1¼ bushels of corn per hour. Look for the name *"Enterprise"* on the machine you buy. Sold by Hardware and General Stores, etc.

FREE—The "Enterprising Housekeeper"—a book containing over 200 choice recipes and kitchen helps. Sent on request.

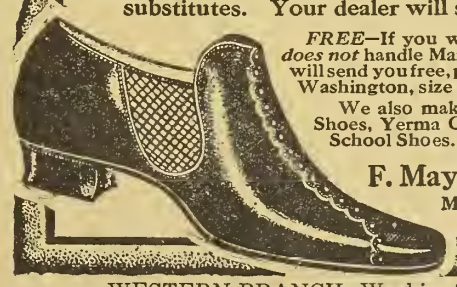
THE ENTERPRISE MFG. CO. OF PA., 229 Dauphin Street, Philadelphia, Pa.

Mayer

Martha Washington Comfort Shoes

You will never know what genuine foot comfort is until you wear Martha Washington Comfort Shoes. They relieve tired and aching feet and make walking a pleasure. They fit like a glove and feel as easy as a stocking. No bother about buttons or laces—they just slip on and off at will. The elastic at the sides "gives" with every movement of the foot, insuring free action and a perfect fit. *Absolute comfort guaranteed.*

Beware of imitations. Only the genuine have the name Martha Washington and Mayer Trade Mark stamped on the sole. Refuse substitutes. Your dealer will supply you; if not, write to us.



FREE—If you will send us the name of a dealer who *does not* handle Martha Washington Comfort Shoes, we will send you free, postpaid, a beautiful picture of Martha Washington, size 15x20.

We also make Honorbilt Shoes, Leading Lady Shoes, Yerma Cushion Shoes and Special Merit School Shoes.

F. Mayer Boot & Shoe Co.
MILWAUKEE, WISCONSIN

MILWAUKEE Mayer CUSTOM MADE

WESTERN BRANCH: Washington Shoe Mfg. Co.—Seattle.

Angle Lamp

The Light That Never Fails

Thousands in use all over the country. A good light is the greatest pleasure and the first necessity of every home.

The only lamp on the market that is sold under an absolute guarantee.

Remember, the light from Kerosene is the light science has agreed upon as being the purest and best, because it is soft and mellow and restful to the eyes.

Here are a few of The Angle Lamp Merits:

NO UNDER SHADOW. NO SMOKE, NO ODOR, LITTLE HEAT.

GREAT ECONOMY—COST LESS TO BURN than an ordinary lamp. As easy to operate as gas or electricity, and better than either. ABSOLUTELY SAFE under all conditions. Lighted and extinguished like gas. Burned HIGH or LOW like GAS without a trace of odor. And a BRILLIANT, soft, steady, shadowless light—but this you will have to see to appreciate.

The lamp as shown in cut burns 22 hours on 3 quarts of oil.

Send for Illustrated Catalogue with Prices

Boesch Lamp Co., (Est. 1869) 1135 Mission St., San Francisco

When writing advertisers, mention Cultivator.

The Produce Markets

Los Angeles Markets

LOS ANGELES, Dec. 9, 1908.

Butter.

Butter still holds last week's quotations of 77½ for extras, with actual selling price to trade at 80. It is claimed that there are indications of weakness which will probably cause a slight weakening soon. At present receipts are plentiful.

Produce Exchange wholesale quotations are:

Creamery ex per roll	77½
Firsts	65
Dairy per lb	25
Eastern extra per roll	65
Ladles	24
Cooking	24
"Butterine"	16@20

Cheese.

Southern California Anchor	17
Northern fresh	17
Longhorn	18@19
Eastern singles	16@17
Cheddars	17@18
Swiss	16@17
Imported Swiss	27@28
Daisy	17@18
Oregon	16
Limburger	17½@18½

Eggs and Poultry.

Eggs declined during the week and on Monday advanced slightly, but are yet under last week's quotations.

Eggs local candled	40@43
Eggs case count buying price	37
Storage selected	32@34
Eastern storage short time	39@40

Dealers pay for live stock.

Hens per pound	12@14
Young roosters per pound	16
Fryers	16
Broilers per lb	20
Roasters	15@16
Old rooster	7
Turkeys	16@20
Geese	12@13
Ducks	11@13
Squabs	1.25@1.75

Live Stock.

The following quotations are f.o. b., Los Angeles, on all stock.

Hogs from 175 to 200 pounds	6⅜
Prime steers	4½
Heifers	3½@3¾
Calves per pound	4½@5
Sheep ewes per head	3.25@3.75
Lambs per head	2.50@3.00
Wethers	4.00@4.50

Potatoes.

Wholesale prices are:

Sweets per ctl	1.35@1.45
Early Rose fy	1.60
Northern Burbanks fy	1.20
Local Burbanks	1.00
Highland fancy	1.25@1.30
Coast	1.60
Salinas	1.65@1.75
Oregons	1.50
Idahos	1.30

Onions.

Wholesale quotations:

Silverskin new	1.25
Australian Browns	1.00@1.10
Danvers	1.00
Lompocs	1.10@1.15
Garlic	12½

Vegetables.

Asparagus per doz	1.25
Artichokes per doz Northern	80@1.10
Beets per doz	30@35
Bell peppers per lb	8@10
Beans string	7@8
Beans Limas per lb	5
Brussels sprouts per lb	10
Cabbage sack	1.25
Cabbage red per lb	2½@3
Celery per crate	2.50@2.75
Chili per lb	3½@4
Chili dried	10@12
Corn per lug box	50@60
Chicory per doz	45
Cucumbers per doz hot house	40@75
Cauliflower per doz	50@75
Carrots per doz	40
Egg plant per lb	3½@4
Green onions per doz bunches	15@20
Lettuce per crate	60@1.00
Okra	7
Peas sugar per pound	5@6
Parsley	20
Parsnips	35@40
Rhubarb per lug box	1.00@1.25
Rutabaga per doz	40
Radishes per doz	15@20
Salsify	40
Summer squash per box	60
Spinach per doz	20
Turnips doz bunches	30@35
Tomatoes lug box	25@50

Citrus Fruits.

New Crop Navels	2.00@2.25
Tangerines	2.00
Valencias	4.00
Grapefruit seedless	4.00
Lemons fy	1.50@3.00
Grapefruit seedlings	4.00
Lemons fy	2.50@3.00
Lemons choice	1.50@1.75

Fresh Fruits.

Wholesale prices on the market are:

Baldwins 4 tier	1.75
Bellflowers	1.00
Newton Pippins	1.10
Fall Pippins	1.10
Alexandria 4-tier	1.00@1.10
California Jonathans	1.75
Skinners 4-tier	90
Red Pearmains	1.25
Spitzenberg	1.50@2.50
Casaba doz	1.50
Christmas melons per crate	1.50
Figs per fig box	1.25
Figs black per fig box	1.25
Guavas per basket	3@4
Muscats per lug box	90
Grapes Tokay	1.25
Grapes Red Emperors	1.00@1.25
Cornichons	1.25
Pears lb	6
Pears Winter Nellis per box	1.00@1.75
Peaches per box	75@90
Persimmons per crate	1.25@1.50
Pomegranates per box	1.75
Quinces	75
Raspberries per box	10
Strawberries per box	6@7
Blackberries per box	7

Dried Fruits.

Wholesale prices are:

Apricots	8
Evap. apples fy per lb	6¼@8
Figs loose white	5
Figs blk	5
Peaches	7½
Pears	9@10
Nectarines	9@10
Prunes	4½@9

Beans Dried.

Wholesale prices:

Limas per ctl	4.70@4.75
Pink No 1	3.00@3.15
Lady Washington	4.60
Small white	5.00@5.25
Black eyes	3.50
Garvanzas	3.30
Lentils	9.00
Bayou	3.50

Nuts.

Almonds IXL per lb	13½
Almonds choice	13
Pecans polished	16@18
Peanuts Virginia	8
Peanuts California	7
Walnuts No 1 SS	13
Walnuts No 1 HS	12
Walnuts No 2 both hard and SS	8½

Walnuts all less1½ per cent to trade

Honey.

Wholesale quotations:

Extracted Water White	7½
Extracted Light Amber	7½
Comb W W	15
Comb white	14
Beeswax	30

Hay.

Prices paid to producers f. o. b. Los Angeles are as follows:

Barley No 1	17.00@19.00
Barley No 2	15.00@17.00
Alfalfa northern per ton	13.00@14.00
Alfalfa local	15.00@17.00
Tame oat No 1	18.00@20.00
Wheat No 1	16.00@18.00
Wheat No 2	14.00@16.00

Grains.

Wholesale selling price f. o. b., Los Angeles.

Wheat new per ctl	1.90
Kaffir corn	1.90
Corn Eastern sacked	1.90
White oats	1.85
Seed Rye	1.75

Feed Stuff.

Wholesale selling price F. O. B. Los Angeles as follows:

Cracked corn	1.95
Shorts	1.80
Bran	1.65
Oil cake meal	2.50
Feed meal	2.00
Rolled barley	1.65

Sonoma County Co-operative Poultry Association has let a contract for their eggs for the coming three years with the Sonoma County Fruit and Produce Company in which it is agreed that the 19 cent minimum for first grade and 17 cent for second grade shall prevail. It is regarded by the poultrymen as a good contract.

W. E. Smith, one of the largest apple growers in Colusa county, says the best way to keep apples is to pile them on top of a few leaves on the ground and cover lightly with leaves or branches. This method has succeeded perfectly with him.

Grape growers about Lodi are discussing an organization for self protection this winter.

San Francisco Markets

SAN FRANCISCO, Dec. 8, 1908.

Butter.

Butter has declined three cents for extra during the week. Most other grades have remained stationary.

The official quotations of the San Francisco Wholesale Dairy Produce Exchange for yesterday are as follows:

California extras per lb	32
California firsts	29
California seconds	25
California thirds	20
Eastern extras	27
Ladles extra	22
Firsts	21
Storage Cal ex	27

Cheese.

California young American fy	17
Firsts	16
California flats fy	15½
Firsts	13
Young American Oregon fy	16½
Eastern N. Y. Cheddars fy	17
Eastern fy	16½
Oregon flat fy	13½

Eggs and Poultry.

Eggs are still on the decline showing a 7 cent lower quotation on extras. All other grades show the effect of this lowering.

Official quotations of the S. F. Wholesale Dairy & Produce Ex. are:

Fresh ranch extras	45
Eggs firsts per doz	40
Eggs second	35
Cal Storage	29
Firsts	30
Eastern Storage ex	27
Eastern firsts	26
Hens per doz	4.00@6.00
Hens extra	7.00@9.00
Young roosters	6.00@7.00
Old roosters	3.50@4.50
Fryers per doz	5.00@6.00
Broilers per doz	4.00@4.50
Geese per pair	2.00@2.50
Goslings per pair	1.75@@2.00
Ducks young	6.00@8.00
Live Turkeys	Nominal
Live Turkeys small	Nominal
Dressed Turkeys	Nominal
Pigeons young	2.00@2.50

Live Stock.

San Francisco prices gross weight:

Steers No. 1	3¾@4
Do second quality	3¼@3½
No 1 cows and heifers	3
Second quality	2¾
Hogs 100 to 150	5¾
Hogs 150 to 250	6¼
Rough heavy	4½@5
Calves per lb	3½@4¾
Lambs spring	4
Wethers No 1	3¾
Ewes No 1	3¼

Potatoes.

Five cars of sweet potatoes arrived on Monday which overstocked the market.

Wholesale market quotations:

River whites fy	70@85
River whites poor	40@65
Salinas Burbanks	1.40@1.50
Sweets per crate	1.25@1.40
Sweets sacks	1.25
Oregon Burbank	1.15@1.30

Vegetables.

Wholesale quotations:

Bell peppers per lb	10@12½
Brussels Sprouts	46
Celery per doz	15@40
Cucumbers per box	1.00@1.25
Cucumbers pickle No 2	75
Chili peppers per lb	4@5
Corn per sack	1.50@1.75
Egg plant per lb	4@5
Green peas per lb	6@7
Lima beans	6@8
Marrowfat squash per ton	10.00@15.00
Squash per box Southern	50@1.00
Onions green per box	70@75
Okra per box	1.25@1.50
Rhubarb per lb	3@6
Tomatoes River large box	75@1.00
String beans	6@8
Wax beans	5@8
Garlic new	6½@8

Onions.

Onions yellow per sack	70@85
Brown Australian	65@75

Citrus Fruits.

New Navels	2.00@2.50
New Navels fy and large sizes	3.00@4.00
Valencias fy	2.00@2.50
Tangerines crates	1.25
Grapefruit seedless	3.50@4.50
Grapefruit seedlings	1.50@2.00
Lemons ch	2.00@2.50
Lemons fy	2.50@3.00
Limes	4.00@5.00

Fresh Fruits.

Bellflowers	75@90
Bellflowers No 2	40@50
Spitzenberg	1.50@1.75
Newton Pippins	90@1.10
Crabapples	50@60
Figs per crate one layer	50@1.00
Grapes Muscats	1.00@1.50
Grapes Tokay	75@1.00
Grapes Isabellas crate	1.00@1.25
Grapes Cornichon	75@1.00
Huckleberries per lb	12@15
Cantaloupe River nutmegs	25@60
Muskmelons	75@1.00
Nectarines white	50@60
Winter Nellis	75@1.25
Persimmons	50@75
Pomegranates per box	1.25@1.75
Aligator pears per doz	7.00@9.00
Quinces per box	65
Raspberries per chest	5.00@9.00
Strawberries per chest	10.00
Watermelons per doz	1.25@2.00

Dried Fruits.

Prunes 4-size basis	3¼@3¾
Santa Clara	3¾@4

New crop contracts, 25-lb. lots—Apricots per lb.: Choice 7½@8½; fancy 9½@11.

PEACHES—Choice 5@5½; fancy 6@7.

Apples Evap	6@6¾
Pears	5@8

RAISINS—1907 crop f. o. b.; Clusters and layers. 30-lb bxs—Imperial Clusters, 6-crown, $2; Dehesa Clusters, 5-crown, $1.75; Fancy Clusters, 4-crown, $1.40; London Layers, 3-crown, $1.10; do, 2-crown, $1.05. Seeded, 25-lb bxs—Fancy bulk per lb, 6½@7c; Choice bulk, 6½@7c. Loose Muscatels, 50-lb bxs— Standard, 4-crown, 5½c; do, 3-crown. 4¾c; do, 2-crown, 3¾c; Seedless, 4¾c. Seedless Sultanas— Unbleached, 4¾@5c. Thompson Seedless—Unbleached, 5½@6¼c. Dried Grapes, 4c.

New Crop Raisins—Preliminary prices are named as follows: Cluster—Imperial 6-crown, $2@3; Dehesa, 5-crown $2.50; London Layers, 2-crown, $1.25; 3-crown, $1.35; 4-crown, $2. Thompson's Seedless, 5¾c. Loose Muscatels, 5¾c. for 4-crown, 5c for 3-crown, 4½c for 2-crown and 4¾c for seedless.

Nuts.

Walnuts S S No 1 new crop	13½
Walnuts No 2	9
Almonds nonp	11½
Almonds IXL	10½@11
Ne Plus Ultra	9½

Beans Dried.

Limas	4.35@4.40
Pink	2.50@2.60
Small white	4.50@4.70
Large white	3.75@3.85
Black eyes	3.25
Red Kidneys	3.50
Garvanzas	1.75@2.25
Bayo	3.10@3.15
Horse beans	1.75@2.25

Hops.

Hops new crop	7@9

Honey.

White comb	15½@16
Amber	12@14
Extracted W W	6@7
Extracted light amber	6½@7
Beeswax No 1 per lb	25@27
Beeswax No 2 per lb	24@25

Hay.

There has been a marked diminution in hay shipments during the past week, total arrivals amounting to 3080 ton in comparison with 3820 last week and 3750 ton for the week preceding that. Operators have been compelled to cut down the supply somewhat in order to maintain prices which showed a tendency to decline a bit some five or six days ago.

Choice wheat hay	20.00@22.00
Good wheat hay	18.00@19.50
Other grades same	16.00@17.50
Wheat & oat	15.00@20.00
Tame oat	15.50@19.00
Wild oat	14.00@18.00
Stock hay	11.00@13.00
Alfalfa	11.00@15.50
Straw per bale	60@95

Grains.

Wheat No 1	1.67½@1.70
Barley new	1.40@1.45
Corn large yellow	1.80@1.85
Oats white	1.65@1.72½
Oats gray	1.65@1.70
Rye new crop	1.42½@1.50

Feed Stuff.

Bran per ton	29.00@31.00
Feed cornmeal per ton	37.00@38.00
Cracked corn per ton	38.00@39.00
Rolled barley per ton	30.00@31.00
Oil cake meal per ton	38.00@39.50
Cocoanut cake per ton	25.50@26.50
Middlings	33.50@36.00

Citrus Market

NEW YORK, Dec. 4.—One car lemons sold. The weather is clear and favorable.

LEMONS—	Avge.
Protection Ohio Lemon Co	$2.70
Buckeye Ohio Lemon Co	2.10

CLEVELAND, Dec. 4.—Weather is cold. It is snowing. The prospects are that the market will be higher on navels. One car sold today. There are seven cars on track.

NAVELS—

Pocohontas TCC Ft Ex Zante	2.75

Hiawatha TCC Ft Ex ZZante....2.70

ST. LOUIS, Dec. 4.—It is raining. Prospects are that the market will be higher on navels. One car sold. Two cars of lemons were withdrawn today. There are ten cars on track, mostly Floridas. One car Louisiana oranges sold, average $2.10. Seven cars Florida oranges sold, average $1.75. One wasty car Floridas averaged 50 cents.

NAVELS—
Oakleaf TCC Ft Ex Porterville....2.50
LEMONS—
Oakleaf TCC Ft Ex Porterville..2.35
Full Value TCC Ft Co 2.45

BOSTON, Dec. 4.—Three cars sold today. The weather is favorable. Market is unchanged. One car on track.

NAVELS—
Badger C C U Tulare 2.40
LEMONS—
Peerless CCU 2.50
Sunset CCU 1.80

PITTSBURG, Dec. 4.—One car sold, four cars on track. Five cars of Florida oranges sold, average $1.55. The prices on lemons are low on account of the condition of the stock offered.

LEMONS—
Lemon Cove TCC Ft Ex 2.15
Tulare TCC Ft Ex 1.55

PHILADELPHIA, Dec. 4.—One car lemons sold. Weather cold. The market is firm on good stock of good sizes. Two cars on track. The offerings of Floridas are heavy and the market is demoralized.

LEMONS—
Blue Jay OK Ft Ex 2.10
Swallow OK Ft Ex 2.07

NEW YORK, Dec. 8.—Two cars lemons and one car navels sold. Market is easier and lower on lemons. Market is firm on good stock navels. Weather clear, cold.

NAVELS—
Golden State TCC Ft Ex.....3.75
Sunset Cal Cit Union.....3.15
LEMONS—
Pride of Corona QC Ft Ex 2.70
Corona Beauty QC Ft Ex 2.35
Excellent SP CF Assn 2.60

SHORT HORN SALE.

An unrivalled opportunity will be afforded the breeders of pure-bred Short-Horns on January 5th, 1909, when a public sale will take place at Chase's Pavilion, 478 Valencia Street, San Francisco, California, of some especially choice specimens of this well known breed of cattle.

The animals entered in the sale are the increase of the respective herds of Mrs. J. H. Glide, of Sacramento, Cal., and the Howard Cattle Company, San Francisco, Cal., two of the best known breeders, owning two of the largest herds in the state.

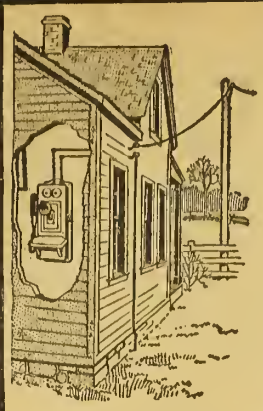
The cattle entered are all thoroughly acclimated, a great consideration, and are in good, sound, thrifty condition. The bulls are, for the most part, the get of such famous sires as Imported King Edward 172814, grand champion at the Lewis & Clark Exposition in 1905, and Imported Straight Archer 209093, sire of International winners, while many of the cows and heifers are bred to one or the other of these bulls, than whose breeding there is none better, while their individuality is hard to excel.

The Hoopa Valley Indian Reservation in Humboldt county is to be surveyed by order of the government and many believe the valley, which contains some of the choicest land in the county, is to be opened for settlement.

The Sacramento Valley Sugar Company at Hamilton will have its own boats in operation on the Sacramento River for hauling beets to the factory from river points next year.

A ten-horse team attached to two great wagonloads of pumpkins attracted attention at Hanford last week as they were being driven to the Boyle ranch near the city.

Cream Separators, all sizes, all prices. O. J. Weber Co., 555-557 S. Los Angeles street, Los Angeles.



Rural Telephones

Do you realize that rural telephones, more than anything else, tend to increase the earning power of every farm and farmer? Do you realize that

ALL of the material needed to build the very best rural telephone line—exactly the same as the Bell Company puts up—will cost you and your neighbors less than 20 bushels of wheat each?

Over 4,000,000 Western Electric Telephones

are in use in the United States to-day. We made the first telephones and we have made the most—in fact, we have made more than all other manufacturers combined.

We have brought the rural telephone within the reach of every farmer, and with our Free Bulletins before him a boy can install and operate the system. Our telephones are guaranteed.

Cut out this advertisement, write your name and address on the margin and mail it *to-day* so that the Free Bulletins, which describe the entire plan in detail, may be sent you immediately.

WESTERN ELECTRIC COMPANY

EASTERN: New York, Philadelphia, Boston, Pittsburg, Atlanta
CENTRAL: Chicago, Indianapolis, Cincinnati, Saint Paul
Manufacturers and Suppliers of all Apparatus and Equipment used in the Construction, Operation and Maintenance of Telephone Plants.
WESTERN: Saint Louis, Kansas City, Denver, Dallas, Omaha
PACIFIC: San Francisco, Los Angeles, Seattle, Salt Lake City

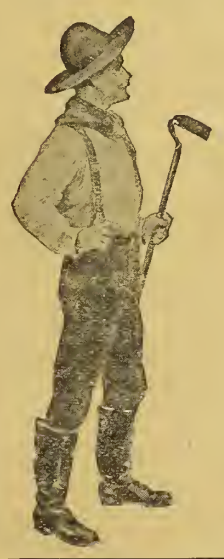
Northern Electric and Manufacturing Co., Ltd., Montreal and Winnipeg
Write Our Nearest House

71

"THE MAN WITH THE HOE"
SHOULD SOW

MORSE SEEDS

ALWAYS RELIABLE



Our new general Catalogue is now ready for mailing and will be found of great value to the planters of

SEEDS, PLANTS AND TREES

This Catalogue is the finest we have ever issued and will be mailed free to all who write to us.

C. C. Morse & Co.

If in the city call at
Retail Store
125-127 MARKET ST.
Opp. junction with California

When writing address us at
Jackson Street
SAN FRANCISCO

Headquarters for Onion Sets

Chas. Winsel, Seedsman
251 So. Main St. Los Angeles, Cal.

Crimson Winter Rhubarb

$1.50 a Dozen $6.00 per 100
$40.00 per 1000

Now is a good time to plant.
Pedigreed Stock.

Fruit Trees and Berry Plants of All Kinds

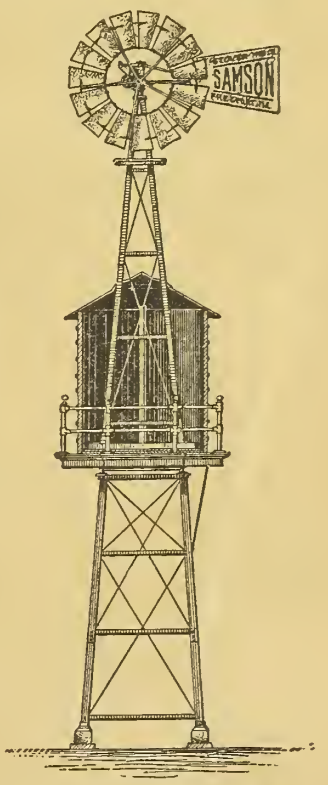
J. B. Wagner, Pasadena, Cal.

The Rhubarb and Berry Specialist
Dept. F

When writing advertisers, mention Cultivator.

SAMSON WIND MILLS

Have double gears, removable bearings and center lift, which double the life of the mill. They will last longer, pump more water and give better satisfaction than any other WIND MILL.



This is an up-to-date Sub-structure, Tank and Wind Mill outfit complete; substantial, economical and attractive. We build all kinds. Write us or our general agents for full information and prices, description &c., before purchasing.

The STOVER MFG. CO.
FREEPORT - ILLINOIS
California Avenue
CRANE CO., LOS ANGELES and SAN FRANCISCO
General Agents for California

Pacific Seed Co.

C. Bagnall, Prop.
GROWERS AND IMPORTERS OF
Grass, Vegetable and Flower Seeds
All Kinds of Bulbs and Onion Sets
609 J St., Sacramento, Cal.
Send for Catalogue. Please mention Cultivator.

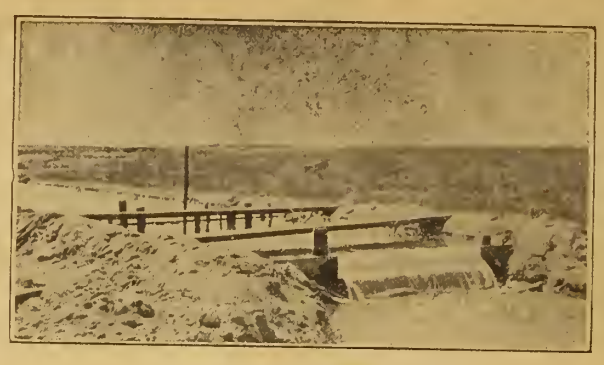
Petitions are circulating to secure the appointment of a Highway Commission by the Supervisors of Fresno county, which means active work for bonding road improvements.

The Popular Western

Built In the West **Best** For the West

FACTORY AT YOUR DOOR

LONGEST LIFE LEAST FUEL FEWEST PARTS ALWAYS GOES



Weir of the Iowa Meadow Company

Irrigation Plants Designed Constructed Installed

Note results obtained with a 40 H. P. **"WESTERN"** at Ontario, Cal.

"We are lifting 175 inches of water against a head of 46 feet above pump; vacuum guage stands at 13, with a shade over 3¾ Gallons No. 2 Distillate per hour."

IOWA MEADOWS COMPANY
(Signed) S. J. Ulrey, Manager

Western Gas Engine Co.

Works and Office:
908-932 No. Main St. - Los Angeles, Cal.
Send for Catalogue

New Pomona Double Plunger Deep Well Pump Head

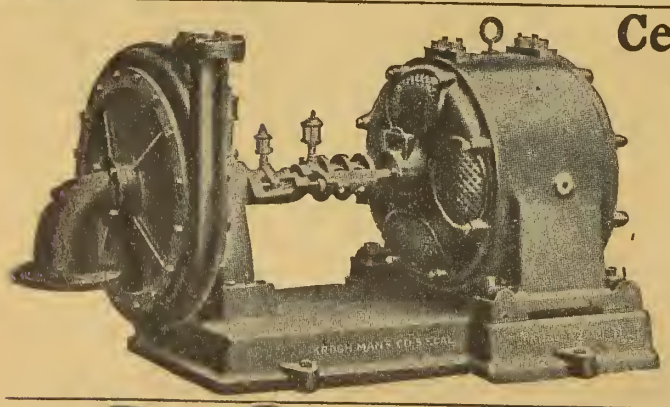
Most Efficient Deep Well Pump in the State

It Is Made in California

Built in Three Sizes—from Ten to Forty Horse Power

It is the smoothest running deep well pump because there are no dead centers, no jerk or jar, and no danger of breaking the pump rods. Be sure and write for our big catalogue. Watch this space for further information.

Pomona Manufacturing Co.
Pomona, Cal.



Centrifugal Pumps

For high or low heads

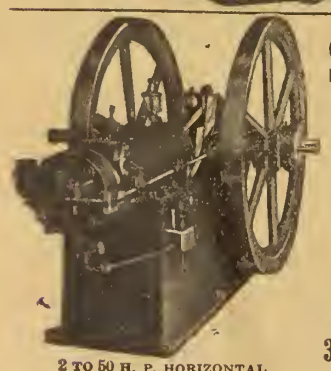
Direct Connected or Belt Driven

Highest obtainable efficiency

Krogh Man'f'g. Co.

127 to 123 Beal Street
SAN FRANCISCO, CAL.

Send for New Catalogue No. 50 just issued.



2 TO 50 H. P. HORIZONTAL

STOVER GAS ENGINES

The simplest and the best. We have had long experience installing pumping plants. We know our business. See us before you buy. 2 to 50 H. P.

LIVINGSTON & LEE
352 So. Los Angeles St., Los Angeles, Cal.

National Wood Pipe Company

Machine Banded Stave Pipe, Continuous Stave Pipe

We cut from all forni R edwood **WOOD PIPE** or Selected Puget Sound Yellow Pine

Northern Office, Olympia, Washington
San Francisco Office, 318 Market St.
Los Angeles Office, Cor. First and Spriug Sts.
Salt Lake City, Utah, Dooley Block

Prices, Specifications, Hydraulic Data and General Information gladly furnished upon request

ARNOTT HARNESS $10.00 to $80.00

Everything guaranteed. Money back if not satisfactory. Factory in Los Angeles. California leather for all uses. Send for No. 10, eighty page FREE Catalogue.

ARNOTT & COMPANY 112–118 So. Los Angeles St. Los Angeles, Calif.

THE **Latest Deep Well Turbine Pump**

Guaranteed to deliver from 100 gallons per minute upwards, depending on the diameter and capacity of well, from a depth of 50 to 300 feet below the surface. Can be either belt driven or direct connected to electric motor as occasion requires.

Write for Catalogue 46B.

A deep well pump that has no valves or plungers to wear or get out of order, no gears, consequently no noise or breaking of teeth.

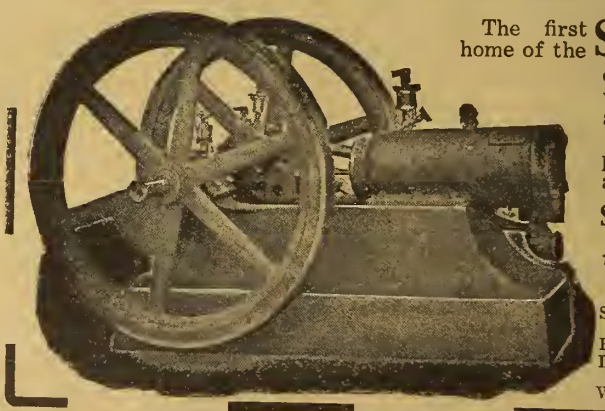
Compact, durable, always primed and ready to operate, constant flow, hence increased capacity of well.

This type of pump is fast taking the place of Vertical Steam, Deep well Plunger and Propeller Pumps.

Byron Jackson Iron Works

Main Office and Works:
Carlton Station
West Berkeley, Cal.

Samson Gasoline and Distillate Engines



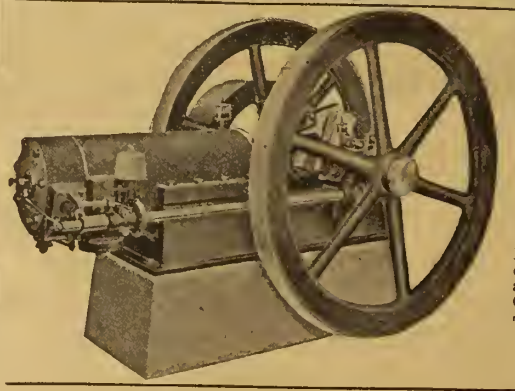
The first home of the **SAMSON** engine is a large one. Its second home, which is everlasting, is a happy one.

They may be compared with the sea—always ready to roll.

Samson Iron Works

Office and Factory:
1100 to 1198 Aurora St.
Stockton, Cal.

BRANCHES:
San Francisco,
Cor. Market and First Sts.
Fresno, 920 J St.
Los Angeles,
204 N. Los Angeles St.
W. L. Cleveland Co., Agent



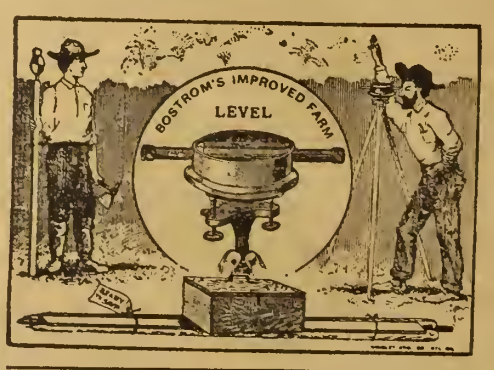
HERCULES DISTILLATE ENGINE

Heavy, Strong and Simple in Construction

The Right Engine at the Right Price

Horizontal and Vertical; All Sizes. Buy direct from the manufacturer and save agent's commission. Send for our new Catalogue C.

The Hercules Gas Engine Works
351 Market St., San Francisco
Telephone Douglas 3630



BOSTROM'S IMPROVED FARM LEVEL

Used for irrigation and drainage work. Cheapest and best level yet invented for farm use. Has the latest patented improvements in simplicity and usefulness. Can be operated by any one. Price including telescope tripod and target rod $15.00.

PALACE HARDWARE COMPANY
581 Market Street, San Francisco.

Coast Agents. Send for Circular.

20.5
C PK
Forest

California Cultivator

Published Weekly — One Dollar a Year

Los Angeles — December 17, 1908 — San Francisco

Some Future Timber Producers

EUCALYPTS in flats. A portion of over a half a million of growing trees in the nursery of the Leonard Coates Nursery Company at Morganhill. These trees were grown without shade or protection. These flats contain one hundred plants each.

THREE favorites, Rudis in center of above photograph one of our most beautiful Eucalypts. At the right Corynocalyx, while the one at the left is the old time favorite Globulus or blue gum. All show two and a half years growth.

EIGHTEEN month's growth of Polyanthema or Australian Beach is shown in the center tree above. The bluish white leaves of this tree make it a most beautiful one. It is a drouth resistant tree and rather slow of growth.

VIMINALIS, manna gum, eighteen months old, twenty-five feet high, three and seven-eights inches in diameter, six inches from the ground and grown without a particle of irrigation. Will stand the cooler weather but not as valuable as the red gum.

TURKESTAN ALFALFA

The great drouth resister. Try it and be convinced. By repeated experiments in this State and Mexico, it has been grown with one-third less water than the common variety. Its foliage is of a finer texture and its stalks contain less wood, therefore it is all consumed.

Our seed is imported and is absolutely free from dodder or love vine.

Write for prices. Special quotations for large quantities.

Send Us Your Name for Our 1909 Catalogue
Ready January First

GERMAIN SEED AND PLANT CO.

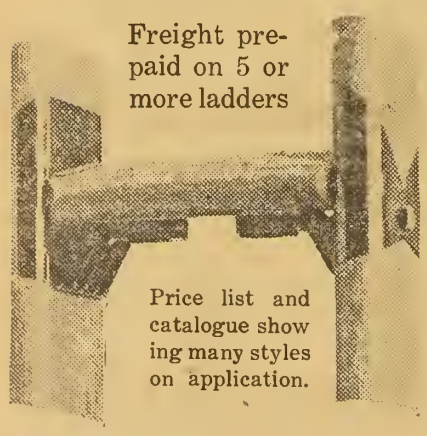
326-330 South Main Street
Los Angeles, California

Here They Are

The newest styles from the country's leading factories. Good, or they wouldn't be here; low priced, or we wouldn't be telling you about them. Just think of the kind of vehicle you want and depend upon finding it here. Whether you buy or not your time will be well spent here. We make it part of our business to treat visitors right.

ARNOTT & CO. (Inc.)
112-118 So. Los Angeles St.
LOS ANGELES

Security Ladders



Freight prepaid on 5 or more ladders

Price list and catalogue showing many styles on application.

A profit to you on every hour's use. Long lived. Acknowledged to be the

Lightest Strongest and Best

Our bid for your patronage is this. For cash with order,

Straight Ladders 25c per Ft.

E. A. Meacham - Riverside, Cal.

We Are Headquarters for the

"Fosmir" Gang Plows

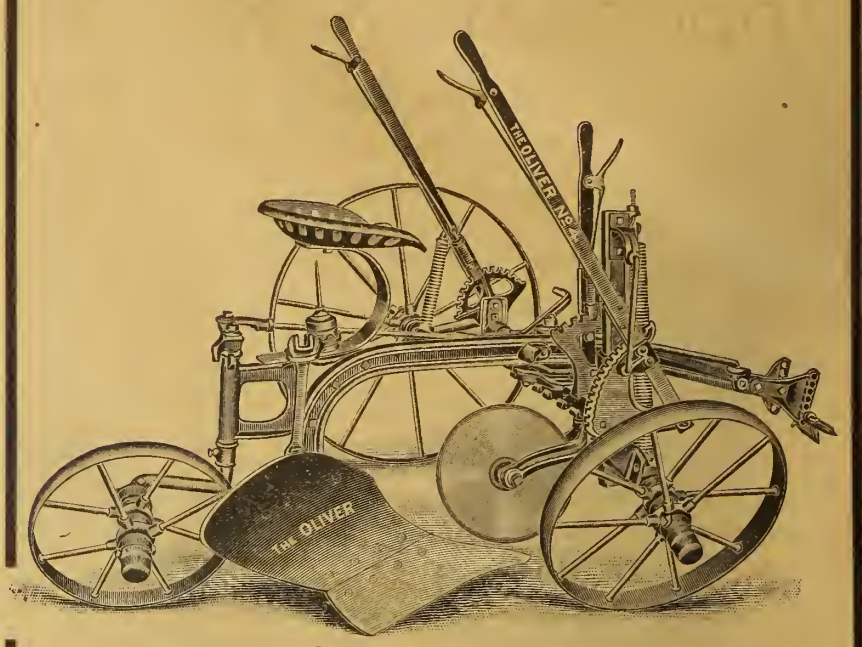
Made in Los Angeles. Full Line of Repairs Always on Hand.
Telephone or Write Us.

Los Angeles Vehicle and Imp. Co.

110-112 N. Los Angeles St., Los Angeles, Cal.

When writing advertisers, mention Cultivator.

The Newest and Best Sulky Plow



Oliver No. 4

A new and thoroughly practical Sulky Plow.

Best suited to the needs of Beet and Bean Raisers because of its strength and because it does more perfect deep plowing than any other plow.

Write for detailed information about this Sulky Plow and about the full line of Oliver Steel and Chilled Walking and Gang Plows.

Newell Mathews Co.

Southwestern General Agents 200 N. Los Angeles St., Los Angeles, Cal.

Red Cross Wind Mill
Is built right. Works right. Runs in light wind. Has ball bearing turntable and outer thrust. Easy mill to set up and take care of. Built upon honor.

Woodin & Little Pump House

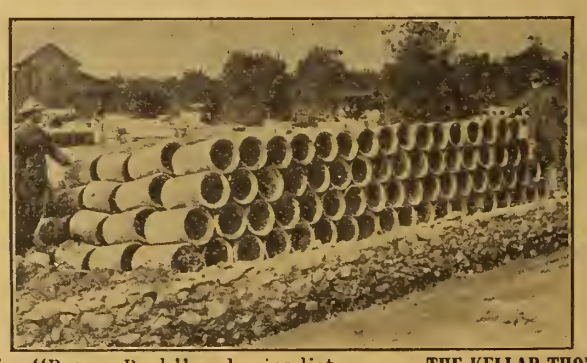
• 33-41 Fremont Street, San Francisco

PUMPS FOR EVERY SERVICE AND USE

Pumps for Irrigation, Road Sprinkling, Electric Motors, Gasoline Engines, Spraying, Whitewashing, Wine Pumping, Wind Mills, Hand and Power Use, Steam, etc.

Gasoline Engines Wind Mills
Tanks Pipe Pipe Fittings

SEND FOR CATALOGUE



From photograph showing amount of

Ten-Inch Pipe

made by four men from 10 bbls. of cement in 9 hours — 280 two-foot joints, or 560 feet. This pipe was made with the

"K T" Moulds

An equal amount can not be made with any other tools in the same period of time. Write for "Brown Book" and price list.

THE KELLAR-THOMASON MFG. CO., Covina, Cal.

A Handy Little Engine

Just the thing to run the feed cutter, the pump, the churn, the grinder, or anything on the ranch. It's well named

The Little Wonder

Write or call on

Wm. Gregory
602 No. Main St. Los Angeles, Cal.

EUCALYPTUS

Growers of Commercial and Ornamental Eucalypti

EKSTEIN & EKSTEIN
Modesta Euc. Nursery
Modesta, Cal.

EKSTEIN BROS.
Vignolo Euc. Nursery
Anaheim, Cal.

When writing advertisers, mention Cultivator.

California Cultivator

Vol. XXXI—No. 25 Los Angeles, California, Thursday, December 17, 1908 Subscription $1 a Year

Opportunity for Wealth in Eucalyptus

A Wonderful Tree Brought to California, Planting of Which Should be Done Intelligently and With Knowledge of the Limitations of the Business

THE interest which has been created during the last few years, and which in the past several months has become almost a eucalyptus planting boom, is attracting more attention to this wonderful tree than at any previous time. Al over the state reports of activity in planting, or at least, preparations for planting, are being made. Some of this planting will probably cause the financial loss of those making the planting, because of not understanding all conditions and because of too great expectations which are liable to come from enthusiastic representations from promoters of some companies that have been formed. This is not said with any expectation of dampening the ardor of those who are engaged in this excellent work of planting trees. Fortunately, if errors are made in this case they will generally be made in the right direction. "When in doubt, plant a tree," is good advice. That is, much good will come from the planting of these trees, even if these large claims are not all met.

The crying need of the country now is, and will be more and more so, more trees, but every one who observed fruit planting in this State during the past quarter of the century knows that in orange culture and practically every other line of fruit industry, trees have been planted in unsuitable location necessitating removal and great loss later. In this respect great care should be observed in studying into the requirements of climate, soil, moisture, etc., of the various varieties.

To that end the Cultivator this week gives considerable attention to eucalyptus culture. The point we have in mind is shown in one of the varieties, that of the marginata or the famous Jarrah, which is such a wonderful and profitable tree in its native country, Australia. For some reason, probably due to our arid climate, this tree has never been grown in this State so as to reach any material size. Its planting on the part of some is still urged and the experimerter who wishes to test it out will probably do well to continue to plant it in small quantities but the planter who is engaging in the business on a purely commercial basis should use only the thoroughly tested varieties.

Out of the several hundred known eucalypti there have been tested in this State nearly 100 varieties at the Forestry Station at Santa Monica which was established by the State University, and still maintained by it, several years ago. There are now 70 of these varieties, all above ten years of age and all bearing seed. From the manner of growth of these trees at Santa Monica much valuable information may be had. The best way to secure this information is by personal investigation and conversation with the superintendent, Mr. Ingham.

But in case of inability to secure the information in that way, the bulletin issued by the Experiment Station at Berkeley, written by Mr. Ingham, Bulletin 196, has a valuable fund of information. Another book which is of great value. but which we fear is now out of print and may not be secured, is "Eucalypts Cultivated in the United States," and published as Bulletin Number 35 by the United States Department of Agriculture. This was written by the late A. J. McClatchie. One valuable feature of this book is the liberal use of engravings, showing leaf, blossom and seed in such a way as to assist in identification of the varieties.

1 2 3 4 5 6 7 9 10 11

Potted Plants Showing Leaf and General Characteristics of Young Trees.

1.—Rostrata, Red Gum; 2.Rudis;3.—Corynocalyx, Sugar Gum;4.—Cornuta, Yate; 5.—Viminalis, Manna Gum; 6.—Globulus, Blue Gum; 7.—Lencoxylon, South Australian Blue Gum; 8.—Polyanthema, Australian Beech; 9.—Regnans; 10.—Tereticor-nis, Forest Grey Gum; 1.—Saligna.

Photos. of Eucalypts Illustrating this issue were taken especially for the Cultivator by Leonard Coates of Morganhill.

Eucalypts Which Revel in Desert Heat

Theodore Payne of Los Angeles Writes of Experience in Planting Trees in the Colorado Desert

While all the species of Eucalyptus thus far tested in California, with possibly one or two exceptions, succeed near the coast; there are comparatively few species which can be grown successfully under the climatic conditions which exist on the desert.

An Experience.

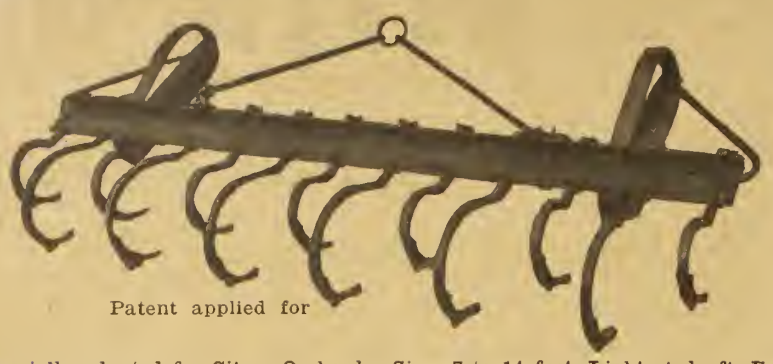
Some few years ago the writer experimented with twenty-five species at Thermal, on the Colorado Desert, and out of the number five proved successful. These were as follows: Eucalyptus leucoxylon (Victorian Ironbark,) Eucalyptus polyanthema (Red Box,) Eucalyptus rostrata (Red Gum,) Eucalyptus rudis, Eucalyptus viminalis (Manna Gum.) Of these five the Eucalyptus viminalis grew much faster and straighter than any of the others, many of them being from 12 to 15 feet high in less than one year from the time they were planted. This tree, however, is not so desirable as some of the other species if a salable timber is the object. but as an ornamental tree on the deserts both in California and Arizona it has arrived so well that it has often been termed the "Desert Gum." There is little known about the timber of this species, however, and it is not generally considered of very much value. Of late a disease has attacked some of these trees, and according to reports some of them are dying off, so for these reasons it is not likely this tree will be planted extensively.

Fine for Lumber.

Probably the best species for timber purposes on the desert is the Eucalyptus rostrata (Red Gum.) This has proved very successful in the Imperial Valley, and appears to gain faster than here on the coast. It is extremely hardy, enduring both heat and cold, standing a minimum temperature of 15 to 20 degrees Fahrenheit and a maximum temperature of 110 to 120 degrees. It

Continued on page 582.

WILLIAMS' GOOSE-NECK CULTIVATOR



Patent applied for

Especially adapted for Citrus Orchards. Sizes 7 to 14 feet. Lightest draft. Free trial to responsible parties. No agents. You pay only one profit. Write today.

WILLIAMS & SON, Manufacturers
Orange, California

Save Time—With the Brewster Picking Sack—Save Fruit

A new method sack—invented and perfected by lifelong growers. Eminent orchardists pronounce it perfect. Those who have tried it say they would not be without it. Actual tests show that a man can pick twenty-five per cent more fruit with it and with greater ease.

Sack forms semi-circle about picker's body—is supported by straps over both shoulders and held tight by belt around body. The picker can thus work with ease either on ground or ladder. When full, it does not extend below the hips.

A great feature of the Brewster Sack is the patent gate (see illustration) WHICH PRACTICALLY ELIMINATES BRUISING. Simply unfasten a hook—the gate drops—and the fruit can be quickly but very gently poured out.

The sack holds as much fruit as the old style sack.

Made in two grades.

Regular picking sack grade, sent express prepaid for $1.50.

Special extra quality—that will outlast two ordinary picking sacks—express prepaid $1.75.

Sierra Madre Sack Co., Sierra Madre, Cal.

We want reliable men in every locality to demonstrate this sack and act as our agents.

TREES

Season 1908-9

Order Now for Future Delivery

If your trees are purchased from the Fancher Creek Nurseries they will be true tc name well developed, with good roots.

FOR 25 YEARS we have been engaged in growing reliable nursery stock. Our thorough knowledge of every branch of the business makes it possible for us to raise and deliver stock that meets the demands of this country, and gives satisfaction to growers.

Last year we did the largest business in our history. This year our stock of

Deciduous, Citrus and Ornamental Trees, Grape Vines and Rose Bushes

is more complete and better than ever.

We are sole propagators and disseminators of

Luther Burbank's New Creations

Valuable Burbank Booklet illustrated in colors mailed for 25c.

SALESMEN WANTED

PAID-UP CAPITAL $ 200.000.00

FANCHER CREEK NURSERIES

INC.

Geo. C. Roeding Pres. & Mgr.

Box 12 Fresno, California, USA

YELLOW MONEY AND YELLOW FRUIT

Are a pair that travel together in good shape in an orange or lemon grove. Especially is this true if you will plant only the robust and true-to-name

Citrus Trees

grown by the San Dimas Citrus Nurseries, the largest growers of choice orange and lemon nursery stock in the world. No branch of horticulture offers better inducements in the way of profits, nor is there one more alluring to the person contemplating commercial fruit culture. For the past twenty years we have supplied the leading growers with their trees, and hope to number many more among our friends and patrons. Orders now being booked, subject to future delivery. Send for book on

"The Citrus Fruits: Historically, Horticulturally, Commercially."

Beautifully illustrated, and some 20,000 words of text. Price 25 cents.

The San Dimas Citrus Nurseries

R. M. Teague, Proprietor
San Dimas, California

Save Money and get a better choice by shopping in a Large City. We will do your Shopping for you. Send for our Free Book No. A. It Tells You How. ***Los Angeles Purchasing Co.,*** Pacific Mutual Bldg., 3d and Hill Sts., Los Angeles, California

EDISON PHONOGRAPHS, VICTORS, ZONOPHONES
Records and Supplies, delivered at your nearest railroad station upon receipt of full retail price. Write for particulars and ask for catalogue. Peter Bacigalupi & Sons, 1113-15 Fillmore St. San Francisco

With the Citrus Growers

THE GUAVA.

FROM an address by C. P. Taft of Orange, at the Whittier Institute some months ago we note the following on the Guava:

The strawberry guava is too well known to more than mention in this article, but the type commonly called the lemon guava, because it is sometimes, though not often, very acid, is not so generally grown, and where known is not particularly well liked. It has great possibilities, however. In size it is far larger than the so-called strawberry, and of quite attractive appearance. Sometimes the color is almost white, sometimes quite green, and frequently of a bright yellow, often with a red cheek. These variations are only what is naturally to be expected from seedlings, and almost no others have yet been planted. I have fruited quite a number, perhaps a hundred, and find it to possess qualities which if properly selected and developed will cause it to equal the strawberry guava in hardiness and flavor and early ripening.

The Feijoa.

Along with the guava should be mentioned that recent valuable introduction from South America, the Feijoa Sellowiana, a member also of the myrtle family. In habits of growth it is much the same, and while the foliage is not so handsome, being of a generally silvery gray effect, the flower is very showy. In May it sends forth a great profusion of blossoms, which may be called red, white and blue, unless one desires to be perfectly accurate, in which case the blue would have to be changed to purple. The petals are unusually thick and fleshy and very sweet to the taste. The highly perfumed fruit, about one and one-half to two inches or more in length, comes in November. The flavor is delicious, like the strawberry, but lacking the acid. The seeds are very small, almost unnoticeable; quite a contrast in this respect to the guava.

IMPROVEMENT OF CITRUS FRUITS.

In the last few years the methods of handling and shipping citrus fruits have been so changed that fruit handled under the best known methods is practically sure to arrive in the eastern markets in as good condition as when it left the packing house. This fact, among others, ought to be an incentive to produce a better grade of fruit; that is, to raise the percentage of fancy as compared with other grades. In the orange there does not seem to be any pressing need of new varieties, for the Washington Navel and Valencia, when grown to perfection, are par excellence. But there is room for improvement in the strain, especially so of the Washington Navel. Go into almost any packing house and it is evident that the amount of strictly first class fruit is small as compared with other grades. More effort should be put forth to improve the average. One of the ways which seem feasible today is by bud selection. The Washington Navel shows great tendency to sport, as can be seen in almost any grove. Some of these sports may not be worth propagating, while others show points that are worthy of trial, as has been shown by the new varieties or strains, such as the Golden Buckeye, Golden Nugget and others.

The Citrus Experiment Station, at Riverside, is making a selection of citrus trees found in the different localities that show variations which seem to warrant propagation, and would like to get in touch with the growers who may have a special tree or any tree which shows characters that differ from the ordinary. The Citrus Experiment Club, composed of orange growers of Riverside, has plans on foot to work in co-operation with the Station along the line of bud selection. The Station would be very glad indeed to hear from other clubs or individuals in regard to any special or freak trees that they may have. A letter or postal addressed to the Citrus Experiment Station, Riverside, in regard to this matter will receive prompt attention.—Prof. Ralph E. Smith.

THE OTHER SIDE.

The campaign against green oranges in Florida has brought so many arguments against it that finally a friend of the green fruit has arisen and writes as follows in the Packer:

During the last few years many papers in the state have printed editorials and communicated articles which have been extremely mischievous and have helped to bias unfavorably public opinion on the subject. and to create unwarranted prejudice, particularly in the North, where influential papers have given some of them space. It seems as though the time is ripe to present something on the other side of the question.

Because of such newspaper articles, and because of persistent efforts of certain parties who wish to prevent the shipment of green oranges the public, generally, are fast gaining the impression that there is something fearfully dangerous to health about the immature fruit, but this is a fallacy. When a fully grown green-skinned orange is eaten properly there is no more appetizing, healthy, system-cleansing fruit offered for sale in any market and there never was, or can be, the slightest actual proof produced to the contrary.

When an orange, or any other fruit is reaching a normal or full size and growth begins to cease, nature goes to work at once to transform the raw starch of the fluid contents (the only element not digestible by man) into dextrin and to sugar, and as soon as that process begins all danger from the use of such fruit is at an end, and the same is edible. The only advantage the overripe fruit has over it is that the juice has become extra "sugary," more of the dextrin being converted into sugar, hence slightly more easy of digestion, and, to some more palatable.

On the other hand, an orange, or any other fruit, held for shipment until ripe is a menace to health, because the overripe juice it contains rapidly degenerates, particularly when packed or exposed to the sun's rays, producing ferments antagonistic to the digestive fluids of the human organs. A green orange has a tough non-elastic skin, protecting the interior from injury in shipment.

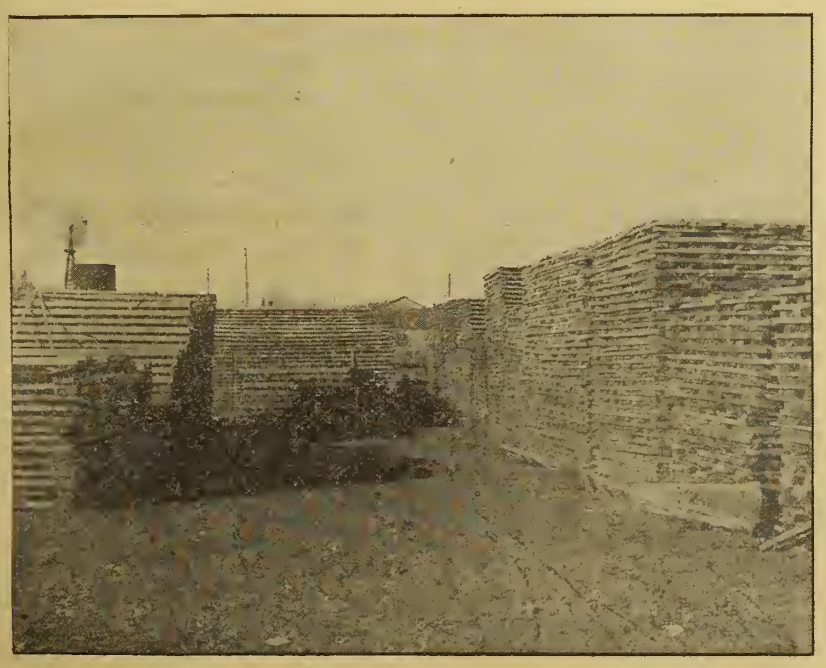
Tustin, Orange county, reports large shipments of all kinds of vegetables, there being shipped from that district alone over 10 large crates of peppers and 10 sacks of green peas each day.

A Valuable Gift from Australia

An Interesting Article Written for the Cultivator by Leonard Coates of Morganhill, with Photos by the Author

A BOTANIST by the name of L' Hertier first discovered and named the Eucalyptus. The botanist has to go to the dead languages to name a plant, for all nations agree to this, whereas the French, German, Italian or English language would be acknowledged only by those people using any one of them. Not only that, but the discoverer of any plant, insect, or animal, has the accepted right to give it a name, creating such a name himself, generally, by the aid of a knowledge of Greek or Latin. Thus, M. L' Hertier called this family of trees which he found growing in Australia Eucalyptus, from the Greek words eu, well, and kalypto, concealed because he noticed a peculiarity in all these trees in the flower bud being hermetically sealed, the lid subsequently falling off. Closer examination showed that, by the arrangement of the flowers, the seed, and other botanical characteristics, these trees could be classed with what is known as the Myrtle Order.

Eucalyptus logs at the Mill.



Seasoning Eucalyptus Lumber.

Still further investigation revealed the fact that this Eucalyptus family comprised a great many individuals, to which it was necessary to give names in order to avoid confusion. There are dozens of very different trees, both in appearance and in quality of timber, as well as in habit, that would have equal right to be called "red," because of color of the wood, or of the young shoots; or "blue" from the blue look of the leaves; "gray," from an appearance indicating that color; or "white," because of the smooth, white bark. Bastard," "swamp," "stringy-bark," "yellow," "weeping;" all these names, and many more, would be, and are, really meaningless, and could lead to nothing but confusion. Hence, while the family is known all over the world as "Eucalyptus," the individuals of that family are also universally recognized as "Eucalyptus globulus," the last name in allusion to the globular shape of the young leaves; "E. Citriodora," from the lemon-scented odor of the leaves, and so on. It would be useless to order of the seedman or nurseryman "gum trees," or eucalyptus trees except under their only accepted correct names, for otherwise he could not know what kind was wanted.

"Without the eucalyptus California would be a very different state, and

Continued on Page 584.

POTASH

is the surest standby in securing big yields of

GRAPES

of the finest quality which command the highest market prices. Potash meets the heavy demands of this fruit upon the soil, produces grapes of better color and finer flavor and improves the shipping qualities. Experience proves that

Potash is Profit

See that your commercial fertilizer is complete in Potash -not less than 10% of *any* formula.

For valuable Literature, FREE, write to

GERMAN KALI WORKS, 93 Nassau St., New York
CHICAGO—Monadnock Block. ATLANTA—Candler Bldg.

Meyer, Wilson & Co., San Francisco, Cal., are Sole Agents for the Pacific Coast

TRUE STOCK A QUALITY

TREES

The New Fruits

Santa Rosa Plum
The Rutland Plumcot
The Opulent Peach

And the usual full and complete assortment of citrus, deciduous and small fruits, all of which are graphically described in our new

Twentieth Anniversary Catalogue

a copy of which we want every one to have who is interested in planting trees; it is free.

ARMSTRONG NURSERIES
ONTARIO, CAL.

The Roessler & Hasslacher Chemical Co.

100 William Street, New York
Works: Perth Amboy, N. J.

THE ROESSLER & HASSLACHER CHEMICAL COMPANY NEW YORK CHEMISTS

CYANIDE guaranteed 98-99% for generating HYDROCYANIC ACID GAS

The only positive eradicator of the SAN JOSE SCALE, RED and BLACK SCALE and other insect pests

FOR SALE BY

F. W. BRAUN - Los Angeles and San Francisco
HAAS BARUCH & CO., " "

TENTS

Fumigating and Lemon Curing Tents our Specialties

Irrigating Hose, all sizes. Prices and Samples quoted upon application. Write your wants
Wagon Covers, Hay Covers, and Canvas Covers of Every Description.

Mellus Bros. & Co
Phones—Home, F 4871; S. S., Main 3500
250 East Fifth St., Los Angeles, Cal.

Citrus Trees Navels Valencias Lemons Pomelos

Sweet and Sour Orange **Seed-Bed Trees,** strictly first-class stock, free from scale. We also have several hundred Phoenix Canariensis and Washingtonia Robusta Palms for sale cheap. Write for prices in large or small quantities.

Southland Nurseries, F. H. Disbrow, Prop.
Phones: Main 949; Home 2520 R. D. No. 1, PASADENA, CAL.

125 to 140 lbs. of Grapes to the Vine

Raised by Ex-Postmaster Rush Stevens of Sacramento on his ranch with

Tom Lewis' Fertilizer

My Fertilizer is lower in price than other fertilizers and guaranteed to give results. I have hundreds of testimonials. Send for circular and prices.

Tom Lewis, 1916 1918 10th St., Sacramento, Cal.

TREES TRUE TO NAME

AND

Propagated From the Best Specimens of Their Kind

TWO IMPORTANT FACTORS

Placer Nurseries

(Established 1878)

OUR ASSORTMENT

Comprises all the Best Commercial Varieties of

Peaches
Plums
Pears
Apricots
Almonds
Cherries
Apples
Persimmons
Grapes, Etc.

Order Now
Write Us

and our stock is the best that years of experience, care in selection, and care in growing can produce. That is what you want.

Catalogue and Price List Mailed on Application

The Silva-Bergtholdt Co.

Newcastle, California

Agents Wanted

Trees Grape Vines

Full Line of Commercial Sorts

Grown on Virgin Soil, True to Name, and Healthy. Nineteen years of fair and square dealing makes us the most popular nursery in the West. ***Wilson's Trees and Grape Vines*** long noted as the very best. Catalog and Price List for the asking. Address

The Fresno Nursery
F. H. Wilson, Proprietor
Box 615a - - Fresno, California

Citrus, Deciduous and Ornamental Trees Plants Roots Vines

All the Leading Varieties

Burbank's Spineless Cactus by the Pound or Ton

Our Potted Plants and Shrubbery are free from frost and insect pests. Reliable Agents wanted to work on commission. Send for Catalogue.

San Fernando Nursery Co.
San Fernando, California

1-2 Million Eucalyptus Trees In Variety

Transplanted in flats of 100 each. We prefer orders of 1000 rather than 10,000; outside limit 20,000. Our trees are of the highest standard in quality. Correspondence invited. Our Booklet telling when, how, and what to plant free to our patrons only. Address

W. A. T. STRATTON, Nurserymen, Petaluma, Cal.

EUCALYPTS WHICH REVEL IN HEAT.

Continued from Page 579.

seems to revel in the heat, and is a fast grower, providing it is supplied with plenty of water. The wood is heavy, hard and extremely durable both under ground and in water, and is used in Australia for railway ties, telegraph poles, shipbuilding, bridge-building, street-paving, fence posts, etc. It also takes a fine polish, and is used for interior finishing.

The Eucalyptus leucoxylon (Victorian Ironbark) thrives under the same conditions as the Red Gum, standing the same extremes of heat and cold. It grows rapidly under desert conditions, but is rather inclined to grow crooked when young; for this reason careful staking is essential. In its native country it attains a height of 100 feet and supplies a timber of great strength and durability, according to Australian tests bearing nearly twice the strain of American oak and ash and excelling hickory by about 18 per cent. The wood is much used for wagon wheels, poles, etc.

The Red Box.

One of the most beautiful of all the eucalypts, and one which thrives on the desert, is the Red Box (E. polyanthema.) It will stand the same extremes of heat and cold as the Red Gum, but is not a fast grower. In Australia it attains a height of 150 feet and furnishes a very hard and lasting timber used for mining purposes, railway ties and wagon building, and for fuel it is unsurpassed by any other species. As an ornamental tree it is one of the most desirable, of rather spreading habit with roundish silver-gray foliage and producing clusters of many small white flowers at the ends of the branches which are rich in honey and much sought after by bees.

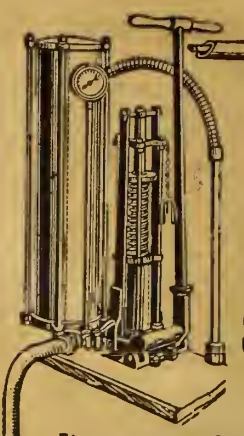
Tereticornis.

The Forest Red Gum (E. tereticornis) has been planted extensively near Holtville. It is closely allied to E. rostrata and under conditions near the coast is considered preferable to that species on account of its growing straighter and faster; but according to the experience of some of the largest planters on the desert it has not proved so good as E. rostrata, and while they made a good start, many of them died off without any apparent cause before they had attained one year's growth. It may be mentioned here that there are two varieties of this species, one producing a very small seed vessel and having a round leaf and somewhat square stem when in the young state, the other having a larger seed vessel and a lance-shaped leaf, more resembling the E. rostrata. By many the former variety is considered the best. Among others the late Mr. Dwight Whiting, who planted large groves of eucalyptus at El Toro, in Orange county, was particularly favorable to this tree, and planted it very extensively; while it may be the best for coast conditions, it is this form that has not proved successful on the desert. The other type, which more closely resembles E. rostrata, might prove a better one for the desert conditions. In Australia the tree attains a height of 160 feet. The timber is used for railway ties, telegraph poles, etc.

Sugar Gum Will Stand Heat.

Eucalyptus corynocalyx, or the Sugar Gum, as it is commonly called, will also stand the intense heat of the

Cream Separators, all sizes, all prices. O. J. Weber Co., 555-557 S. Los Angeles street, Los Angeles.



See That Patent spring?

It means much to the fruit grower who realizes the need for effective spraying, but deplores the ordinary pump with its exhausting labor, its unsatisfactory spray and its continual clogging and bother. This spring is found only in

Bean Magic Spray Pumps

It would be found in others, but the Bean Patents prevent it. This spring divides the work, permitting the operator to do half the work at each stroke of the handle. And he works against but half the pressure indicated on the gauge. It saves just one-third the labor. Two sizes of Bean Magic pumps; both have Bean patent spring, non-clogging ball valves, and other exclusive features.

Our illustrated catalog No. 21 describes ten sizes of hand pumps, and contains much valuable spray information, and formulas. Catalog No. 22 describes Power Sprayers. Both books sent free. Write for our special offer; state number of acres and kind of fruit.

Bean Spray Pump Co.
212 West Julian Street
San Jose, Cal.

PEACHES

Best Policy to Plant When Prices Are Down

Muir
Sellers Free

Regular bearers; fruit dries heavy.

Tuscan Cling
Sellers Golden Cling

Bear heavy crops; always money makers

$150.00 per 1000

Write for Full Catalogue

LEONARD COATES NURSERY CO., Inc.
MORGANHILL, CAL.

E. H. Learned, Tropico, Cal.
GROWER of STRAWBERRY PLANTS

Plants now ready. ***Brandywine, Klondike*** and ***Excelsior.*** Price $2.50 per thousand. Of the very best selected stock. Reduced rates in quantities a matter of correspondence.

Address mail R. F. D. No. 5, Los Angeles

Improved Berry Plants

Strawberry, Blackberry, Raspberry, Loganberry, Himalaya, Phenomenal Berry and Dewberry Plants in variety. You will save money by getting our catalog before ordering.

G. H. HOPKINS & SON
Burbank, Cal.

Hawaii observes November 13 as arbor day.

Send for Catalogue
Now Ready, of

Berries, Trees, Bulbs, Etc.

Special Offer for Four Weeks:

	PER LB
1000 lbs. Australian Brown Onion Seed	$1.00
200 lbs. Yellow Danvers Onion Seed	1.00
50,000 Rhubarb, cheap, ready now	
100,000 Strawberry Plants, ready now	
10,000 Superlative Raspberries, ready now	
5,000 Dutch Hyacinths, every color, $2.00 per 100.	

Lots of Other Stuff Ready to Ship Wholesale and Retail

A. MITTING
17-23 Kennan St. Santa Cruz, Cal.

EUCALYPTUS SEED

Eucalyptus rostrata, the Red Gum
E. corynocalyx, the Sugar Gum
E. tereticornis, the Forest Red Gum
E. globulus, the Blue Gum
E. citriodora, Lemon-Scented Gum
E. cornuta, the Yate Tree
E. polyanthema, the Red Box
E. leucoxylon, Victorian Iron Bark

and Many Other Valuable Sorts

I shall be pleased to correspond with prospective buyers and give particulars as to prices on the seeds I am offering. Trial packets of any variety 15c each, 2 for 25c, or twelve for $1.25. Also young trees of many varieties for sale. Send for circular and cultural directions.

THEODORE PAYNE
NURSERYMAN AND SEEDSMAN
Home Phone A2480
345 S. MAIN ST., LOS ANGELES

300,000 Eucalyptus

Fruit Trees
Shade Trees
Roses Shrubs
Palms Ferns

And everything that you need for your ranch or garden. Send for free catalogue

Sycamore Grove Nurseries
SAINT & WARNER
4584 Pasadena Ave. Los Angeles

EUCALYPTUS

Balled in moss and leaf mold. All the roots saved. None sent out too small to plant. Sample lot of 100 in flats, tops protected, $1.60.

Henry Shaw
320 River St. Santa Cruz, Cal.

The official estimate for the output of oranges in the Tulare county country is claimed to be very close to the twenty-five hundred mark.

desert, but will not stand much cold. The writer had this among the twenty-five species experimented with, and it grew admirably through the summer, but was frozen down to the ground the first winter. However, the season mentioned was an exceptionally cold one, and the tree has since been tried in the same locality, and withstood the cold. This tree is probably the most drought-resisting of all eucalypts, and is one of the best for planting on dry hillsides; however, it is not a fast grower unless supplied with plenty of moisture. In Australia it attains a height of 120 feet, and furnishes a very hard and durable timber, used for railway ties, fence posts, etc. Posts set in the ground, after fifteen years, showed no sign of decay.

The Heaviest Wood.

Another valuable tree, which endures the hot, dry summers of the interior, is the Yate, Eucalyptus cornuta. But this, too, will not stand severe cold, being injured by minimum temperature of 23 to 26 degrees Fahrenheit. It prefers a rich soil with plenty of moisture, but will grow in poor soil, and will even thrive in strong alkali land. The writer has seen it growing in land so strong with alkali that no other tree would grow there, and surrounded by water for several months. It forms a rather bushy, spreading tree except when grown in grove form, when it will grow much straighter. It has been largely used as an ornamental street tree and for windbreak, for which purpose it is probably unsurpassed by any other species. The wood is one of the heaviest of all eucalypts, and according to Australian tests it is the strongest wood in the world.

The following is a quotation from one of the Australian authorities: "As a sawn timber Eucalyptus cornuta, known as Yate, is probably the strongest in the world, being far ahead of the rest of the Australian hardwoods in every variety of test; and in one tensile test with this timber a breaking load of 17½ tons per square inch was recorded, a value only 3½ tons below that usually specified for wrought iron of ordinary quality." The wood is used for various artisan's work and preferred for the strongest parts of carts, wagons and other work requiring hardness, toughness and elasticity.

Will Stand 156 Degrees.

Perhaps a species that will stand more heat than any other is Eucalyptus microtheca (Collibath.) There are not many reports available regarding this tree on our deserts, but it has grown successfully in Arizona wherever it has been tried. It is indigenous to the hot, dry deserts of Australia. Baron von Mueller states in his "Select Extra Tropical Plants:" "It withstands unscorched a frequent heat of 156 degrees Fahrenheit in Central Australia." It also endures severe frosts. The timber is valuable for railway ties, bridges, posts and for general building purposes. The wood is brown and sometimes very dark; hard, heavy, elastic and very prettily marked, and is used for cabinet work to some extent.

The Gray Box.

The Gray Box (Eucalyptus hemiphloia) has been grown successfully in Arizona, never having been injured by the heaviest frosts or the hottest winds. The foliage is more dense than most species, making it one of the best for shade purposes. The wood is hard and tough and in Australia is used for railway ties, telegraph poles, shafts, spokes, plow beams, etc.

Eucalyptus crebra or the Narrow-leafed Ironbark, has also been grown successfully in Arizona. It endures extremes of heat and cold, standing a minimum temperature of 18 to 20 degrees Fahrenheit, and a maximum temperature of 110 to 118 degrees. It is usually a straight, slender-growing tree, attaining a height of about 100 feet. The wood is reddish in color, hard, heavy and durable, lasting well underground and used for railway ties, piles, bridge-building, wagons, fence posts, etc.

For Mehring Foot-Power Milking Machines see O. J. Weber Co., 555-557 S. Los Angeles St., Los Angeles, Cal.

IT'S PENNY WISE

Policy to set out a good tree, costing good money, and then let the sun burn the bark or the rabbits gnaw it, when for $1 an acre you can get Yucca Tree Protectors that are practically indestructible. Write for free sample of the wrap. Yucca Manufacturing Company, 1380 Willow street, Los Angeles.

MERIT WINS.

From an exhibit made by the National Wood Pipe Co., at Albuquerque awards were made which give much satisfaction to that progressive concern. Sales Agent Dennis writes us as follows:

"We are pleased to announce that we are in receipt of diploma of award from the International Industrial Exposition and 28th Annual New Mexico Territorial Fair held at Albuquerque, New Mexico, September 29th to October 10th, 1908. This exposition and fair was held in connection with the 16th National Irrigation Congress. This diploma was awarded to National Wood Pipe Company for best exhibit of wood pipe for City Water Works, Irrigation Systems, Mining and Power Plants.

"In this connection we would state that we exhibited our machine banded redwood and fir pipe. Pipe exhibited was of various diameters and banded for various pressures up to 450 inches head. We also exhibited numerous fittings which are used in municipal and irrigation systems. Our exhibit was located in the forestry building."

NEW NURSERY COMPANY.

The San Fernando Nursery Co., San Fernando, although new to our readers, promises to be one of the leading nurseries of the state. The company already has 25 acres comprising all varieties of citrus and deciduous fruits. They are very nicely situated in the beautiful and fertile San Fernando valley. They thoroughly understand the business and besides fruit trees they grow ornamental trees, roses, and palfs.. They also have quite a large lot of Burbank spineless cactus.

The company has issued a catalogue which will be sent on request if you mention the Cultivator.

TRANSPLANTER.

We noticed recently at the Aggeler and Musser Seed Co., a most convenient little transplanter used for lifting the little eucalypts and other small seedlings from the seed bed and placing in the flats. The Aggeler and Musser Co. have a complete line of all nurserymens' supplies. They are at 113-115 No. Main St., Los Angeles.

TURKESTAN ALFALFA.

The favor with which the new alfalfa, Turkestan, is being received, especially in sections where moisture is scarce, shows that it is making good in a way which prophecies a great future for it. It has many admirable qualities such as "drouth resistance, fine stalks, many leaves and heavy yield. It's a winner and the Germain Seed Co. of Los Angeles say they have some of the finest imported seed which was ever brought to this country.

SECURITY.

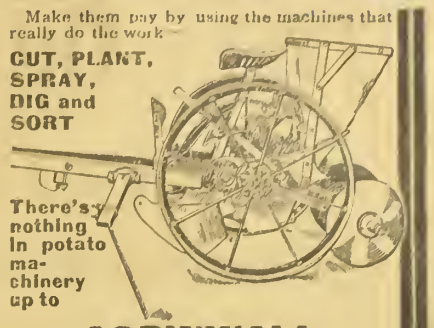
An exquisite little booklet is issued by the Security Savings Bank of Los Angeles. Nearly every page in the book has illustrations and it gives a person one of the best ideas of banking which may be had in such a small pamphlet. The offices, vaults, and store rooms are all described and illustrated in detail. It may be had for the asking and is well worth sending for.

Wood Soled Boots and Shoes. Boots $3.25; Shoes, $2.00 O. J. Weber Co., 565 South Los Angeles St., Los Angeles, Cal.

POTATOES PAY

Make them pay by using the machines that really do the work

CUT, PLANT, SPRAY, DIG and SORT



There's nothing in potato machinery up to

ASPINWALL EQUIPMENT

Write for copy of our **free book** telling how to make money, growing potatoes.

ASPINWALL MFG. CO.
405 Sabin St., Jackson, Mich., U.S.A.
Pioneer Makers of Potato Machinery

FERRY'S SEEDS

Ferry's are best because every year the retailer gets a new supply, freshly tested and put up. You run no risk of poorly kept or remnant stocks. We take the pains; you get the results. Buy of the best equipped and most expert seed growers in America. It is to our advantage to satisfy you. We will. For sale everywhere. Our 1909 Seed Annual free. Write to

D. M. FERRY & CO.,
Detroit, Mich.

Illustrated Rose Book

Why not send for our new photo illustrated Rose Book? It's a little the finest thing ever published on the rose in the United States, and as well, we are the largest growers of this line in the world. GOOD ROSES, good varieties, ROSES WORTH GROWING, cost you no more than "any old thing" grown and handled in any old way. (Note our guarantee in catalogue.) For the money, labor, etc., judiciously invested nothing in the floral line will yield such satisfactory returns as the ROSE. REMEMBER, WE PAY THE EXPRESS and charge you no more than our neighbor who comes to our place for his roses.

California Rose Company
Incorporated 1901
Pomona, Los Angeles County, Cal.

Marshall's Nurseries..

Growers of
Fruit Trees, Grape Vines, Shade and Ornamental Trees and Plants.
Catalog sent on application
S. W. MARSHALL & SON
Fresno, California.

5000 Grafted Walnuts

1 and 2 year old grafts

On California black and English walnut roots. The stock of the California black are all from northern grown seed from large trees.

Prices very reasonable.
Eucalyptus in variety.
GEO. S. WEINSHANK
505 Magnolia, Ave. Whittier, Cal.

FOR SALE

Fine thrifty year old peach trees all varieties. Three kinds of apricot trees. Year old grafted walnut trees on native roots. All kinds of plum trees.

SHROEDER & HEISLER
Lankershim Cal.

Oregon Dairymen's Association held its annual association at Salem December 10-11.

"THE MAN WITH THE HOE"
SHOULD SOW
MORSE SEEDS
ALWAYS RELIABLE

Our new general Catalogue is now ready for mailing and will be found of great value to the planters of

SEEDS, PLANTS AND TREES

This Catalogue is the finest we have ever issued and will be mailed free to all who write to us.

C. C. Morse & Co.

If in the city call at
Retail Store
125-127 MARKET ST.
Opp. junction with California

When writing address us at
Jackson Street
SAN FRANCISCO

Practical Proven Seeds

Send for our illustrated price list of market gardener's seeds. We supply 95 per cent. of the seed sold to growers of vegetables for the only wholesale market in San Francisco, the great Colombo market, one of the sights of the city. All seeds sent out by us are positively guaranteed to be true to name. Write us.

COLOMBO MARKET SEED CO.
614 Front St., San Francisco, Cal.

VEGETABLE SEEDS
GARDEN SEEDS
GRASS SEEDS
FRUIT TREES

We have built up a flourishing business by supplying the best seed obtainable. Many we grow ourselves, others we import from Holland, Germany, Italy, etc. Send us a trial order. At least get our illustrated price list.

The Seed House
OF THE
Great Southwest

1909 Seed Catalogue We are now mailing 45,000 copies of the most complete Manual of Garden, Field, Flower and Tree Seeds, Nursery Stock, Eucalyptus, Incubators and Poultry Supplies.
If you do not receive yours by the 20th of December, write for it and get your name on the list.

Aggeler & Musser Seed Co.
Successors to Johnson & Musser Seed Co.
113-115 No. Main St. Los Angeles, Cal.

SEEDS
TREES PLANTS BULBS

If you are interested in the Best Seeds, Etc., write for our 1909 Seed and Plant Annual, which we will mail to you free. Please mention this paper.

Trumbull Seed Company
Successors to Trumbull & Beebe
61 California St., San Francisco

"XXX"
(TRIPLE STRENGTH)
Squirrel Poison

GOPHERGO

"XXX" is superior to any squirrel poison sold because it:
Has three times the strength.
Has the poison IN the grain, not ON it.
Will not weaken with age or rub off.
Is sweetened and scented.
Is thoroughly dried and will not mould.
Will go farther and act surer.
Is guaranteed.
Sold in bulk in any quantity.

"GOPHERGO" is a sure exterminator and will kill ten gophers where traps or other devices kill one. Small cost and no trouble to apply. Sold everywhere in cans, 25 cents to $2.50
We make a business of exterminating gophers and squirrels, and can save you time and money. Write to us.
KNOX MFG. CO., 320 S. Main Street, Los Angeles, Cal.

A VALUABLE GIFT.

Continued from Page 581.

their value to the commonwealth is beyond calculation." (Bulletin 35 of the Bureau of Forestry, U. S. Dept. of Agriculture.)

Forty years ago Planchon remarked that he saw hundreds of thousands of eucalypts planted in Northern Africa, and that no other tree has so promising a future.

Fifteen years ago, James Bryce, now Minister to the United States from Great Britian, said in his "Impressions of South Africa," "one sees them (the eucalyptus) almost everywhere, mostly in rows or groups about a house or hamlet, but sometimes in regular plantations." And so in parts of India, South America, Southern France and Italy, the eucalypts are proving the saving factor for man's wantonness, foolishness, and shortsightedness.

There are species of Eucalyptus suited to California conditions from which hardwoods are produced for use in every branch of the building and constructive industries where timber is needed.

Not only that, but the Acacia melanoxylon grows with marvellous vigor in good land, and yields a special timber greatly in demand for piano, billiard table, gun-stock, and similar work. So with the Casuarinas, of immense value for fuel, and hardwood purposes, these growing in the driest localities.

Some Eucalypts delight in a dry hillside; some prefer a swamp, while there are others that thrive under conditions midway between these two. Surely a most accommodating family! And yet we in California shall almost monopolize the industry. Some species, are doing well in portions of Arizona, but elsewhere they will not grow successfully.

One almost wearies in reciting the multitudnious uses of the Eucalyptus. In Australian seed catalogues the Sugar Gum (E. corynocalyx) is actually classed with the fodder plants. It is one of the very best for hardwood, posts, poles, etc., and prefers a hilly or well-drained soil, but it has been found that sheep and cattle will feed on it, keeping in good condition, and for this reason additional incentive is given to its extensive planting in arid regions.

The planting of Eucalypts will solve the problem that the bee keeper always has with him. There are species, which properly selected, will give a succession of bloom, every day in the year.

As I write, November 23rd, a tree of E. leucoxylon near the house is in full bloom, 2½ years old, and alive with bees. And what can be more beautiful for grouping or for avenues, than certain species of Eucalyptus, intelligently selected, with a view to the ultimate effect?

Perhaps no better demonstration of landscape effect, both in grouping and in avenue planting, can be seen than about San Mateo and Burlingame, to the west of the railroad, among the rolling hills. This is but 20 or 30 miles from San Francisco, and is evidence of the skill and forethought of some of the old California pioneers, the Stanfords, Crockers, Floods, and others. Nothing in the whole of Southern California can compare with the arboreal beauty and grandeur of this region. These hills, with rich soil, a cool, even climate, bubbling with springs, were clothed by nature with a rich and luxuriant undergrowth, interspersed with groups of magnificent live oaks. Skilled landscape gardeners were allowed a free hand and a long purse half a century ago by these millionaire railroad men. But the owners do not encourage the sight-seer or the Eastern tenderfoot.

Manufacturing Insulator Pins from Eucalyptus.

Henry Miller, the Cattle King of California, over eighty years old, is planting many thousands of Eucalypts on his Mount Madonna home, high up in the "Redwoods" west of Gilroy, and overlooking the Pacific Ocean. Amidst groves of tan-bark, oak, redwood, madrone, and a wealth of trees and shrubs which cover these northern hills may be seen Eucalyptus trees of many species, some already looking down with disdain upon the native trees and racing upwards madly one or two feet a month in their haste to get more sunlight and away from the shade in which they were planted. For the Eucalypt loves sunshine, while luxuriating in the moisture of these rich mountain sides.

What a boon to California are these Eucalypts from the Antipodes! Giving us in twenty-five years a tree yielding as much valuable timber as a native tree would produce in one or two hundred years; and more, because the timber is hardwood.

And yet Henry Miller would not plant these trees if he thought they were to be cut down; he loves a tree; would there were more such!—Leonard Coates.

Varieties of Eucalypts

Species, Varieties and Requirements of Eucalypts. Written for the Cultivator by O. M. Morris of Los Angeles.

THERE is no set or positive rule to be followed with eucalyptus as a demand of the species is not inflexible and often a variety will survive though entirely out of its practical habita. Sufficient knowledge is now at hand and experiments far enough along to pretty well define the range of practical culture of some two dozen or more with a well known species.

In case of temperature there is much to be considered, such as the age of the individual plant, the soil, and particularly the condition of the growth of the individual. If it is thriving and the temperature change comes gradually, it will frequently stand heavy freezing without injury. On the other hand, often a less severe cold snap will greatly damage and often kill them. A locality where the temperature in the fall becomes a low, constant cold one and is gradual, hardens the tree down and it is less subject to severe shocks. The writer has just been convinced very positively of this by having a branch handed him of eucalyptus Rustrata several inches in diameter, grown on the Mojave Desert where the snow often covers the ground to a depth of one or two feet and where their winter temperature is quite as severe as California severity goes, often only a few degrees above zero. There is also considerably written lately concerning the wide range of planting that can be done. While the eucalyptus, in most of its species, reveal also considerable written lately conand climatic condition, there is a boundary to its successful growth, but we believe that it would be possible, by the careful selecting and planting of adaptable species, to cover the greater area of this state with some one of the other of these great and really wonderful trees.

While we all realize that most any of the many species will thrive close to the Coast where the temperature is equitable, this is not so with the mountain sides or hot interior valleys. There the selection of a more hardy and even at times more resistive species, must be considered, while in other cases, swamp loving and even some varieties demanding lime hillsides are to be preferred. All, or most of them, however, thrive far the best on well watered, rich, bottom land. But some, such as Corynocalyx and Polyanthema, will do near the coast on abrupt hillsides among rocks and with but little soil. The former will not stand the hot dry winds, sun or cold of the desert valley or some parts of San Joaquin valley, while the latter named thrives splendidly, withstanding low temperature, the real limit of which we are not able to say. This species, and others, such as rostrata, tereticornis, viminalis, leucoxylon, regnans and Stuartiana will thrive at a very low valley temperature, stand great heat and bright desert sun without injury. Again E. globulus and diversicolor, will come to the greatest perfection near the coast in the cool breeze and fog, both loving good bottom land and plenty of water, the growth on either being only one-half of that on good soil, if planted on hillsides.

Much has been heard lately as in the past concerning the E. marginata. While this tree is one of the most wonderful of the species, it is wholly a failure in our state. After having made large plantings of this species in various places and at different times throughout Southern California and thousands and tens of thousands of plants being used in these experiments, the writer does not know of a good thrifty tree growing in the state. This tree grows on the lime hillsides in West Australia and is known around the globe as the famous Jarrah, the wood of which is worth from eighty cents to one dollar per cubic foot in the native forest but its proper requirements and conditions are not found here. Plantings made in good season gradually disappear. We might mention right here also that there is much land now being planted to some species under climate and soil conditions which are wholly unsuited to the ultimate desired results. For instance, E. rostrata, while its climatic requirements are not so exacting, in fact, being hardy most all over the state, is a species that must have good bottom soil and plenty of water, to obtain anything like good growth. Of all the species we have, this is one of the most crooked and slow growers if planted on hill or dry mesa land, while on the other hand, if planted on rich bottom land, it makes straight and quick growth.

Choice of Species.

Generally speaking, E. globulus, we should recommmend for localities close to the coast on good soil with E. corynocalyx for hills and rough land. Diversicolor, Botryoides are both valuable timbers for planting on bottom lands; the E. rostrata, tereticornis with hot interior valleys.

WOOD PRODUCTION IN GERMANY.

Among all the nations of the world, Germany receives the credit of being the most thoroughly scientific. She does with her limited natural resources what younger nations will soon be compelled to do in self-protection; she conserves them.

When our wood supplies are within sight of their end, and sawmills that have been moved from the white pine belt of the north to the yellow pine belt of the south, have been moved to the Pacific Coast for their last stand. then Germany's scientific forestry policy will receive better recognition.

We do not think of moving a grist mill about from one wheat field to another, as the fields in turn become exhausted. After one crop is harvested another is coming on. So it must be with the sawmill and the crop of trees. If it takes 50 years to raise a tree of a given species, then one-fiftieth of the forest may be cut each year, provided it reseeds or is replanted—and the sawmill stays at the same place and the workmen live in their permanent homes near by; the "lumber shanty" will be a thing of the past; raising trees a business like raising wheat.

Hortieultural Commissioner Pease of San Bernardino county has been given power to create districts within his own county which may quarantine against other districts of the county. This is to prevent the spread of scale and other fruit pests.

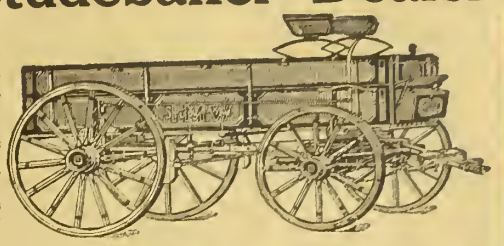
LARGEST VEHICLE MAKERS IN THE WORLD
Studebaker
THE STUDEBAKER PLANT COVERS 101 ACRES

Means Absolute Satisfaction

When a firm has been making **Wagons, Vehicles and Harness** for more than 50 years, with an increased trade every year, there must be a good reason for it. In the case of the *Studebaker*, the reason is the *absolute satisfaction* that everything which bears the *Studebaker* name and guaranty gives to the purchaser. Before you buy a **farm wagon** or a **vehicle** of any kind or a set of **harness**

See the Studebaker Dealer

and let him show you why a Studebaker lasts so long and gives you such good service. It will pay you to investigate. If you do not know who your Studebaker Dealer is, we will be glad to send you his name. Mention this paper and send us two cents in postage and we will mail you free Studebaker 1909 Farmer's Almanac, containing, "In Oklahoma," Cyrus Townsend Brady's inspiring story of pioneer days.



Studebaker Bros. Mfg. Co., South Bend, Indiana, U. S. A.

Newell Mathews Co.
Studebaker Agency
200-202 No. Los Angeles St. Los Angeles, Cal.

Air Dried Spruce Boxes
FRUIT, EGG, BUTTER
AND ALL OTHER KIND
C. A. Smith Lumber Company
Correspondence Solicited BAY POINT, CAL.

GRAFTED WALNUTS
Placentia Perfection
If interested Write Us for Information
A Few Thousand Orange and Lemon Trees For Sale
Whittier Nursery
Established 1887
Home Phone 288
Chas. H. Hamburg
Whittier, Cal.

Fruit Growers and Vineyardists
We Would Advise You to Use Our P.N.K.
This is a Fertilizer well adapted to produce a good, vigorous growth to your trees and vines, and the best quality of fruit in quantities that you desire, consequently paying you large interest on the money expended. Make a trial of this brand and you will use no other. Write for our pamphlet, *"The Farmers' Friend,"* for 1909.
The Pacific Guano and Fertilizer Company
268 S. Market Street - - San Francisco, California

Use the Famous Rex Lime and Sulphur Solution
For spraying your trees and vines. Hundreds of carloads of these goods have been used on the Pacific Coast, giving the best of satisfaction for Scale, Scab, Red Spider, Red Scale, Apple Mildew, Grape Mildew, in fact, all kinds of insects and fungi that prey upon California Citrus and Deciduous Fruits.
Manufactured and Sold by the
California Rex Spray Company, Benecia, Cal.

AUSTRALIAN EUCALYPTUS
Grown from imported seed by Mr R. S. Webb, our Eucalyptus expert from Australia. The following is a list of the varieties of Eucalyptus we have growing and the number of trees we expect to have ready for transplanting early in April.

E. Rostrata 80,000
E. Globulus 13,000
E. Saliga 2,000
E. Macrorrhyncha 1,200
E. Marginata 300
E. Punctata 1,500
Syncarpia Laurifolia 7,000
E. Tereticornis 33.000
E. Microcorys 6,500
E. Paniculata 5,000
E. Maculata 1,100
E. Corynocalyx 3,000
E. Citriodora 80
E. Pilularis 11.000
E. Resinefera 5,000
E. Sideroxolon 500
E. Haemostoma 1,500
E. Gunnii 800
Tristiania Conferta 450

AGGELER & MUSSER SEED CO. 112-15 N. Main St. Los Angeles, Calif.

Creamery Supplies

Cream Separators Milk Cans
Combined Churns Milk Bottles
Babcock Testers Brushes
Butter Moulds Wrappers
Engines and Boilers Milk Coolers
PASTEURIZERS
MILKING MACHINES
Creamery and Dairy Supplies and Machinery of all Styles and Sizes

Send List of Goods Wanted and we will Quote Prices

O. J. WEBER CO.
555-57 S. Los Angeles St.
LOS ANGELES, . CALIFORNIA

300,000 Feet Water Pipe Cheap

ALL SIZES

150,000 feet of this shipment is second-hand pipe, practically as good as new, and is now on sale at a big discount by the Adams Pipe Works, 2025 Bay street. Sizes and prices: ¼-inch 2 cents per foot; ⅜-inch, 2 cents per foot; ½-inch, 2¼ cents per foot; ¾-inch, 3 cents per foot, 1-inch, 4¾ cents per foot; 1¼-inch, 6 cents per foot; 1½-inch, 7 cents per foot; 2-inch, 9¾ cents per foot; 2½-inch, 15 cents per foot; 3-inch, 19 cents per foot; 3½-inch, 24½ cents per foot; 4-inch, 30 cents per foot. Oil well casing prices and sizes: 2-inch. O. D. 7 cents per foot; 2-inch, I. D. 9 cents per foot; 3-inch, 13½ cents per foot; 3¼-inch, 16 cents per foot; 3½-inch, 17 cents per foot; 4-inch, 20 cents per foot. All pipe is carefully inspected, new couplings and new thread are put on every piece, every joint is guaranteed to be first class, serviceable pipe. Mail orders promptly filled. To reach the Adams Pipe Works in Los Angeles, take car marked Pacific Boulevard, starting east on Seventh street from Broadway. Ask conductor to let you off at Bay street and go east half a block. Phones, F1917, Broadway 1264.

PASPALUM DILATATUM

King of dairying and fattening grasses. The great Australian drouth resister. Primest heavy seed direct from the grower, 4 lbs. (ample for trial) post free, $2.00. Full information.

C. F. JULIUS
Central Bucca, Coffs Harbor, New South Wales

HOLSTEINS

We Have For Sale a Number of Registered Young Bulls and Heifers $100
All our stock comes from the celebrated herd formerly owned by the Pierce Land and Stock Co., the premium herd of Holstein Friesians in California. Oakwoods Stock Farm Co., Lathrop, Cal

John Lynch Breeder of Registered **Shorthorns**
MILK STRAIN
Box 321 Petaluma, Cal.

Berkshires--Shorthorns
My Berkshires took 9 First, 6 Second and 4 Third Prizes and both Gold Medals. 50 Head For Sale.
G. A. MURPHY, PERKINS, CAL.

THIRTY THOROUGHBRED
Poland China Hogs and Pigs
FOR SALE
W. R. McCaslin, R.F.D. No. 1, Rosevelt Ave, Sacramento

The Whiting Jersey Stock Farm Company
is making the very best strains of blood fresh from the island of Jersey a specialty.
Whiting Jersey Stock Farm Co. Heber, Imperial Co., Cal

Hay For Sale. Buy your hay in car lots. Special attention given to supplying alfalfa to dairies.
E. R. LONG
Bakersfield, California

Geo. C. Roeding, Fresno, Cal, breeder of
Thoroughbred Holstein Bulls and Heifers
Thoroughbred Berkshire Boars and Sows

Thoroughbred Poland China Swine
Black Minorca and Barred Rock Poultry
High Grade Stock of Best Strains.
Young Stock For Sale
M Bassett Hanford, Cal

PURE BRED BERKSHIRES
Young Stock For Sale
Wm. H. Bird Box 6, Compton Cal.

When writing advertisers, mention Cultivator.

Live Stock and Dairy

By Mrs. Minna E. Sherman

ALFALFA GROWING.

"THERE was a man who had to purchase an acre of land in Humboldt county," says a writer in the Pacific Dairy Review, "to put up a skimming station." The land was out in the country and away from the naturally increased values of the towns; it was cow feeding land. Its value? Six hundred an acre.

Now in the San Joaquin valley we would think that a fine price for a well equipped full bearing vineyard. The Fresno Chamber of Commerce has made up the statistics showing that the average income from the vineyards of the county is $100.00 an acre. How great must be the wealth of the dairy when its lands are worth more than vineyards. The profits of a good stand of alfalfa this season in this valley make a vineyardist dizzy to think about. One of my neighbors made the first hay on April 5th, and the last on November 20th. Eight cuttings in all this past season. It is only a few years ago that good alfalfa hay was worth from three and a half to four dollars a ton and was often delivered and put into the barn at $5.00 a ton.

At these prices we found it a cheap supplier of humus to the soil and used it freely to plow under. The stiff red soil that made excellent brick was made free working land by plowing under five or six tons of alfalfa hay to the acre. This was put on the vineyard at the rate of three tons in the spring to act as a mulch and to be plowed under in the winter time. The next summer the mulch was repeated. The saving of expense of constant irrigation on a newly planted vineyard more than paid for the hay used.

Alfalfa Land.

Alfalfa is a long rooted plant and on shallow land does not make a lasting field, neither does wet land make a good alfalfa pasture. The lighter soils are warmer and deeper than the rich red lands and are generally chosen for the alfalfa fields. It is now time to begin to prepare the land for next spring's sowing. In doing this work it is foolish to slight any part, as the seed is too costly to be thrown away. In after years there is nothing more aggravating than alfalfa on a piece of poorly leveled land. Wherever there are hollows big enough to hold water the alfalfa will be killed out by water standing while the sun is hot. The land must be prepared so that it can be cheaply and quickly irrigated. This is done by carefully leveling and checking the land up with small broad levees. Do not cut it up into quarter acre patches. The moving of the earth in these levees that cross small pieces of land will cost more than to make one levee around each two, three or five acres, make the levees at least six feet across and well rounded. The mower should run right over the levee as though it was not there. In the older alfalfa fields these levees will often have the rankest growing plants on them. I saw in the Southern part of the state a series of fields with a center ditch down them to carry off the irrigation water. These were of course simply brown water ways without any alfalfa growing on them. It seemed a waste of land, that a little care in letting in only enough water to cover the ground would have overcome. The levees should have proper head gates to let the water from one check to another. The head gates are numbered in paint as, 1, 2 and 3. These numbers indicate the order in which the water is turned in on the land. If the levees are once cut with a shovel to let the water into the next piece it is only a matter of time until these places wash out and the earth composing them disappears over the surface of the alfalfa. It makes it necessary to haul in earth to rebuild the levee. The amount of dirt it takes when loaded on a wagon and hauled in is appalling and the expense far surpasses the cost of a few rough head gates.

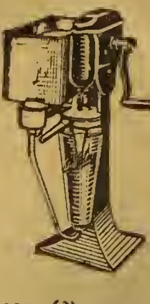
Scraping.

Before starting to fill up irregularities and to make the banks of the checks, the land should be cleaned of foreign growth, all carefully burned to keep from seeding again. Then the land should be plowed three inches deep to completely turn the surface over. This plowing breaks the surface and renders the fills homogeneous. The banks of the checks settle in one mass. If the land is not plowed before making the levees there will remain an unbroken surface under them; when the water is flooded on the higher checks it will often find the smooth surface and seep under the leeves, gradually undermining them. After the checks are built up with the scraper and the holes filled up with earth from the higher spots, let the land lie at rest until the next good rain. If however rain does not come within a reasonable time then irrigate freely; any errors in filling will show and can be corected. The big two disc plow comes into use and the surface is cut ten inches deep and harrowed smooth. In February plow two inches deep and seed and harrow. The earth should be harrowed until it is fine as a garden. The alfalfa seed goes on before the last harrowing and is lightly brushed into the land.

Care in Selecting Seed.

Seed for the alfalfa fields should be purchased several weeks before it is used and tested carefully for vitality. Plant a small amount in a box in a warm place to see how well it germinates. All seed should be carefully examined for mixtures of weed seeds. By taking a handful and spreading it on a sheet of white paper the alfalfa seed can be readily detected without the use of a magnifying glass. The good seeds should be slightly curved and of an olive green color; on the inner side there is a tiny moon shaped scar that held the seed to the side of the pod. This scar is the same as we see on peas and beans generally. The seed mostly feared in the alfalfa field is that of dodder, also known as love vine, or gold vine. This seed is round, of a dull yellow in color, and thin enough on the edges to show somewhat lighter in color. Reject any seed having this in it. If the grower does his duty this seed can be screened out. A hand screen that will let the slender alfalfa through will take it out readily. The vitality of the seeds is easily tested by soaking some blotting paper, four or five thicknesses in water and putting a hundred seeds between the two folds; keep the paper wet and in a cool

Bargain Counter Separators



The so called cheap (?) ones that are offered by Cheap Johns' at bargain counter prices, should never be tolerated; because they are not only worthless but unsafe.

It's throwing money away to buy one. If you are in need of a separator investigate the

Tubular Separator
the machine that has stood the test.

Tubulars not only **do the work,** but they are simple, durable and reliable.

Remember the best is always the cheapest, in the long run.

Catalog 260 describing Tubulars sent free. Write for it.

THE SHARPLES SEPARATOR CO.,
West Chester, Penna.
Toronto Can. San Francisco, Calif. Chicago, Ill.

***The Monarch* Stump Puller**

The Monarch is a Puller constructed on the most correct and scientific principles, and is made of the strongest and best materials obtainable.

The Monarch

Is the most successful and most popular Stump Grubber on the market today.

Write Us for Catalogue of Stump Pullers, Farm Implements, Wagons and Vehicles.

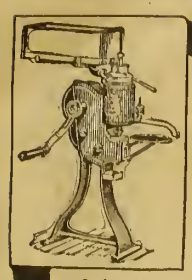
Pacific Implement Co.
133-153 Kansas St. San Francisco

CUTTER'S
Anthrax and Blackleg
VACCINES
Are given the preference by 80% of California stockmen because they give better results than others do.
Write for prices, testimonials and our NEW booklet on Anthrax and Blackleg
The Cutter Laboratory
Berkeley, California

Live Oaks Farm
Frank A. Meacham, Proprietor.
Importer and breeder of RED POLLED CATTLE, SHROPSHIRE SHEEP, RAMBOUILLET SHEEP, HORNLESS AMERICAN MERINO SHEEP. Both sexes for sale. Take electric car at Petaluma or Santa Rosa for LIVE OAKS STATION. Address all mail to
Petaluma, Sonoma Co., Cal.

VENADERA HERD
OF REGISTERED JERSEYS
I have for sale a number of richly bred young bulls, some of them from cows that have high official yearly records.
GUY H. MILLER,
Route 3, Modesto, Cal.

When writing advertisers, mention Cultivator.



The 1908 Improved

U. S. CREAM SEPARATOR

Meets every emergency in the Dairy

It has a solid, low frame; waist low supply can without the back breaking low crank; simple yet thoroughly efficient bowl, holding **World's Record** for cleanest skimming; is thoroughly lubricated, as gears run in a pool of oil, and has ball bearings at high speed points, making it the easiest running separator made.

Do not delay longer in the purchase of a separator and buy no other until you have seen our catalogue No. 20 sent to any address on receipt of a postal.

Vermont Farm Machine Co., Bellows Falls, Vt.

Prompt deliveries from 16 distributing warehouses in the U. S. and Canada

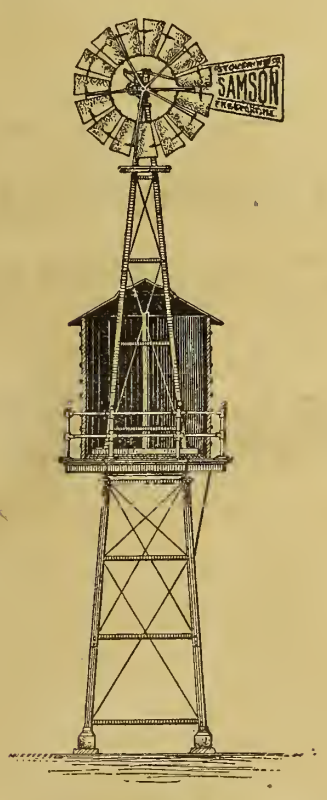
502

Prompt Delivery Assured

California Customers from San Francisco warehouse. No delays. Address all letters to Bellows Falls, Vt.

SAMSON WIND MILLS

Have double gears, removable bearings and center lift, which double the life of the mill. They will last longer, pump more water and give better satisfaction than any other WIND MILL.



This is an up-to-date Sub-structure, Tank and Wind Mill outfit complete; substantial, economical and attractive. We build all kinds. Write us or our general agents for full information and prices, description &c., before purchasing.

The STOVER MFG. CO.

FREEPORT - ILLINOIS

California Avenue

CRANE CO., LOS ANGELES and SAN FRANCISCO

General Agents for California

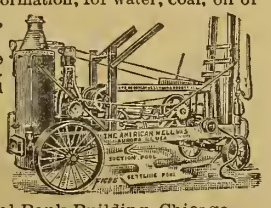
59 Styles and Sizes AND FORTY YEARS AT IT

has established the standard by which others are judged in the

"American" Drilling Machinery

Rotary, Coring, Rock or Earth drilling, any depth, any size, thru any formation, for water, coal, oil or mineral prospecting, the "American" is the standard.

Our new complete catalog is the encyclopedia of the drill hole.



The American Well Works

Aurora, Illinois, U. S. A.

First National Bank Building, Chicago

Henshaw, Bulkley & Co., 335 E. 3rd St., Los Angeles

Rhoades & Rhoades

Expert Live Stock AUCTIONEERS

Sales conducted in all parts of California and adjoining States. Write for dates and terms. Twenty-five Years' experience.

830-32 South Main St., Los Angeles

When writing advertisers, mention Cultivator.

place, when tho seeds will germinate within a week's time. Counting those that fail to grow will give the per cent of poor seed. I got seed from two seed men one year and found that in one lot 76 seeds out of a hundred failed to grow, while in the other seed seven out of a hundred failed. The first seed was seven and a half cents a pound the second lot was ten cents a pound. Twenty pounds to the acre with this last seed would be more than is usually sown as practically every seed was viable. —M. E. Sherman.

AMERICAN BREEDERS.

The American Breeders' Association will hold its fifth annual convention in the Middle West in January, in connection with Missouri's Agricultural Organizations at Columbia, Missouri, January 6, 7 and 8. Honorable Willet M. Hays, Assistant Secretary of Agriculture, is the secretary of this society. In a recent interview, he said:

"Next to the conservation and efficiency of the physical, mental, and moral energy of American youth through education which fits them for practical life, stands the problem of utilizing the forces of heredity in the improvement of all forms of life.

"This American Breeders' Association really represents a part of America's great policy of conservation of natural resources. Heredity in plants and animals is a great resource. It is a source of marvelous utility. An idea of how important is the undeveloped heredity in the occasional plant or animal which can project its higher efficiency into a new strain may be had by considering the following facts:

"The United States produces $7,000,000,000 of plant and animal products annually. Of this amount $5,000,000,000 comes from crops and animals, the heredity of which we may undertake to improve. Now it is conservatively estimated that over ten per cent can be added to the value of these crops and animals by breeding, at a cost of one per cent of the increase or at a rate of ten thousand per cent profit.

"In other words, by improving American breeds of cattle, horses, sheep, swine, field crops, fruits and other plants, $500,000,000 clear profit can be added to Uncle Sam's annual income, or $5,000,000,000 every ten years.

WARTS ON TEATS.

It would be best to wait to remove the warts from the teats until the cow has "gone dry." If you can not do this, you can try cutting them off with a very sharp knife, applying a little silver nitrate to the raw surface. Be careful not to get it on the other parts of the animal or on you.

The use of muslin windows instead of glass in dairy construction is said to help materially in the fight against tuberculosis.

Never buy a horse that drags his hind legs. The animal that gives his heels a clean, outward fling that shows his shoes, is generally a good traveler.

When a horse eats dirt, it is no sign that he is sick. He is only seeking that which his system craves. A steady diet of corn in the winter will often cause a horse to eat dirt. A bran mash with chopped roots is beneficial in such cases.

MAKING AND SELLING A MILLION

CREAM SEPARATORS

AND THE KNOWLEDGE GAINED

Thirty years ago Dr. De Laval invented the first practical centrifugal cream separator. Since that time the De Laval Separator Company has manufactured and sold one million DE LAVAL machines. These separators are today in use in every civilized country in the world. They have been operated and criticized everywhere. Through all these years suggestions for their improvement have come by the thousands from every quarter of the globe. These have been investigated and tried out from time to time. The best have been adopted. The 1908 improved DE LAVAL cream separators represent the thirty years accumulation of such ideas and experiences. They represent the knowledge and experience gained through the manufacture and sale of one million machines. If in your lifetime you had milked one million cows, wouldn't you feel that you knew how to milk a cow just a little bit better than someone who had milked but one thousand? That's the way we feel about the cream separator. Our knowledge of its manufacture and practical use is many times greater than anyone else's. If you are thinking of buying a separator can you afford to ignore the knowledge gained by making and selling a million separators? We don't believe you can. We offer you the 1908 DE LAVAL for your most critical examination. An illustrated catalogue will be mailed for the asking. Write for it today.

DE LAVAL DAIRY SUPPLY CO.

108 So. Los Angeles St. LOS ANGELES
42 E. Madison Street CHICAGO
165-167 Broadway NEW YORK

General Offices: 101 DRUMM STREET, SAN FRANCISCO.

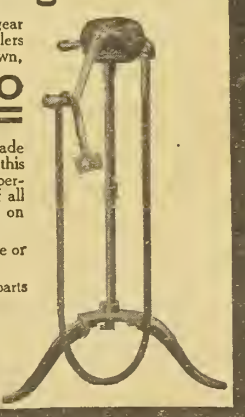
107 First Street PORTLAND, OREG.
1016 Western Ave. SEATTLE
Box 1052 VANCOUVER, B. C.

Clip Your Horses

with this superb **Stewart No. 1 Ball Bearing Clipping Machine**

The great enclosed gear machine at your dealers all complete, as shown,

only **$8.50**



No machine ever made at any price equals this one. It is the most perfect in every way of all clipping machines on the market.

It turns easier, clips faster and lasts longer. If you have but one or two horses it will pay you to have this splendid machine.

The gears are all cut right out of the solid bar, and all wearing parts are file-hard. It will last a lifetime.

If your dealer hasn't it, write us direct. GET ONE NOW

Chicago Flexible Shaft Co. Dept. H, Chicago

California Short-Horn Sale

Get of the Noted Sires **King Edward** and **Straight Archer**

From the Herds of

Mrs. J. H. Glide and **Howard Cattle Co.**

40 Bulls

Sale to Be Held at

Chase's Pavilion

478 Valencia St.

San Francisco, California

20 Heifers

January 5th, 1909

Write for Catalogue

Mrs. J. H. Glide

Sacramento, Cal.

Write for Catalogue

Howard Cattle Co.

641 Mission St., San Francisco

Fred H. Chase & Co.

Geo. P. Bellows

Auctioneers

When writing advertisers, mention Cultivator.

California Cultivator

ESTABLISHED 1889

Subscription Price One Dollar per year, payable in advance. Dates of expiration of subscription accounts appear each week on the address label. John Jones 7-08 means July 1, 1908. Notify us by mail if you desire to discontinue.

Thursday, December 17 1908

Address All Communications to

CULTIVATOR PUBLISHING CO.
115½ No. Broadway, Los Angeles.
733 Merchants Ex. Bldg., San Francisco.

Copy for Change of advertisement must be in office on Saturday preceeding date of issue. New advertising copy should reach the office not later than Tuesday to insure insertion.

CULTIVATOR PUBLISHING COMPANY
H. A. PERKINS, EDITOR AND GEN. MGR.

C. B. MESSENGER - - - - Associate Editor
FRANK H. THOMAS - - - Advertising Manager
H. G. HUTCHINS - - Subscription Manager

EDITORIAL CONTRIBUTORS:

J. W. MILLS - - Deciduous and Citrus
JOHN ISAAC - - - - Horticulture
J. B. NEFF - Walnut Culture and Irrigation.
Mrs. M. E. SHERMAN - Live Stock and Dairy
Q. A. LOBINGIER - - Vegetable Garden
RALPH E. SMITH - - Plant Pathology
S. A. PEASE - Plant Diseases and Injurious Insects

Entered at the Post Office at Los Angeles, California, as Second-class matter.

Contents

SOME FUTURE TIMBER PRODUCERS, Cover.
OPPORTUNITY FOR WEALTH IN EUCALYPTS, 579.
EUCALYPTS WHICH REVEL IN DESERT HEAT, 579.
CITRUS.—The Guava; Improvement of Citrus Fruits; The Other Side, 580.
A VALUABLE GIFT FROM AUSTRALIA, 581.
VARIETIES OF EUCALYPTS, 585.
LIVE STOCK AND DAIRY.—Alfalfa Growing; American Breeders; Warts on Teats, 586,587.
EDITORIAL.—Gum Disease; School of Agriculture; Protection; Report of the Secretary; Increase Above Former Years; Corn; Sugar Beets and Cane; Fig Culture, 588.
AGRICULTURAL NOTES OF THE PACIFIC COAST. Northern, Central, Southern, the Coast, 589.
POULTRY.—Christmas Turkey; Bronchitis in Poultry; Air Slaked Lime; Poultry Show Dates; Alameda County Show; Chicken Chat, 590, 591, 592.
GROWING EUCALYPTUS FROM SEED, 593.
QUERIES AND REPLIES.—Cutworms; Pruning Deciduous Trees; Pruning Grapes; Walnuts and Almonds; Spray Pumps; English Walnuts on Moist Land; Vineyard Stakes; Stock for Orange Trees; Grape Culture; Absorbent for Stables; Stiff Calf; Asparagus Culture; Vetch for Green Manuring; Poultry Manure; Bone Cutter; Planting Vineyard; Burr Clover for Cover Crop; Bitter Cream, 594, 595, 599.
VETERINARY.—Tumors; A Good Liniment; Horse Running at the Nose, 599.
HOUSEHOLD.—Christmas Long Ago; Hints for Christmas Day; Christmas Dinner Table; Christmas Blotter, 596, 597.
PRODUCE MARKETS.—Los Angeles Market; San Francisco Market; Citrus Markets, 598, 599.

GUM DISEASE.

A bulletin which will be valuable to citrus growers was recently issued by the State University Experiment Station at Berkeley. It is written by Prof. Ralph E. Smith and O. Butler, and will have great value for every citrus grower in California. Prof. Smith has been long engaged in his experimental work and the contents of the book are valuable for the reason of these experiments in field and laboratory. The bulletin discusses various citrus troubles which may be considered in the category of gum diseases, "showing the features which they have in common and discussing their nature together with methods of prevention and cure." Every citrus grower should write for the book.

SCHOOL OF AGRICULTURE.

The School of Agriculture which is in the nature of a High School will open at the State University Farm at Davis January 5. A circular regarding the school and its work and requirements with illustration of many of the buildings, under the title of Circular No. 41 has been issued and in it is the form of application for admission. This school is for boys only, at least for the first year. If sufficient funds are provided another year, dormitories for girls will be built and provision made for their instruction. The regular course requires three years.

This school together with the one at San Luis Obispo and the one under private management in Imperial Valley, together with the one contemplated at Fresno makes California look as if attention were beginning to be paid at least along the lines of agricultural instruction.

PROTECTION.

At the recent state convention held at Sacramento when the proposition of reciprocity with Canada was suggested, in a resolution that arrangements should be made whereby prunes and other dried fruits might be admitted free to Canada conditional on Canadian lumber being admitted free to the United States, it was opposed by Mr. Adams and others on the ground that the fruit grower if a protectionist at all should remain true to his principles along all lines and not attack any other line of American Industry. Owing to this opposition the resolution was materialy changed and the reciprocity feature largely eliminated.

Now comes the news report from a meeting of 350 representative shoe merchants at Chicago who appointed a committee to appear and press before the Ways and Means Committee the claims of these manufacturers for a good stiff protective tariff on shoes and other manufactured leather products, and at the same time appeal for the wiping out entirely of the tariff on hides. If the action of the California fruit growers in urging reciprocity would have been inconsistent, surely the action of the shoe men is, and it shows the manufacturers of the country would slaughter in a moment if they could the agricultural industries. We think, however, the committee, or at least Congress, will be too wise to ever protect the large manufacturing industries at the expense of agriculture.

REPORT OF THE SECRETARY.

Secretary of Agriculture James Wilson has sent to us an advance copy of the report of the Secretary's office for the year 1908. This is the twelfth annual report since the office was made a cabinet office.

From the report it appears that the farm products for the year 1908 reached the most extraordinary amount io the world's history, the total expressed in dollars reaching the aggregate of $7,778,000,000.

INCREASE ABOVE FORMER YEARS.

The farm value of farm products this year is $290,000,000 above the value for 1907, $1,023,000,000 above that of 1906, $1,400,000,000 above that of 1905, $1,619,000,000 above that of 1904, $1,861,000,000 above that of 1903, and $3,061,000,000 above the census amount of 1899.

And of this total of agricultural production the value of the corn crop is about one-third; wheat, hay, and cotton combined make more than one-third; and the smaller crops the remainder, or nearly one-third.

The crop production for the year is on the whole a high one. Never before was the hay crop so large in quantity, nor the rice crop, nor the sugar-beet crop, nor beet and cane sugar production. The production of barley has been exceeded in only one former year, and cotton has been exceeded by only two years at the most.

With regard to crop values, this year leads all former years in the case of corn, wheat, rice, all cereals, potatoes, sugar beets, beet sugar, beet and cane sugar combined, and possibly tobacco.

CORN.

Greatest of all crops is Indian corn, priceless gift of the Indian, who freely gave to the white man information which led to the production of 2,643,000,000 bushels this year. The crops of three years have exceeded this, but only the crop of one year—1906—exceeded it very much.

The value of this crop almost surpasses belief. It is $1,615,000,000. This wealth that has grown out of the soil in four months of rain and sunshine, and some drouth, too, is enough to cancel the interest-bearing debt of the United States and to pay for the Panama Canal and 50 battle ships.

SUGAR BEETS AND CANE.

In the production of sugar beets for sugar making, this year stands at the top, both in quantity and in its value to the farmer, although in both respects not much above the figures for 1906 and 1907; but, in comparison with the average of the preceding five years, the tonnage of this year is higher by 44.7 per cent and the value, $21,500,000, by 43.7 per cent.

The beet-sugar production from the crop of 1908 reaches a higher figure than ever before, or about 500,000 short tons, worth at the factory, with the pulp, about $45,000,000; this value also is higher than for any preceding year.

The value of the sugar beet and of the sugar cane to the grower, with the addition of such molasses and sirup as are made on the farm and outside of factories, makes a total of about $56,000,000 for 1908.

FIG CULTURE.

In a conversation with Prof. Walter T. Swingle of the Bureau of Plant Industry and with Special Agent Rixford of the same Bureau, much interesting information as to fig culture in California was secured. Mr. Rixford is the man who as business manager first suggested to the San Francisco Bulletin the introduction of fig cuttings which were sent to subscribers of that paper in nearly all sections of Northern and Central California. At first it was thought all of that importation was of no value, because of the fact that the insect which fertilized the blossom of the growing fig was not known to be necessary to its successful growth, Later, on its introduction, many of these proclaimed worthless figs were found to be very valuable, and are today being propagated in many sections of the State. In addition to this importation, Mr. E. W. Maslin, then owning a ranch near Auburn, determined that he would experiment with growing seedling figs, the seed being taken from the highest grade imported fruit he could buy. For the same reason that the Bulletin importation proved a failure, Mr. Maslin's experiments with seedlings proved an equal failure until the coming of the Blastophaga. Mr. Maslin later gave up his place and is now engaged in business in San Francisco. But the trees remain and the ground covered by the trees has now been leased by the Bureau of Plant Industry.

Amongst these trees are many of the very finest quality, some even exceeding in value those introduced by the Bulletin. On the other hand, there are some which show the hybridizing effect caused by the Blastophaga in bringing the pollen from the wild or Capri figs. Likewise some of these Capri figs have proven of great value in that there are many varieties covering the entire year in their fruiting. The cuttings from the choicest of these, both edible and Capri, will be distributed by the Bureau during the coming season, and without cost to the fruit grower but upon one condition, that for every cutting chosen from the choicest of these trees, the grower will plant ten seedlings which will be furnished by the Bureau.

The idea in this proposition is that the idle requests which often come to the Department for free seeds and free plants must be shut off, especially as this experiment is a very expensive one to be carried out. Besides, it is desired to have an extensive test in all sections of the State not only of these seedlings but also as to the advantages of the different sections in fig culture which this experiment will develop. We believe it a very wise provision and trust fruit growers will join the Department in this experiment which may result in vastly increasing the productive possibilities of our State.

Shop Talk

CHRISTMAS—Be sure not to overlook the **Cultivator** in selecting your presents this year. You will find the order blank on another page, which explains itself. By an arrangement you are offered a year's subscription at a reduction of 25 per cent. We also notify the one to whom it is sent it is a present from you and that the paper is to stop at expiration. Send in your order at once, as this is the last week the offer can appear.

CHANGES OF ADDRESS—Many requests to change address of the Cultivator are received which fail to give the old address to which the paper has been sent. Our lists are indexed according to postoffice and it is next to impossible to find a subscriber's name in it without knowing at what office it is received. Kindly bear this in mind when making such requests, so as to avoid the necessity of our writing for the information.

MRS. BASLEY'S POULTRY BOOK.—Cultivator readers who may be desirous of getting Mrs. Basley's Poultry Book can place their order through this office. The regular price of this book is $1.00 of all agents but in connection with a year's subscription to the Cultivator we will make the price $1.75 for both to any except a foreign address.

Agricultural Notes of the Pacific Coast

Northern California

Inspector of Yuba County has ordered large numbers of sheep to be dipped.

Dairy cows of the Sacramento valley are now commanding better prices than for some time.

Federal engineers have recommended the dredging of rivers in the Sacramento Valley.

A new reclamation district is to be organized near Yuba City. It will comprise about 2000 acres.

The Santa Rosa Grange recently observed the anniversary of its founding by entertaining the Pomona Grange.

Experiments are being made south of Willows, Glenn county, in sinking wells to see if an artesian belt may be found.

Wool has been commanding a better price since the election and some sales have been made in Tehama county at 14 and 15 cents.

Nevada county farmers are beginning the use of underground waters, the cheap electricity of the section making possible its use at a low rate.

Oroville Chamber of Commerce united in sending a strong petition to Washington urging the preservation of the existing tariff on citrus fruits.

The demonstration train which recently made such a successful trip through the Sacramento valley is again under way, starting recently from Sacramento.

The farmers at Gridley are taking steps to form an organization for handling the products of members. A committee has been appointed to draft a constitution and by-laws.

It is announced that the California Grape Growers' Association is now fully organized and that work has begun in the endeavor to shape legislation favorable to the wine grape interest.

The Sonoma County Produce Company which is handling the eggs of the Sonoma County Co-operative Poultry Association has been compelled to greatly enlarge its storage and shipping facilities.

The Superior Court of Oakland has declared the State Veterinary law unconstitutional. This is said to throw open the veterinary practice of the state so that any one may now practice without license.

Humboldt county creameries on the last pay day paid for cream deliveries as follows: Central 34¼, Cream City 34¼, Ferndale 34¼, Eel River 33½ Grizzly Bluff 33½, Riverside 33½, Pioneer 33 and Capital 33.

The Water Users' Association of Tehama county is the newest irrigation organization in the state, having just been organized. It has been brought into being by the building of the Iron Canyon irrigation projects. A committee of five has been appointed to draft a constitution and by-laws.

The fact that easterners have claimed the credit of introducing electricity into the hatching of chicks brings Mr. Byce of the Petaluma Incubator Company to the front with the statement that he has successfully hatched chickens by electricity for many months in his store. The first by this company was three years ago at the California State Fair.

Central California

Sanger anticipates the early establishment of a creamery.

Hatfield the "rainmaker" has begun his manufactured rain fall at Crow's Landing on the west side.

Dairy inspector of San Jose reports that he examined 180 samples of milk and found ten below the required standard.

Raisin growers in the new raisin combine have been given permission to sell their layers separately from the association.

Contrary to earlier estimates the orange crop of Tulare county district will be rather light. The reason is claimed to be the heavy June drop.

A new raisin seeding device has just been invented by a Fresno fruit packer. It is predicted that if it proves of worth it will soon be taken up by the trusts.

Some Lindsay orange growers who sold their fruit so as to net them $1.50 per box regret their action as it now appears better prices might have been secured.

It is estimated that the coming increase in the freight rate on dried fruits will take from the fruit men of this state from $350,000 to $450,000 during the next year.

Sanger is shipping about one and a half cars of Thompson seedless raisins daily. One vineyard company doing the shipments has a private trade which permits of regular shipments.

Several ranchers about Tulare Lake where so many ducks have died maintain that the posioning is caused by the ducks eating of the great quantities of loco weed seed that grow about the lake.

The California Creamery Operators' Association will petition the State Legislature to make an appropriation for the use of the State Dairy Bureau which will enable it to employ a force of inspectors to enforce the laws.

On account of oranges not being ripe as desired Tulare county packing houses are waiting for the cool nights to color up the fruit better. The next heavy shipments will be forwarded in time to catch the Christmas trade.

The Hanford Journal reports the formation of the West Side Irrigation Company, articles of incorporation of which have been filed. The purpose will be to take water from Tulare Lake and to convey water to lands along the west side.

At a recent meeting of the County of Pomona Grange of Santa Clara county the following were elected: Master, E. F. Greenwood, Mountain View; Overseer, A. C. Keesling, Campbell; Lecturer, E. T. Pettit, San Jose; Steward, George Culver, Mountain View; Assistant Steward, Lewis Walter, Mountain View; Chaplain, Rose Stevens, Cupertino; Treasurer, M. Farrell, Mountain View; Secretary, M. J. Worthen, San Jose; Gatekeeper, F. E. Mitchell, Campbell; Flora, Edna Keesling, Campbell; Pomona, Eunice Case, Sunnyside; Ceres, Belle Walter, Mountain View; L. A. S., Lucy Derham, Mountain View; Organist, Eliza Farell, Mountain View.

Southern California

The recent rain which aggregated as high in some sections as two inches was most acceptable.

The formal opening of the Imperial Valley Collegiate Institute was held at Heber on Thursday of last week.

The Mission Land Company at San Fernando has received a car of flax seed for planting the coming season.

Several Imperial valley farmers will experiment with the planting of Crimson Winter rhubarb this coming season.

The Tustin Packing Company has installed a neatly furnished rest room with chairs, stove, etc., for the use of its employees.

The orange crop of Southern California is estimated for next year at about 30,000 cars. This will be slightly in excess of last year.

Hog raising in the Imperial valley has been given a decided impetus by the success of breeders in marketing their product during the past year.

Scientific fumigation is being given to many orange trees about Whittier this year quite generally under the direction of R. S. Wolgum of the Department of Agriculture.

There have been occasional cool nights which has given a white frost in several Southern California sections, but no damage except to tomatoes and other tender plants.

Steps are being taken at Beaumont for organizing a canning and fruit drying plant, which is to be co-operative, each grower taking his pro rata of stock and the goods to be shipped under a common label.

Calexico is laying big plans for fair grounds and has formed an Imperial Valley Agricultural Park Association which has decided to incorporate at $25,000 for securing 50 acres on which a mile track will be made.

Eight thousand acres of rich farming land between Spadra and Pomona have been sold recently to Dr. Fundenburg of Riverside. Besides agricultural advantages the ranch is in the oil producing zone of the rich Puente fields.

The business men of Thermal are incorporating to sell a large number of dairy cows to ranchers on time limits. The success of this move in dairying in Thermal district depends upon the interest displayed among ranchers.

The orange packing house at Tustin has installed an instantaneous dryer for drying oranges which have been washed. By the use of this the old drying rack will be dispensed with. The dryer has a capacity of two cars a day.

Complaints against a San Bernardino county rancher for killing quail without a hunter's license developed the fact that under the law he had a right to kill quail within the boundaries of his own ranch without any license. The game warden grants permission to ranchers to trap quail where it can be proved that the quail are injuring crops but where this is done the live quail must be turned over to the fish commission who will pay for them at the rate of $1.50 per dozen. The quail are then used for "planting" in other sections where quail are scarce.

The Coast

Utah is preparing for a greater number of institutes and with a larger institute staff than ever before.

The National Apple Show on the boards at Spokane this week is pronounced to be a complete success.

Dry farmers of Utah are pleased at the deep coating of snow which is covering their farms at the present time.

One wheat grower in the Puyallup Valley, Washington, averaged 72 bushels per acre for his last season's product.

The burden of the requests made to the Country Life Commission by the farmers near Portland, Oregon, was for better roads.

Montana wool growers are combining to help remove the center of the wool trade from Boston to Chicago, or farther west if possible.

Thousands of cattle are dying on the ranges of Colorado owing to the extreme cold weather. Hay is selling at almost prohibitive prices.

A big convention of wheat growers is being held this week at Pullman, Washington. The principal topic of discussion is seed improvement.

The Spokane Chamber of Commerce has completed preliminary arrangements for its second annual excursion to Los Angeles. It is expected to leave February 5.

Ranchers near Riverside, Washington, have signed up 10,000 acres under an irrigation project which will lead to great benefits to the fruit growing industry.

Great preparations are already being made for the live-stock exposition which will begin on the 27th of next September at the Alaska-Yukon Exposition at Seattle.

Fruit growers from all the western states and from Western Canada met in Portland last week for the annual session of the Northwestern Horticultural Association.

The Inland Empire about Spokane, Washington, is organizing a poultry association which will look after the commercial interests, both buying and selling, of its members.

The Farmers' Traction Company of Walla Walla, Washington, has recently completed organization for the purpose of constructing an electric line from Dayton to Wallula.

The Northwestern Fruit Growers' annual meeting at Portland has unanimously resolved against the apple box regulation proposed by the Porter Bill now before Congress.

The Horticultural Society of Oregon, heretofore self-supporting, is making an effort to secure an appropriation of $1000 to cover the expenses of the association for the coming year.

The Institute Lecturing Tour recently given in the State of Washington by a professor from the Agricultural College has proved successful, and was most cordially received by the farmers.

Local merchants at Bellingham, Washington, are pleased over a possible radical adjustment of rates over the Northern Pacific, which will so reduce cost of California fruit, Eastern Washington grain and all other Pacific produce shipped into Bellingham that jobbers of that city will be placed on an equal footing with Seattle and Portland.

Don't Forget Quality

MIDLAND Poultry Food

Is based on ***quality*** and it is quality in Poultry Food that produces eggs. ***Cheap filler*** and ***cheap grain*** will ***not*** make eggs. ***Midland Poultry Food*** contains only the ***choicest*** cereals and animal food the market affords. You ***can't*** afford to try and be successful and not get results. ***Midland Poultry Food*** will produce results. Try it and see. $1.95 per sack

PETALUMA Incubators and Brooders

Are still here, after others are gone. ***The Standard of the World Machine.*** Winners of ***more prizes*** awarded by ***World's Fair Judges*** than any other make.

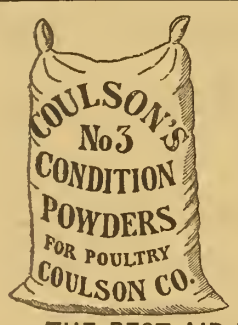
Remember, we make a hot water machine. One of the ***best hot water machines*** on the market.

Send for our Illustrated Catalogue.

Petaluma Incubator Company
Petaluma, California

Our General Agents for Incubators and Brooders and Midland Poultry Food :

Petaluma Incubator Co., Petaluma, Cal.
Aggeler & Musser Seed Co., 113-115 N. Main St., Los Angeles
Berrar & Robertson, San Jose, Cal.



Coulson's No. 3 Condition Powder

THE BEST AID IN GETTING THOSE HIGH-PRICED EGGS.
It acts as a tonic and digestive. Enables hens to lay more eggs during fall and winter.
Our FREE booklet, "THE RIGHT WAY," gives full particulars.
SOLD BY DEALERS EVERYWHERE.
Manufactured only by
Coulson Poultry & Stock Food Co., Petaluma, Cal.
Germain Seed Co., Distributing Agents, Los Angeles, Cal.

Poultry Supplies

To Be Successful :

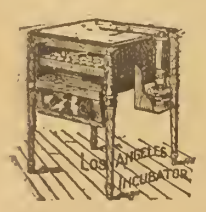
Buy **Petaluma Incubator and Brooders**

Feed **Midland Poultry Food** Makes Hens Lay

Get Our Prices on Egyptian Corn, Swift's Beef Scraps, Bone Mills, Clover Cutters, and all Poultry Supplies. **Send for Our Large Illustrated Catalogue.**

Aggeler & Musser Seed Co.
113-115 North Main St. Los Angeles, California
Southern California Agents for Petaluma Incubators and Brooders and Midland Poultry Food

Stop That Guessing



The
Los Angeles Incubators

Are now equipped with a moisture guage that will accurately register the moisture; relieves the operator of all guess work and assures better hatches than ever.

Henry Albers Co., 534 So. Main Street Los Angeles

White Wyandottes
Eggs for hatching from these great egg machines. Prices $1.50 to $2.00 per 13. Orders booked now for delivery after Jan. 1st., 1909.
Wm. C. Parker, 111 Pacific Avenue, Santa Cruz, Cal.

Now is the time to hatch **BANTAMS**
Golden Sebright, Buff Cochin, and Light Brahma Eggs, $2 per 15. Prize winners.
M. E. Dillingham Box 67, San Gabriel, Cal.

Profit in the Poultry Yard

We solicit short articles of a practical nature from the fancier and utility breeder, giving their experience with poultry. All inquiries pertaining to feed, management, disease and its prevention will be answered through these columns.

CHRISTMAS TURKEY.

With Oysters.

Select a nice plump turkey; draw and wash thoroughly. Prepare stuffing in the following manner: Take a pint of oysters; put in a pan and stew in their own liquor; drain off the liquor and cut the oysters into bits; add half cup of butter, a shredded onion and a teaspoonful of powdered sage. Let all simmer together; moisten three pints of stale bread crumbs with the oyster liquor; add the oysters and onion; break in three eggs; season with salt and pepper, and mix all thoroughly together. If the stuffing is too dry add some milk; if otherwise, add more bread crumbs. Stuff the turkey; sew up the opening; take some butter in the hand and rub over the outside; dredge with salt, pepper and flour; put in a pan with a pint of water; baste every ten or fifteen minutes. A large turkey a year old will take from three and one-half to five hours of slow roasting.

Avoiding Dryness.

I have heard people say they really did not care for roasted turkey, as it is too dry.

Turkey cooked in the following manner will be juicy and tender: Dress the bird and remove entrails. Do not wash, but hang in a cool place for four days at least, so the meat will mature. When ready to cook the turkey, wash and singe and lay in a dripping pan. Do not salt now, as it will harden the meat.

Take the wash boiler, put in plenty of water, turn a pan upside down, or set in sticks firmly crosswise of the boiler and set dripping pan on this and cover closely. Let the bird steam until tender. Then remove from the boiler and salt inside and out and fill with bread dressing.

Place in a moderate oven and baste with drippings in the pan; turn and baste often until the bird is a nice brown and the dressing done. Any fowl, even an old one, will be tender and juicy if cooked in this way. The bread dressing is made with stale bread, butter, sage, celery and onions if desired and moistened with water and thoroughly mixed.

BRONCHITIS IN POULTRY.

Bronchitis is an inflamed condition of the bronchial tubes or air passages, and mostly occurs in connection with roup. Indeed, it rarely exists as a separate disease in a fowl. There is usually a quantity of mucus in the throat, quick breathing, discharges from the nostrils, and at times one or both eyes become inflamed; there is dullness and loss of appetite. There are many causes for this trouble. Draughty or even too close houses have been responsible for attacks, while foul air and filthy conditions sometimes bring it on. A difficulty in breathing and noise or rattle in the throat and coughing are sure signs of the disease. Sometimes the noise becomes chronic, and instances have been known where fowls were apparently healthy, with the exception of this noise. The simplest treatment is, two or three drops of spirits of camphor to a teaspoonful of glycerine, two night in succession, which should be followed with about ten drops of sulphuric acid in a pint of the water. Should the birds refuse to drink the mixture, a spoonful of sugar may be added. In more severe cases, three drops of chlorodyne in a teaspoonful of sweet or salad oil should be given, which usually affects a cure.—Farmers' Home Journal.

AIR SLAKED LIME.

With the days of summer gone and with the cool rains upon us, the poultryman begins to have troubles of another sort in his flock, and they are those resulting from such conditions of the weather as accompany chilly and rainy days. Roup is the leading ailment in the flock, and if it once gets a good hold before winter, there will be a great deal of work connected with its eradication through that season, and it is more than likely that it will not disappear until spring approaches.

Many fowls will be swept away, for the disease is very dangerous and also very contagious. The great difficulty in handling and doctoring the fowls makes it expensive, for each fowl has to have individual care. There is a substance that has been found to destroy the germs of roup, and that is air-slaked lime, a cheap and easily prepared article. To prepare it, let the stone lime slake in the air, and when it is in fine condition add a pint of crude carbolic acid to a bushel of fine lime, being careful to mix the substances very thoroughly.

The crude carbolic acid should cost not more than fifty cents per gallon, and it is equally as good as the refined for this purpose. Scatter the air slaked lime and carbolic acid over the walls, floors, nests, roosts and over the yards not less than twice a week. After scattering the mixture over the yards, plow the surface under, and then after raking give another treatment to the then top surface. If a case of roup appears, first remove the fowl and then give those premises a thorough treatment, being careful to see that the yards get a good share, for it is in the ground that the roup germs remain more than any other place. The object is to destroy the germs of the disease. The drinking troughs should be cleansed every day—not simply emptied and refilled.

A pinch of chlorate of potash should be sprinkled down the throat of each sick fowl twice a day, and if it does not get well in less than a week, cut off the bird's head and bury the fowl at once. Hoarse breathing, lumps on the face, foul odor and a cough are all symptoms of roup, a discharge from the nostrils also being noticed. Lumps on the face with swollen eyes indicate a very serious form of the disease, and when a fowl reaches that stage there is little hope for it. It will be quite a saving of time and labor, as well as of birds, to use air-slaked lime, even without the aid of the acid, when the premises and houses are cleaned for fall use, even if there is no symptom of disease in the flock.—Coleman's Rural World.

Incubators, like all machinery, do not run themselves altogether. They need almost constant attention, and the better attention they receive the better the results.

Aermotor Gasoline Engine

Complete with Gearing ready to Attach to Your Pump

$45.00

Will pump all the time, wind or no wind, and deliver as much water as an 8 ft. Aermotor in a good wind.

From 225 to 1600 gallons per hour, depending on height water is to be raised.

Air cooled, uses Gasoline or Distillate.

A reliable, durable engine at a very low price. **Can You Afford** to be without one.

Send for Special Circular.

Tanks Towers Pumps Distillate Engines

Smith-Booth-Usher Co
Machinery and Supplies
Successors to
S. J. Smith Machinery Co. and L. Booth & Sons
212-214 S. Los Angeles St., Los Angeles
Home, Ex. 1090—Sunset, Main 1090

Cornish (Indian) Fowl

The bird for fancy and utility. If you want the best, I can furnish them, winners at England's and America's greatest shows. Eggs from my grand double-laced, low, blocky, imported birds, $5.00, $7.50 and $10.00 per setting. Pen headed by best cockerel bred from my imported birds, mated to American bred hens, $2.50 per sitting. Young stock for breeding and exhibition a matter of correspondence.

Remember, my imported stock is the best Brent could produce, are extra large, true to shape and color. Winners of all firsts at Los Angeles, 1907-08. Clean sweep at San Jose, 1908. Send for catalogue.

Alex Aikman
1134-35 E. First St., Los Angeles

Gardena Hatchery

M. A. Schofield, Prop.
Wholesale Hatcher of Chicks

Considering price of eggs, chicks are cheaper now than any time in the year. We guarantee our patrons will receive a full count of *live* chicks. Write us your wants.

Gardena, Cal.

GUTTING'S SUPERIOR WHITE ROCKS

Won 9 firsts out of a possible 10 and all specials and many other prizes at the great L. A. C. P. A. and Pomona Shows last winter. Place your order now for exhibition birds for the winter shows. Eggs now $3 per setting. Send for circular.

E. GUTTING 134 W. SLAUSON Los Angeles, Cal.

F. E. Baldwin's WHITE LEGHORNS

THEY LAY
THEY PAY
At Every Pop
THEY SHOW
THEY GO
To the Very Top

Cup for Best Display, Petaluma, '07. Trophy for best display, San Jose, '08. Send for Prices and Free Booklet.

46 Washington Ave. - San Jose, Cal.

YOU CAN BUY A CHEAP INCUBATOR But Is It Fire-Proof? Is It Insurable?

Why Take Risks when you can buy a **Cyphers Fire Proofed Insurable Incubator**—for years the leader in hatching **more and stronger chicks** than any other? Our 212-page Poultry Guide Book is full of valuable poultry information, as well as illustrated description of these Insurable Incubators. It is **Free** if you send us names and addresses of two acquaintances who keep poultry.
CYPHERS INCUBATOR COMPANY, Buffalo, N. Y.
Oakland, Cal.; New York City, N. Y.; Chicago, Ill.; Boston, Mass.; Kansas City, Mo.

Wonderfully Elastic!

Page Fences "give and take" but never break. 25 years of practical experience woven into the fabric. No other fence has it! This is the "Jubilee Year" or Quarter-Centennial of Page Fence. "Jubilee" book FREE.
Page Woven Wire Fence Co., Box Y114 Adrian, Mich.

POULTRY SHOWS.

Petaluma, Dec. 16-19, 1908—Second annual exhibition Petaluma Poultry Show Association. H. R. Campbell, Secretary, Petaluma.

Pomona, Dec. 14-19, 1908—Second annual exhibition of Pomona poultrymen.

Fresno, Dec. 16-19, 1908—Annual Show of Fresno Poultry and Pet Stock Association. Geo. R. Andrews, Secretary, Fresno.

San Diego, Dec. 29-Jan. 2—Annual exhibit, San Diego Fanciers' Club, J. F. Goforth, Secretary, San Diego.

Los Angeles, Dec. 30-Jan. 6—Poultry Breeders' Association of Southern California. Dr. C. S. Salisbury, Secretary, Monrovia.

Los Angeles, Jan. 14-18, 1909—The Southwestern Pigeon and Bantam Club at the Made in California Exposition. Mr. Moore of San Francisco and Mr. Frank H. Thomas of Los Angeles will judge.

ALAMEDA COUNTY POULTRY SHOW.

The Alameda county poultry show closed Dec. 6, at Idora park. It was a most successful show, according to the officials.

Cups were awarded at closing for the prize fowls in the National Buff Orpington club's western show, as well as for the exhibits in the Alameda county association's entries. The special awards follow:

The largest exhibit—D. A. Cohen.
Second largest exhibit—Moore & Mann.
Best display—D. A. Cohen.
Best 10 solid color fowls—Henry Berrar.
Best 10 particolored fowls—Alex Aikman.
Best display of Columbian Wyandottes—W. C. Wheeler.
Best display of Rhode Island Reds—Mrs. W. E. Gibson.
Best 10 White Plymouth Rocks—Mrs. F. E. Bemis.
Best pair, male and female—C. J. Siegfried.
Best display, one variety, from county—Mrs. F. E. Bemis.
Best display, one variety, from Alameda county, C. G. Hinds.
Best display, noncup winner—John A. Evans.
Best display other than Alameda and Santa Clara counties—Manuel Roberts.
Best display, Contra Costa county—Manuel Roberts.
Best display from southern California—Alex Aikman.
Best display, Alameda—D. A. Cohen.
Best display, Berkeley—W. C. Wheeler.
Best display, Fruitvale—James Stansfield.
Best display, Elmhurst—F. E. Ross.
Best display, Niles—Mrs. W. E. Gibson.
Best conditioned bird in show—Mrs. D. A. Robertson.
Class 1—(a) Moore & Mann.
Class 1—(b) James Stansfield.
Class 2—B. A. Cohen.
Class 3—(a) Manuel Roberts.
Class 3—(b) H. C. Scrutton.
Class 4—(a) W. S. Sullivan.
Class 4—(b) Henry Berrar.
Class 5—Mrs. D. A. Robertson.
Class 6—C. J. Siegfried.
Class 7—F. L. Hall.
Class 8—(a) George England.
Class 8—(b) Alex Aikman.
Class 9—Moore & Mann.
Class 10—D. A. Cohen.
Class 11—V. G. Huntley.
Class 12—D. A. Cohen.

Special cups given by the National Buff Orpington club:

Best display—W. S. Sullivan.
Best cock and best hen—W. S. Sullivan.
Best cockerel—H. W. Gessner.
Best pullet—John J. Dean.
Best pen—John J. Dean.

All the successful poultrymen feed alfalfa; many of them every day in the year. Some feed alfalfa meal; some alfalfa leaves, and others alfalfa hay, allowing the hens to pick off the leaves and reject the stems.

Get Your Share OF THE High Priced Eggs BY FEEDING Coulson's Egg Food

IT TURNS FAILURE INTO SUCCESS, by enabling you to secure eggs in the fall and winter while prices are high.

Improvements have been effected in the composition of the **EGG FOOD** during the past year so that it is now richer in the various nutrients required by the laying hen, and is a better feed than ever before. Proof of this is had in

Actual Results

By Lewis Herbert of Penn Grove, (near Petaluma, Cal.). Began feeding 1900 hens **COULSON'S IMPROVED MASH EGG FOOD** April. Profits for each month over cost of feed:

May	$125.00
June	125.00
July	200.00
August	240.00
September	170.00

October 15th was clearing over $6.00 a day. Feeds 1¼ sacks **IMPROVED MASH** and 1¾ sacks of wheat a day.

COULSON'S BALANCED RATION POULTRY FOODS ARE GUARANTEED to contain nothing but wholesome ingredients. **OUR GUARANTY IS BACKED BY A $500.00 BOND** deposited with the Petaluma National Bank.

We have agents selling our Poultry Foods in nearly every town in California. If you can not obtain what you want from your dealer, write us and we will tell you where to get it.

Manufactured only by

Coulson Poultry and Stock Food Company *Petaluma, California*

GERMAIN SEED CO., Distributing Agents, Los Angeles, Cal.

West Coast Seed Co.

Don't plant poor seeds—get the best.
Send for free catalogue and price list.
Also of the best

POULTRY SUPPLIES and INCUBATORS

115 W. 7th Street, Los Angeles

Mammoth Bronze Turkeys

Unusual success with this years early hatched birds enables us to furnish the finest lot of breeding stock (both hens and toms) ever offered before. If you are a turkey raiser improve your flock with one of our large handsome toms raised on free range and hardened to all kinds of weather. If you are not a turkey raiser start now with one or more hens and a tom, as of all poultry, turkeys are the biggest PROFIT MAKERS. Order early as the first orders take the pick of several. hundred birds. Prices on application.

After January 1st. we can furnish hatching eggs from our S. C. White Leghorns, the best laying strain in Southern California. Let us book your order now.

STUHR-WILLIAMSON POULTRY COMPANY
378 Bandini Ave. Home Phone 1490 Riverside, Cal.

Trap Nested White Leghorns

I trap nest every bird one year before I put them in my breeding yards. and no bird that has not made a record of 13 dozen or better per year as pullet is used. I cannot afford to breed neither can I afford to sell eggs from a hen that has not made this record as a pullet. I mate 15 hens to a well matured cockerel or yearling cock bird. My breeders have roomy yards, thus assuring strong fertility. A few choice cockerels for sale.

Eggs $1.50 per 15; $7.50 per 100; $60 per 1000.

S. E. Gregg East Adams St. Riverside, Cal.

Warranted to Give Satisfaction.

Gombault's

Caustic Balsam

Has Imitators But No Competitors.

A Safe, Speedy and Positive Cure for Curb, Splint, Sweeny, Capped Hock, Strained Tendons, Founder, Wind Puffs, and all lameness from Spavin, Ringbone and other bony tumors. Cures all skin diseases or Parasites, Thrush, Diphtheria. Removes all Bunches from Horses or Cattle.

As a Human Remedy for Rheumatism, Sprains, Sore Throat, etc., it is invaluable. Every bottle of Caustic Balsam sold is Warranted to give satisfaction. Price $1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars, testimonials, etc. Address

The Lawrence-Williams Co., Cleveland, O.

Hatching Eggs

FROM

Quality S. C. White Leghorns, Mammoth Imperial Pekin Ducks, Golden Sebright Bantams, Black Tailed Japanese Bantams. All prize winners this season. Write for prices.

Rancho Los Encinas

R. F. D. 76, Glen Ellen, Cal.

COULSON'S POULTRY FOODS
MADE IN PETALUMA
GUARANTEED
SOLD EVERYWHERE

Several farmers' institutes were held in Fresno county last week.

Harry McIntire

27th and D Sts.
San Diego, Cal.

Hen Pigeons $4.00 pair. mated, any color.

Runt-Homer Crosses Mated $1.50 pr

Cuckoo Cochin Bantams $3.50 per pair

Buff Cochins $5.00 to $8.00 pair

White Wyandottes $5.00 Trio and fine Cockerels $5.00 each. I have won first prizes at all California shows.

Babies 10c Each

We are booking orders now for Jan. delivery of several thousand baby chicks. We hatch 19 kinds—price 10 cents and up. Send for full particulars and detail price list. We ship everywhere safely within 48 hours. Buy your chicks of us and be sure of a square deal. We are the world's largest baby chick dealers. We expect to sell 300,000 baby chicks, ducklings, turkeys, goslings, etc. in 1909. We sell hatching eggs of all kinds. All infertile eggs replaced at ½ price. Send a postal—it brings full details. Visitors always welcome.

Pioneer Hatchery, 108-112 E. 8th St., Los Angeles

West Coast Egg Food

is absolutely the best made. Good money for anyone who will show us how to make it any better. And the price $2.50 per cwt. is the lowest. Why shouldn't it be, for it is made right here in the best equipped mill and no high freight rates to pay.

Don't be deceived about the prices. Buy by weight. At $2.50 per cwt. a 75 lb. sack should be $1.87, even if as good as West Coast. If West Coast goods are not sold by your dealer send direct to us.

West Coast Mill

705-709 So. Griffin Ave., Los Angeles, Cal.

White Wyandottes

My San Jose Winnings: 1st, 2nd and 3rd Cock; 1st Cockerel; 1st, 2nd and 3rd Hen; 1st and 2nd Pullet. The above winnings were made out of ten entries.

Box 60, R. No. 1 Mrs. C. D. Hubbard San Fernando, Cal.

CHICKEN CHAT.

Hygrometer Gauge.

I would like to ask you through the columns of your valuable paper how to use a Hygrometer, or moisture gauge in an incubator. Do I place it on the eggs? The moisture gauge is marked normal at 65 degrees. What should it register in the incubator when the moisture is right? I would like also to ask how much each of blood, meal and charcoal to feed to 100 hens. Can you tell me how to make a gauge to measure the rainfall? —Subscriber, Douglas.

The only Hygrometer I ever owned had directions for use plainly printed upon the side, and was to be hung upon the inside wall of the machine above the eggs. I laid it on the mantel above the machine and forgot all about it, so cannot give any suggestions about its use.

My way of using blood meal is in the mash food which I mix thusly: 50 pounds wheat bran, 25 cornmeal, 10 pounds alfalfa meal, 10 pounds oil cake meal, 25 pounds shorts, 10 pounds blood meal, ½ pound salt and one ounce red pepper. This I mix with milk into a crumbly mash and feed four big gallons once a day to 100 head of fowls. Feed wheat or cracked corn once a day, one handful to each bird, and green food of some kind once a day.

One-half ounce per day of the blood meal is none too much for a laying hen, but with milk less is required. Charcoal should be kept before them at all times.

If no milk is available add 10 pounds granulated milk to the ration. This mash mixture can be fed dry in hoppers, but I fancy they waste it.

Do not know how to make a rain gauge.—Mrs. F. M.

A rain gauge which is fairly accurate is improvised of the common five gallon oil can with top cut out clean. It is not as accurate as the graduated gauge but with a good ruler to measure it gives approximate figures. Whatever you use, it it must be straight sided.

* * *

Pigeons—Hares.

Please tell me how much in weight, the average pair of working homing pigeons will eat in one year, when fed principally on the following grains; wheat, Egyptian corn, peas, cracked corn, etc.

Is there any profit in raising Belgian hares or allied species, for the open market? Any information regarding them will be appreciated.—D. D., Morganhill.

If fed carefully 50 pounds of grain should keep a pair of pigeons one year when not confined too closely. Have never been able to find regular market quotations on Belgian hares, and believe there is not enough call for them to make the raising of them for market profitable, but they are very nice to keep for home use, and can be salted down and kept for some time in cool weather.

They multiply so rapidly, that one can always have fresh meat, when one has a nice rabbit hutch, well stocked.

If you can find a few regular customers for them, it would seem to be a good money making proposition, but the trouble is, not to "first catch your hare" but to first be sure of your market, then raise your hares.

* * *

After Molting.

During molting period should hens be fed bran mashes as soon as new feathers begin coming in or how soon? At what age should young Leghorn pullets be turned in yard with laying hens and be fed egg foods, same as older hens?—E. V. S. N., Glendora.

The bran, meal and meat mashes are useful all through the molt as the drain upon the system is very great, and more and richer food can be safely fed at this time. All that should be with held at this time is the red pepper, and a little of that won't hurt occasionally. Pullets do best in a yard by themselves, but can have the egg foods from three months old in moderation and full feeds of it from 5 months old on.

* * *

Incubators.

What months are considered the best in practice to bring off an incubator hatch of chicks, January, February or March, and what is their respective advantages in regard to early laying?—W. A. B., Oakdale.

January, Feburary and March are all good months for bringing off broods of the large breeds of chickens, giving them full and plenty of time in which to mature, but April and May are better for the Leghorns and small breeds, for if hatched too early these pullets will lay a few eggs, then molt, and not lay any more all winter. Sometimes the large breeds do this if hatched before March, but a great deal depends upon whether they have been fed egg rations or not.

An early separation from the cockerels will also delay the laying better. Pullets from the large breeds make better layers if they can be kept from laying until eight months old. Leghorns and small breeds should not lay until six months old by rights, but many of both lay at from 4½ to 5½ months old and never make as good layers as the less precocious ones. Now, I will modify that "never" and say, well, hardly ever.

* * *

SUCCEEDED WITH TURKEYS.

I think I have read about all of your "chicken chat," and am waiting for more. Yes, I think New Subscriber did quite well with her turkeys. Having had some experience with turkeys and as you are asking methods of feeding, I will tell you how I feed and the results therefrom. To start with we never brood turks the natural way, but use the cold brooder, which gives far better results. The wobbly little fellows are taken from the hen whether turkey or chicken hen, and dusted with insect powder, and the bedding in the brooder is also dusted, then the turks are placed in the brooder and allowed to snooze for the next 24 hours. The next morning the brooder door is opened and out they tumble. (usually).

Then they get their first meal which is a light one, as they do not eat much the first two or three days, and is made as follows:

Stale bread 40 per cent, hard boiled eggs 40 per cent, onion tops 10 per cent and lettuce 10 per cent. This is ground fine in the kitchen grinder, mixed and sprinkled with sand.

The turks are fed four times a day on the same ration for the first three weeks, then we gradually shift them on cracked wheat and cottage cheese. This is fed until they are about eight weeks old. After this they are fed wheat, barley and beef scraps from a hopper. They are let out of the brooder about 20 minutes at a time at first. After they have learned to go in when cold the brooder door is left open all day and they are out more than they are in.

As soon as the turks are strong enough to run about, the brooder is set out on the lawn, where they can pick clover and "put-put" at every thing that comes along. This in fair weather only.

In bad weather they have a corner in the kitchen, not far from the stove.

Three hens and a Tom composed my breeding pen last year. From them 53 turks were hatched during March, April and May. The hatches run about 90 per cent of all eggs set. Two turks were weak and one drowned in the ditch; the remaining 50 were raised to maturity and all sold except the hens and a young tom, which weighs 30 pounds at eight months of age.

The average price received was $5.00 each. The hens began laying in November and two of them are sitting now.

Now, I have told you how I raise my turks, and the truth of the matter is, my wife raised all of them, for the hens take up most all my time, man-like isn't it? Yours for "Chicken Chat."—D. H. Hammons, Highlands.

Hats off to Mrs. Hammons, and three cheers and another for the man who knows a good wife when he has one, and is not afraid to give credit where credit is due.

While speaking at Thermal a man in the audience asked how to raise young turks and I began giving about the same directions as did Mrs. Hammons turkeys so much good, but he said, "it wouldn't be practicable for him as he raised 1100 the last year." I asked him to tell us how he did it, as he certainly should know better than I, but he refused although Mr. Neff and the audience seconded my request. Said he wasn't prepared, and wouldn't give us a word, but after the meeting was over, I was told that his wife had raised all those turkeys, not he, and as she wasn't at the meeting, of course he wasn't prepared to tell how she did it. As nearly as I could find out, they fenced off about forty acres and let the turkeys run almost wild, but the care of 1100 turkeys was certainly an elephant no matter how the work was simplified and their account would have been very interesting.

In Ashville, N. C., is a 3000 acre poultry farm owned by one of the Vanderbilts, and the manager told me they let their turkeys run wild, and when they wanted one, the only way to get it was to shoot it. This probably furnished sport for the Vanderbilts, but wouldn't do for "we-uns," very well.

Well, this nice batch of letters has taken up all of our space for this week so the brooder chicks must wait for another time. Now, New Subscriber and Mr. Hammons have broken the ice telling their experience so come in and swim, "the water is fine," and tell us all about poultry raising in this grand country. These articles are being copied so we know they are good.

Three hundred thousand chicks etc. seem like a lot to sell, but the Pioneer Hatchery Company of 112 E. 8th, Los Angeles, expects to sell even more than that in 1909. Send for their free price list on chicks, ducklings, turkeys, goslings and thoroughbred eggs.

Growing Eucalyptus from Seed

Written especially for the Cultivator by P. B. Estrada of Los Angeles. Mr. Estrada has had many years experience in the nursery business and is a close observer of the habits of the Eucalyptus.

THE following general instructions regarding outdoor production of eucalyptus seedlings apply to the hardier varieties but describe a system which is handled by some successful nurserymen who have produced hundreds of thousands of trees through this plan of management. In following it, less trouble will be found with "damping off" than is usually the case where grown under glass or in the lath or cloth house. Many a failure has come to those who do not know how to sow their seed and when to sow in order to secure the right size for planting at the time when they should be put into the open fields.

For Fall Planting.

Some prefer the fall planting and some the spring, and complaint has been made about getting trees either too big or not sufficient size to get them transplanted into the open ground at the proper time.

Those who wish to plant in the fall should sow the seed of rostrata and tereticornis in May or at latest by the middle of June. These trees are of slow growing character and in order to get them large enough for planting, say in the latter part of November or in the month of December, later planting than the middle of June would result in the trees being very small and more susceptible to winter frosts. The globulus is a much more rapid growing tree, hence the planting of the seed for them may be deferred until July, when they will be practically the same size as the earlier sown rostrata and tereticornis.

Spring Planting.

In sections where heavy frosts prevail, the spring planting is perhaps the safer. In that case, as early planting as possible should be made, especially if there is no opportunity of summer irrigation. In such a case care must also be had as to deep planting. Some go so far as to plow deep furrows and plant the trees in the bottom, so that later cultivation gradually fills in around them. This puts the roots so low in the ground that they get the benefit of the lower soil moisture.

Seed for this spring planting should be sown during the months of July and August for the slower growers while the blue gum with its rapid growth may be planted in the latter part of August or the earlier part of September. This will bring these trees about to proper planting size, say 8 to 12 inches, for the March and April planting.

The above named varieties I consider may be grown out of doors without the protection of lath or cloth.

Sowing Seed.

This manner of growing the seed in the open is very simple and does not require any great skill or particular attention other than such intelligent care as the ordinary grower may be able to give them.

Make a box 3½ or 4 feet wide and of any length desired. It should not be made wider than that, or weeding and work with the plants will necessitate breaking some of them in order to reach to the center. Fill about 6 inches with good soil, then pack down with roller or by tramping so as to get a solid bed with smooth surface. Scatter the seed evenly, the same as if sowing in the small flats used in the propagating house. After the seed is sown, spread with a fine sieve a layer of sand, say one sixteenth of an inch thick, which will be sufficient to hold down the seed. Over the sand lay one thickness of burlap, then with the hose give a thorough wetting through the burlap. The sides of the box should be higher than the top of the soil, so that after the burlap is so thoroughly wetted that it will lie snug on the sand, the spray nozzle may be removed from the hose and the entire surface flooded. With such treatment it should not require wetting in ordinary weather for three or four days. In cool and cloudy weather it may run six or seven days, but care must be observed if it is extremely hot to give almost daily wetting.

Another Way.

Some prefer growing the seed in the open trench. In such case, proceed by digging off the top five or six inches for the size bed desired. This soil in the bottom of this trench may then be spaded and raked level, after which it should be tramped or rolled with a lawn roller to firm the bed. The seed is then planted, covered with sand, burlap spread over, which, after sprinkling, will permit of flooding just the same as in the box, and at much less expense. In fact this is usually preferred to the box method. In three or four days, the seed will begin to germinate, and at this time the burlap should be occasionally lifted to be sure that the young sprouts are not coming through and being injured by the keeping covered with the burlap longer. After removing the cloth, great care must be exercised in flooding so as not to wash the sand away and the young plants be lost.

Transplanting.

Instead of leaving the seed in this flat or in this trench until ready for the field, it has been found much better to transplant generally into a flat. After they have grown to the height of two or three inches they may be removed into the ordinary flat which is usually about three inches deep, and if about 18x18, will hold 100 plants. This may be done with the ordinary trowel or with the "transplanter."

In transplanting it will be well, especially in warm weather, to shelter these plants for a day or two. But this must be done so as not to exclude the air, as they should have all the air possible. The point of this protection is to prevent the extreme heat of the sun from wilting before the rootlets become established. After this two or three days of protection, they may be removed into the full sun light, as they were before transplanting. Care should be used to remove a small ball of soil with the roots and for this reason the transplanter is preferred to the trowel, although with care the trowel may answer. After the balls are placed in the flat the spaces between should be filled with sand or a light loam soil.

Field Planting.

The time of planting the field will vary according to climatic conditions or the locality and as to whether they receive irrigation. If the spring planting is followed, get in the ground as early as possible and still not be caught by the later frost. As noted at the beginning of the article they should be planted deep and if the furrow system is not followed and they are planted on the level, then extra care should be used that the roots are at least two or three inches deeper than they were in the flats. This soil need not all be filled in when they are first planted, for later cultivation will tumble the ground down about the roots.

They may be planted 6x7, 7x7 or 6x8 feet apart. On good soil where moisture is sufficient they may be planted 4x4, then each alternate one may be removed after two or three years. The wood in the poles will pay for the extra care they need.

Every Blade Tested

Like all the famous Keen Kutter Tools and Cutlery—not a single Keen Kutter Safety Razor is sent out until it is worthy to uphold the well-earned reputation of the name. Every blade is tempered, ground, honed and tested until it will cut a hair at any part of its edge. The

KEEN KUTTER
Safety Razor

is the only one adjusted to give the sliding stroke that cuts the beard clean and smooth without pulling.

The angle of the blade is exactly right to cut close without scraping.

The quickest, closest, smoothest, most comfortable shave—any time—any where—is assured with the Keen Kutter. The Keen Kutter Safety Razor is guaranteed.

Silver Plated in Genuine Black Leather Case, $3.50.
Gold Plated in Genuine English Pig Skin Case, $5.00.

If not at your dealer's, write us.

SIMMONS HARDWARE COMPANY (Inc.)
St. Louis and New York, U. S. A.

Talking About BOOTS

Perhaps the most acceptable Christmas gift for a young man would be a pair of our handsome high-laced Boots. If you will drop us a postal, we will mail you our No. 15 Catalogue, which tells all about them.

Our new Gymnasium catalogue is chock full of Christmas ideas, too.

Are you needing storm clothing or Arctic shoes for bad weather? Just mention it.

The Wm. H. Hoegee Co., Inc.
138-40-42 South Main
Los Angeles, Cal.

Write for Catalogue

Madary's Supply House
Is the Largest West of the Rocky Mountains

For Beekeepers

All kinds of bee supplies, orange shook, packing boxes, berry crates, grape baskets, etc. The best goods and the lowest prices. Personal attention to correspondence and prompt attention to orders.

Warehouse and Salesroom, 733-9 Aliso Street
Phones—Sunset, Boyle 168; Home 1125

C. H. Clayton, Agent Los Angeles, Cal.

TREE TANGLEFOOT

A Sticky Preparation Applied Directly to the Bark of the Trees

Will not injure trees. A band 5 inches wide and 1-16-inch thick cannot be crossed by any climbing insect pest. Remains sticky five to ten times as long as any other known substance. You can test it at slight expense, as no apparatus is required. Used by the carload in New England against the Gypsy and Brown-Tail Moths. In California it preserves prune orchards from the Canker Worm. Wherever the Gypsy or Brown-tail Moths, Tussock Moths, Fall or Spring Canker Worm or Web Worm appear TREE TANGLEFOOT is of great value, and should be used when the caterpillars begin to crawl while they are very young.

Price 25c per lb. Liberal discount on quantities. The only safe and effective banding preparation. Send for testimonials.

THE O. & W. THUM COMPANY
Manufacturers of Tanglefoot Fly Paper Grand Rapids, Michigan

Bank by Mail at 4%

IT is an advantage to have your money in a large Institution, located in a large centre of population. We have special banking facilities for out-of-town depositors. Write for information.

German American Savings Bank

Spring & 4th Sts., Los Angeles

New Crop Seed

Plant Good Seed Reap Good Crops

We carry everything in good new

Grass Field Vegetable SEEDS

Don't fail to plant our celebrated

Big Leaf Jersey Kale

for your poultry. 10c per oz.

Send for Booklet

Hickey & Vonsen

P.O. Box C, Petaluma, Cal.

Seed 75 varieties of ***Sweet Peas*** Separate Colors, 5c per Pkt. 15 Leading Varieties, post paid, 50c. 4 Varieties, that bloom in 45 days, 25c. This is the best time to plant.

Get Seed Where Seeds Grow

We are headquarters for ***Lettuce, Onion, Melon, Radish, Turnips,*** Etc. Make up a list of your wants and submit to us for prices also ask for catalogue.

Eucalyptus All the Leading Varieties in seed @ 15c per package. (Six of the leading varieties, E. Rostrata, E. Leucoxylon, E. Rudis, E. Globulus, E. Corynocalyx, and E. Tereticornis for 50c, with cultural directions). 500,000 Plants, all varieties. State your wants and get prices.

Send 10c for large packet each of our new ***Cabbage Head Lettuce, King of May*** and ***Brown Dutch***, earliest and finest flavor.

Cannon Ball Cabbage is finest grown. 5c packet, oz. 25c

Morris & Snow Seed Co.

425 So. Main, Los Angeles, Cal.

Orange Seed Bed Stock

20,000 Orange Seedlings, 1 year old, 14 to 18 inches tall. Good healthy stock. Write for prices.

Barbour Ranch San Gabriel, Cal.

Semi-Tropic Nursery

The undersigned takes pleasure in announcing to all who desire to raise choice fruits that his **Kodota Fig** and **California Concord Grape** are still in the lead as the choicest of table fruits. I am prepared to furnish these trees and vines in retail or wholesale lots. Circulars sent to all who send for them.

S. H. Taft

Sawtelle, Cal., Nov. 27, 1908.

Queries and Replies

Questions to be answered in this department should be received at this office one week before reply is expected. Write plainly on one side of the paper and sign full name and address. Unsigned communications receive no attention.—Ed.

Cut Worms.

Is there any effectual method known for destroying the small worms that do damage to the tomato crop? It is not the large tobacco worm that eats the vines to which I refer, but a striped worm an inch or more in length that eats the fruit, often cutting it loose just under the stem. Also give me remedy for destroying the worms in the potato crop. They were bad in the tubers of the spring crop and have greatly damaged the vines and tubers of the fall crop.—J. M. B., Anaheim.

The small worm mentioned as injuring tomatoes belongs with the cut worms and army worms. I have had it reported from several sections of the south recently, but it has never occurred in very great numbers. It is not a very easy insect to handle and the only means of control which I would suggest would be in the use of arsenated bait, this consisting of bran, arsenic and cheap molasses, in the ratio of one pound of arsenic to eight or ten pounds of bran and one half gallon of molasses; small handfuls of this being scattered around among the base of the vines where these insects are giving trouble. The proper precaution should be taken, of course, with reference to poultry.

The worms infesting the potatoes I infer are the well known potato worms which do serious injury to the potatoes in the north, and have also been reported to me from one or two sections here in the south within the last month. This insect lays its eggs either at the base of the leaves on the vine or upon exposed tubers, the larvae, or worms, hatching from these eggs, in the case of those on the vine, bore down the stem and in the case of young vines may kill them outright. The larvae hatching from the eggs on the tubers bore into these and complete their larvae life within the tuber, coming to the surface to spin a cocoon and undergo pupation. It is often, however, in storage that the potato worm does the most serious injury. A few infested potatoes may be sufficient to infest the whole lot in storage in a short time. These insects may be handled in storage by the use of carbon bisulphide, the sacked potatoes being placed in air-tight rooms or bins and the carbon bisulphide placed in saucers near the top of the room, used at the rate of one pound to one thousand cubic feet of space. This will effectively kill the moths and usually most of the eggs and pupae. But in some cases it will be necessary to repeat this fumigation in the course of two or three weeks to kill those that may have escaped in the first operation. Nothing satisfactory can be done to control these insects in the field excepting precautionary measures. The potatoes should not be left exposed in the field after digging, particularly over night, since the moths are most active in the late afternoon and early evening, during which time the eggs are deposited on the tubers. In the case of those in the vines, the only thing that can be done is to destroy the infested parts.—H. J. Quayle, Entomologist, Plant Disease Laboratory.

Pruning Deciduous Trees.

Can I prune deciduous trees this month without injuring them? Most of them still retain their foliage. Were planted in 1906-7.—Old Subscriber, Santa Barbara.

We would prefer that trees should become more dormant than many of them are at this time. January is plenty time enough for the pruning, and unless special reasons for immediate work, would advise deferring until more of the leaves drop.

Pruning Grapes.

Please give information as to pruning Tokays, Cornichons and Emperor grapes.—E. J. T., Fresno.

Mrs. Sherman gave some general information on pruning in the issue of November 26. But to give explicit directions regarding pruning in general would require more space than commanded in this department. We therefore refer the question to Mr. Mills, who will later write an article along that line in the Deciduous Department. It is yet rather early for this pruning and there is abundance of time before spring growth would start.

Walnuts—Almonds.

Please let me know through the Cultivator (1) what kind of walnut trees is best for this locality and (2) what kind of almonds should I plant? Also what will be their yield when in good bearing?—C. H. C., Hughson, Stanislaus county.

The present planting of walnuts in the central and northern parts of the state is Franquette. This variety blossoms later than the southern soft shell varieties and in that way is better adapted to your section. If there are any walnut trees near you that are bearing large crops of good walnuts you will likely get better crops by propagating from them than by bringing in something that has not been tested where you want it to grow.

Any nut grower in Stanislaus county or near there who can give explicit directions as to varieties that have done best in that vicinity will confer a favor by sending to the Cultivator their observations. The IXL, Ne Plus Ultra and Nonpareil are all of the very best varieties. The value of the Jordan and many other varieties is not yet fully determined.

Spray Pumps.

Where may I secure hand-spray pumps which will spray the distillate and water, mixing it as the spraying is done?—E. Y. B., Orange.

If you mean by your query the keeping of the distillate and water in separate vessels and spraying the mixture which is formed in the nozzle we do not believe there are any such pumps. Mr. Kahles of Montecito at one time perfected a power-spray pump to handle liquids in this way, but the power-spray pumps made at present handle the distillate and water in the same vessel with an agitator which keeps them thoroughly mixed all the time the spraying is done. For hand pumps we think you would have to provide for the agitation by some method outside of the pump. The hand pumps may be had of any seedman or farm-implement dealer advertising in the Cultivator.

English Walnuts on Moist Land.

Please inform me if English walnuts will grow in adobe soil with sand bottom and water three feet from surface in winter and five feet in summer. It also has some white alkali. Would the paper-shell walnuts bear better than the hard-shell variety?

AUCTION SALE

65 DAIRY 65 COWS

6 HORSES—10 HOGS

On the J. W. Kent Ranch one-fourth mile south of **Graham Station** on the Long Beach electric line 1 mile north of Watts. Take Watts local cars to Graham Station.

Tuesday, Dec. 29 at 10 o'clock a. m.

65 fine dairy cows, Jerseys, Holstein and Durhams, all large fine catle, fresh and coming fresh, large rich milkers, young and in good condition, in fact a choice herd of dairy and family cows.

10 head hogs; 1 four year old draft horse, 1 three year old draft horse, 1 yearling filly, 3 work mares from 4 to 10 years old.

Implements; 1 set double harness, nearly new, 2 sets single harness, 1 single buggy, 1 two-seated surry, etc., etc.

I am closing out my entire herd and quitting the business and every animal will positively go to the highest bidder. No limit or reserve.

Terms: 6 months time will be given with note and approved security on sums over $50. 3 per cent. discount for cash on time sums. Free lunch at noon. Don't miss this genuine closing out sale.

J. W. Kent, owner. Rhoades & Rhoades, aucr. Office 830-832 South Main St. Phones: F1259 Main 259.

Harris Seed Co.

San Diego, Cal.

Seeds, Plants and Poultry Supplies

High Grade Seeds at Reasonable Prices.

WRITE FOR CATALOGUE.

Pacific Seed Co.

C. Bagnall, Prop.

GROWERS AND IMPORTERS OF

Grass, Vegetable and Flower Seeds

All Kinds of Bulbs and Onion Sets

609 J St., Sacramento, Cal.

Send for Catalogue. Please mention Cultivator.

SEED GRAIN

Black and Red Oats, Wheat, Barley, Bean Screenings, Etc.

constantly on hand and for sale at lowest market rates

Bray Brothers Buyers of grain and beans Members Merchants Exc.

220 Clay St. San Francisco, Cal.

Established in 1855. Correspondence Invited.

Special Prices

Today we have on hand a few of the latest models of the "Old Trusty" Incubator, just as long as they last you can have them at the lowest prices ever made by any Incubator company in the West. We wish to get our money out of them quickly, we will hold any machine you wish to select if you send a $2 deposit, these machines will not last but a few days at these prices. Now is the time to BUY and save many dollars while youcan. This ad may not appear again. If you do not have the catalogue, 148 pages, send for it. We pay R. R. freight in Cal. 120 Egg Size, $10.90, 165 Egg Size $12.90, 240 Egg Size $15.90. These machines are all complete with all attachments ready to run.

E. E. McClanahan

112 E. Eighth St., Los Angeles, Cal.

The Lafayette Stock Farm Lafayette Indiana

J. Crouch & Son, Props.

Percheron Belgian German Coach Stallions and Mares

Our last importation of Percheron, Belgian and German Coach stallions and mares arrived in our barns August 1st, among them the prize winners of France, Belgium and Germany, and we can show buyers over 200 head of high class stallions, which we will price as low as any reliable importer can, and give liberal guarantee and terms. If your locality needs a stallion, write us.

J. Crouch & Son

1309 J St. Sacramento, Cal.

Would hickory nuts grow here?—X. Y. Z., Highlands.

If the water table is fairly regular and does not vary more than the two feet which you mention, it is very probable that walnuts would do well. Conditions are not ideal, as would be the case if the water were six or eight feet at all times from the surface. As to alkali, if it is the white alkali and in only ordinary quantities it would probably do no material injury. The paper-shell walnuts are now superseded almost entirely by the soft-shell, and are vastly superior to the hard-shell. We have no knowledge whatever of the hickory having succeeded in this State.

Vineyard Stakes.

Please repeat the treatment given for stakes of cotton wood, willow, etc., to preserve them so that they will be of service in staking the vineyard. You formerly stated that a 6 to 10 per cent. solution of copper sulphate was the proper proportion. Can the work be done at this time of year? The Cultivator suits me to a T. Would not be without it.—F. H. C., Corning.

We should imagine this would be the most favorable time of the year to cut the soft wood. It would certainly contain less sap than in the springtime. A practical farmer in the office as we write says he prefers to cut them now, allow to season until quite dry, then soak for about ten minutes or longer according to the size of the stake in boiling creosote. The creosote may be secured from the nearest gas works, and should be allowed to penetrate the stakes as high as they will be deep in the ground. The time to allow them to soak can be determined by cutting through to the heart of one or two of the stakes to observe the penetration.

Stock for Orange Trees.

Are orange trees ever grafted on grape-fruit stock, and are they a success? Are they as good as the sour root? And will they grow faster than on the ordinary sweet root?—Cultivator Reader, Garden Grove.

Pomelo, or grape-fruit root, is one of the favorite stocks for oranges. It gives a very thrifty, strong-growing young tree.

On damp or very heavy soil we think we would prefer the bitter or sour orange. As a rule, the greater number of our citrus trees are grown on the ordinary sweet root. The pomelo stock furnishes a slightly stronger-growing tree than the ordinary sweet root. Sour root has the preference on the part of many because of its exceptional root system, which is the largest of any of the stocks.

Orange Culture.

Please give reliable information regarding orange culture. What month is the best for planting seed-bed stock in the nursery preparatory to budding? Should budding be done the same season they are put in the nursery row? What month is the best? Please give some directions for preparing soil for the nursery.—Subscriber, Santa Ana.

To fully cover the questions asked above would require a good-sized volume, and we would refer the reader to Wickson's California Fruits or Home Citrus Fruits, which may be supplied by this office. But in a word, transplanting of seed-bed stock into nursery rows in the open should be in March or May. They may then be budded, at least the stronger-growing of them, the following fall, say early in September, while the sap is still flowing strongly. The smaller ones and those which do not "take" with that fall budding may then be budded the following spring as soon as the sap starts to flow, when the warmer weather begins. The soil for nursery should be prepared the same as for any garden or intensive-culture crop; that is, well fertilized, deeply plowed, sub-surface packed, and the surface thoroughly fined by liberal cultivation and harrowing.

Absorbent for Stables.

Which will give best results, Thomas phosphate at $22.50 or land plaster at $9.50 per ton, to use with stable manure for applying to orchard.—W. T. A., Pomona.

Some prefer to either of these superphosphate; but as between the two which you mention for the purpose you mention we think we would prefer the land plaster, which if you buy in any quantity should be secured for less than the price you name. Gypsum or land plaster has wonderful absorbent power, and is claimed by some to have value in releasing or making available the potash of the soil.

Stiff Calf.

I have a calf fed on skim milk. He has been stiff ever since he was a month old, one month ago. Sometimes he is so stiff that if he is lying down at feeding time he cannot get up to take his milk. Can you tell me what is the cause? I have lost several already and would like to know what to do for him.—Subscriber, Lemoore.

Call in a good doctor to see these ailing calves. The trouble may be rheumatic or it may be blackleg or it may be meningitis; any of these would show the symptoms given. For blackleg, vaccination is the best thing; for rheumatism a warm blanket and shelter, while for meningitis the cure is to clean thoroughly all the surroundings and disinfect them carefully. Remove the well calves to fresh quarters. The sick ones should be kept warm and given only sound food, sweet skim milk and a little bran. The doctor will prescribe a tonic that is proper in these cases. I should certainly see the calves had their milk warm and with a rennet tablet dissolved in warm water added.—M. E. S.

Asparagus.

How should an asparagus bed be treated? Have a year-old bed which is bearing all the while; cut it back and nearly killed all my plants.—T. H. S.

You should have ceased cutting early in July, and allowed the stocks to grow so as to maintain healthy condition of the root system. Then late in the fall you should cut off the matured stocks and burn them—unless you want the seed. It is a great mistake to cut a young bed too freely. After being well established, they can be drawn upon more freely. The bed should have an annual dressing of stable manure, say in February.—Q. A. L.

Vetch for Green Manuring.

I wish to sow some vetch for green manuring, but cannot sow before I prune, and cannot prune before the sap goes down. How late may I sow and still be able to plow under and cultivate by March or before? Also what value would pomace from grapes be and how much should be put to the acre? Where can I get vetch seed, and how much will it cost, and how much of it is required?—B. C., Lodi.

It is now too late to sow the seed if you wish to plow under as early as March, that is, too late to get the best growth. But if you have water for irrigation we would advise sowing at once, irrigating the land prior to sowing, and then leave in condition so it can be irrigated late, in which case you may plow as late as April.

Vetch sown now will then be heavy enough to give good crop for plowing under. If irrigated, you can plow under in good condition in April. The vetch seed may be had of seedmen advertising in the Cultivator; probably all of them handle it. It will cost in the neighborhood of 4 cents per pound and will require 30 to 40 pounds per acre. Hereafter, plant a month or two earlier than this, then do your pruning regardless of the vetch. The tramping and dragging out of the brush will do but slight injury, or at least will leave sufficient to do you good enough to more than offset the injury to the crop. As to pomace, we have no experience, and would ask growers who have used it to report. Your poultry queries will be answered later.

Poultry Manure for Vegetables.

How may I best handle manure from poultry-houses so as to get results from vegetable garden? I have a

Continued on page 599.

Anthrax Cure, Milk Fever Outfits. See O. J. Weber Co., 555-557 S. Los Angeles street, Los Angeles.

Classified Liner Columns

Rates 1½ cents per word per issue. No ad. accepted for less than 25 cents. Our classified columns are the clearing house for the readers of the Cultivator. Here you can insert an ad. for the small sum of 1½ cents per word per issue, and be sure that it will be read by thousands.

FARM LANDS FOR SALE.

FOR SALE—AN 80 ACRE FARM, WELL stocked with vegetables, berries, grain, chickens, houses, corrals, etc. Lots of good water, piped to different parts of place. Plenty nice timber. Well supplied with farming and garden implements, vehicles and all kinds of tools. Two horses and cow, good gasoline engine which operates pump, grain mill, green bone cutter, washing machine, wringer, vegetable cutter, grindstone. Good 6000 gallon tank. Large brooder house and runs; also 4 large Jubilee Brooders. Good roads, and best of all, good markets. Six room house with all furniture. Telephone. As I have the "Imperial Valley" craze, $5500 takes everything. $3000 cash, balance 6 per cent. See the crops on this place. You'll find it's a sure enough bargain. WM. MANTZ, Santa Maria, Cal.

FOR SALE—10 ACRE RANCH, NICELY IMproved. Close to growing town and railroad; 200 bearing fruit trees; 1000 vines; small poultry-plant; house, etc. Only $2500. Address, H. F. BLUHER, Novato, Marin Co., Cal.

FOR SALE—A FINE LOT OF GRAFTED walnut trees, Placentia Perfection variety, on black or English roots. W. A. LETTEN, Whittier, Cal., Home Phone, 1734.

FIFTEEN ACRES IN KINGS COUNTY, sandy loam, good house, water, trees and vines; ¼ mile from town. Drop me a card. G. C. O. Box 175, Lemoore, Cal.

I make a specialty of orange and alfalfa ranches, and exchanges. 826 MAIN St., ROOM 9, Riverside, Cal., N. R. BELL.

POULTRY

BLUE ANDALUSIANS—MRS. GRIFFITH'S Blue Andalusians are still in the lead; noted for their utility and show records, layers of large white eggs weighing from 26 to 28 ounces per dozen. Eggs for hatching $2.50 per 15 guaranteed; also few trios $7.50 to $10. MRS. GRIFFITH, 3957 HALLDALE AVE., Los Angeles, Cal. TEL WEST 841.

BLACK BEAUTY POULTRY YARDS—Black Minorcas exclusively, bred for eggs and size, unsurpassed as layers or table birds. Eggs $6.00 per 100, single settings $1.50. Incub. chicks $12.00 per 100. cockerels $2.50 each. Mrs. A. F. Frese, Box 19, Dixon, Cal.

CHAS. E. SMITH—BREEDER OF BARRED Rocks exclusively. Winners of the blue wherever shown. Eggs $3.00 per 15, stock for sale. GARDENA, Cal.

FINE THOROUGHBRED RHODE ISLAND Red roosters and hens for sale, also a good chance for a chicken man. Address B. F. YOUNG, Huntington Beach, Cal. Phone Smeltzer Ex. 160.

DAY-OLD CHICKS, LEADING BREEDS. Send for circular. San Jose Hatchery, 395 EAST ST. JAMES St., San Jose, Cal.

O. L. CRANE, BREEDER OF PIT AND Cornish Indian Games. Rural No. 3, Santa Rosa, Cal.

SITUATION WANTED.

MARRIED MAN, EXPERIENCED IN MOST branches of farming, desires to take charge of ranch. W. T. B. WILCOX, Capertino, Cal.

TREES WANTED.

WANTED—10,000 TO 25,000 SEED-BED OR-ange trees, spring delivery. BOX 50 Glendora, Cal.

GRAPE CUTTINGS.

FOR SALE—TABLE GRAPE CUTTINGS, 20,000 Muscat, $3.50 per 1,000; 10,000 Flaming Tokay, $3.50 per 1,000; 10,00 Cornichon, $4.00 per 1,000; 10,000 Malaga, $4.00 per 1,000; 5,000 Golden Chasselas, 7,000 Red Emperor. Also rooted vines, 200 Tokay, $4.00 per 100; 400 Cornichon, $4.50 per 100; 350 Malaga, $4.50 per 100. E. Dondanville, SAN GABRIEL, Cal.

FOR SALE—CAREFULLY SELECTED grape cuttings from all the standard varieties. 50 cents per hundred, $4.00 per thousand. J. L. WININGER, Central Ave. Grapery, Compton, Cal. Home Phone 192 Compton Ex.

MACHINERY.

FOR SALE—10x10 BELT DRIVEN AIR COMpresser, never been used. Will be sold cheap. 117 BRUNO St., Los Angeles, Cal.

FOR SALE—SOME BARGAINS IN SECOND hand motors and generators. We also rent and exchange motors and other machinery. Baillie & Brandt Co., 943 N. MAIN St., Los Angeles, Cal.

FOR SALE—MEHRING MILKING MAchine with extra parts and covered pail, all in good order. WM. H. BIRD, Box 6, Compton, Cal.

FOR SALE—SEVERAL SMALL CENTRIfugal pumps at prices that are right. Baillie & Brandt Co., 943 N. Main St., Los Angeles, Cal.

FOR SALE—RENT OR EXCHANGE, BOILers and engines, gas engines, pipe and oil well casing, pumps, all sizes and makes; get our prices before you buy. A. CANNADY & CO., 691 N. Main st., Los Angeles, Cal.

FOR SALE—11 H.P. WHITE AND MIDDLEton gasoline engine in good running order. Cheap for cash. 117 BRUNO St., Los Angeles, Cal.

FERTILIZERS.

PROFIT IN FERTILIZING
depends as much on judicious purchasing of fertilizers as on the intelligent study of the requirements of the crop. You may get the analysis you want, but from cheap materials of slow availability. When you buy
ARMOUR'S ANIMAL FERTILIZERS
you are assured of the highest grade of materials. They can be depended upon for results. Send for copy of Fertilizer Facts"
THE ARMOUR FERTILIZER WORKS
Los Angeles, Cal.

TREES.

TREES AND PALMS—TEXAS UMBRELLA, Pittoporum, Laguinara, Brazillian Pepper, Eucalyptus Ficifolia, Divicia, Pinus Maritima, Pinus Sylvestris, Italian Cypress, Catalina Cherry, Arbor Vitae, Acacia Melanoxylon Balled or Potted, Acacia Armata, Dracaena Draco, Dracaena Indivisa, Washingtonia Robusta, Erythea Edulis, Chamaerops Excelsa and Phoenix Canariensis Palms. All kinds of fruit trees. Ask for catalogue and special prices on large orders. Golden State Plant and Floral Co., 21st and OREGON AVE., SANTA MONICA, Cal.

SACRIFICE SALE—5,000 SANTA BARBARA, 5,000 Mammoth Ford walnut trees. We will sell above stock at less than cost price. Have stock in surplus and must close out Will sell trees at prices merely covering digging and shipping expenses and small commission for handling trees. Will pay any prospective planter to get our prices. Chas. Benedict Nursery Co., CARLTON, Ore.

A LARGE STOCK SEEDLINGS AND GRAFTed Walnuts, Elberta, Muir, Lovell, Phillips cling and all other peach, Apple, Pear, Plum, Apricot trees. All varieties trees, grapes and roses. A thrifty well rooted stock and will please you.—A. R. MARSHALL, BOX 64, Santa Ana, Cal.

WALNUT TREES—5000 LARGE, STOCKY seedlings. Seed from grafted trees of Placentia Perfection variety. Will sell very cheap if taken before Jan. 1st. as land must be cleared. G. W. SHERWOOD, Fullerton, Cal.

LEMONS, VALENCIAS, NAVELS, SANTIAgo. Frostless Nursery. L. F. Thurston, proprietor. Cleanest, largest and thriftest stock in Orange Co. Frostless. 1½ miles east of Villa Park. Address Santa Ana, R. D. 1; Sunset Telephone 354 Orange.

FOR SALE—AT RIGHT PRICES, FRUIT trees, Ornamental Trees and Shrubbery, Field grown roses, finest assortment. Write for catalogue. H. L. BAUER & SONS, 737 S. Spring St., Los Angeles, Cal.

FOR SALE—SOUR ORANGE SEED BED stock, free from scale or any insect pest, stock strictly first class at th "Home Nurseries." T. E. Stanley, Proprietor, SAN BERNARDINO, Cal.

CO-OPERATIVE LANDS.

CO-OPERATIVE COLONY NOW IN ACtual possession and operating 10,000 acres land with stock and improvements. Only 400 memberships. Each colonist gets house and lot and equal share in industries, factories and 8,000 acres land. $350 secures permanent residence and employment. If your application is accepted, you can come now or later. Write for booklet. Room 304, 45 KEARNY St., San Francisco, Cal.

BERRY PLANTS.

WANTED—NO. 1 STOCK OF THE FOLLOWing: Loganberry plants, Mammoth and Grandale blackberries, Euthbert, Himalayas and Black Cap raspberries, Horse-radish and rhuhbarb roots, asparagus (Palmetta) roots. Arizona, Klondike and A 1 strawberry plants. State amount you have, size and prices. Write for catalogue. H. L. BAUER & SONS, 737 S. Spring St., Los Angeles, Cal.

FOR SALE—STRAWBERRY; PLANTS Brandywine, Excelsior and Arizona, $3.00 per thousand. Mammoth and Himalaya Giant Blackberry, $3.00 per hundred. FRED L. WING, Upland, Cal.

FOR SALE—LOGAN, MAMMOTH PHEnomenal and Himalaya berry plants, etc. Send for prices. R. J. Hunter, Oak View Berry Farm, GRIDLEY Cal.

HOGS.

REGISERED BERKSHIRE AND POLAND China hogs, both sexes. C. A. STOWE, Stockton, Calif.

MORE ABOUT PARCELS POST.

Mr. Emil Staheli of Corning writes regarding the parcels post as follows:

I was much interested in communications of your "Stockton Subscriber" concerning answers to questions from "Country Life Commission." My answers would almost read like a copy of his, and I wish to add that it is not only the farmer that needs a parcels post; the country merchant that fights it is simply hypnotized. One year after the establishment of a good parcels post he would feel as if his very existence depended on it.

Here is a sample of post rates for packages in Switzerland and Germany.

Switzerland: Package, 1 lb., 3 cents, 1 to 5 lb., 5 cents, 5 to 6 lb., 8 cents. 10 to 20 lb., 14 cents, 20 to 30 lb., 20 cents.

Germany: Up to 10 lbs., 10 miles or less 6 cents, over 10 miles 12 cents. Heavier packages are charged according to distance and weight.

Imperial Valley Lands have a greater earning capacity per acre than any land on earth. For price list and information address, James S. White Jr., and R. A. Holt, Holtville, Cal.

The Oldest Savings Bank in California

FOUNDED IN 1857. CAPITAL FULLY PAID $1,000,000.00

The Savings and Loan Society

101 Montgomery St., Cor. Sutter St., San Francisco

Exclusively a Savings Bank whose policy is for ***Conservatism*** and ***Safety,*** the result of ***Fifty-One Years' Experience.***

Deposits may be made and withdrawn by mail.

San Francisco Savings Union

Founded June 18, 1862 **Northwest Cor. California and Montgomery Sts., San Francisco**

Conducts a Savings Bank Business Exclusively

Capital Paid Up, $1,000,000.00 Surplus, $1,183,632.00

Total Assets, $27,508,850.00

E. B. POND, President.

W. C. B. de FREMERY AND C. O. G. MILLER, ... Vice-Presidents
LOVELL WHITE, Cashier. . . . . R. M. WELCH, Asst. Cashier.

Directors: John F. Merrill, Wm. A. Magee, W. C. B. de Fremery, H. C. Breeden, Jacob Barth, Fred H. Beaver, Wakefield Baker, C. O. G. Millet, E. B. Pond.

Every facility afforded for opening accounts and making deposits and withdrawals by mail. Correspondence invited.

The Barker Portable Cottages Bungalows, Garages, Tent and Poultry Houses

These houses are correctly built of selected material and are so different from the ordinary portable houses as the aim has been to make them look like a permanent structure built on the ground. They have stood the test of years and are conceded by experts to be the best, cheapest and most practicable portable house made. Please investigate before purchasing or building. We also manufacture sanitary poultry houses of our own designs. Write or call at office and factory, corner of Topeka and Alameda Streets, Long Beach car line.

Pacific Portable Construction Company **Los Angeles, Cal.**

TREES We have a full line of Nursery Stock, including citrus and deciduous fruit and nut trees: Also eucalyptus trees, 15 varieties.

ROSE BUSHES, ORNAMENTAL, SHADE AND STREET TREES.

We publish a price list, a descriptive catalogue. and a special Eucalyptus pamplet.

Orange County Nursery & Land Co.

Main office and Nursery

Riverside Branch, Cor. Market and 7th, Sts.
Corcoran Branch, Whitely Ave. **Fullerton, Cal.**

George B. Warner's Orange County Nurseries

Established 1889

Grower and Dealer in Citrus and Deciduous Trees of all Standard Varieties

Soft Shell Walnut Trees, 1, 2, and 3 years old. Grafted Placentia on Native Black Walnut Root and Soft Shell Root. Street and Ornamental Trees, Palms. Dracænas, Blue, Red and Sugar Gums (large stock.) Write for prices.

Sales Yard—Corner Sixth and Main
Residence—Tenth and Bush Sts **Santa Ana, California** Phone—S. S. Red 92

Crimson Winter Rhubarb

$1.50 a Dozen **$6.00 per 100**
$40.00 per 1000

Now is a good time to plant. Pedigreed Stock.

Fruit Trees and Berry Plants of All Kinds

J. B. Wagner, Pasadena, Cal.

The Rhubarb and Berry Specialist

Dept. F

THE only pruner made that cuts from both sides of the limb and does not bruise the bark. Made in all styles and sizes. We pay Express charges on all orders. Write for circular and prices.

Dept. J RHODES MFG. CO., GRAND RAPIDS, MICH.

When writing advertisers, mention Cultivator.

Household Department

CHRISTMAS LONG AGO.

The snowflakes on the sleeping earth
their downy mantle fling,
While clanging through the frosty air
the Christmas joy-bells ring.
It is the hour of eventide—the glowing
fire burns low,
And in its depths fair pictures gleam
of Christmas long ago.

I see the little cottage nestled close
behind the hill;
To us it was a refuge sweet from
every earthly ill.
The blazing logs upon the hearth give
forth a ruddy sheen
To tinge the frosted panes bedecked
with wreaths of evergreen.

I see the little stockings hung beside
the ingle nook;
I see the childish faces—oh, how gay
and bright they look!
While from the little trundle-beds
their merry voices hum,
As eagerly they wonder just "when
Santa Claus will come."

How busy were our mothers then
from morn until they slept,
And from the quaint old kitchen spicy
odors upward crept
From shelves all groaning 'neath the
pies of pumpkin and of mince—
Such appetizing goodies have I never
tasted since.

Dear faces that I see tonight have
gone beyond the skies,
For them the joyous Christmas Day
now dawns in Paradise.
But they seem to hover near me in the
firelight's fitful glow,
Sweet spirits of the Christmas-time,
dear Christmas long ago.—Leslie's Weekly.

HINTS FOR CHRISTMAS DAY.

NO day in the year calls louder for a cheery home table or suggests more simple ways for brightening it than the one we honor on the 25th of December. It is a thousand pities to make any formal observance of Christmas, either by conventional courtesies or by over-costly and burdensome gifts, a weariness to the flesh and a time to be thankful for only when it is well over! This is in a very special sense the festival of loving hearts, the day to celebrate with all simple and natural joy and innocent merry-making.

What a shame to make it lose its real character and its deeper influence for strengthening all that is good and true in the family life by any mere vulgar social rivalry or pretension! It is certainly a day when we should remember that "charity begins at home," however wide the circles may spread from that center of genuine love and good-will.

There are no Christmas decorations prettier or more suitable than the simple arrangement of evergreens and red berries to be had without cost by everybody in country places. Holly has become so great a favorite for this use that it is now sold in every town and village, but it need not supersede the native pine and other evergreens growing over the mountains. Next to these, or in addition to them, may be put for general use the very effective ornaments of red and green paper now so much seen. Christmas bells and chains, individual favors and baskets and the like in dainty crepe paper, with holly in every form, from the simplest card to the richest ribbons make gay and light decorations easily arranged and both pleasing and inexpensive. The Christmas dinner would be incomplete without the touch of Christmas color.

The turkey has long been the American first choice for a main dish at Christmas as on other high festival occasions. But domestic turkeys have grown scarce and high in all our markets. The goose is really the traditional Christmas dish, though less a favorite with us than with many others. But a fat young goose, well cooked, which means long and moderately roasted in a covered pan, with rather high seasoning and frequent basting, is, indeed, a royal dish. A fine, large spare rib is no bad substitute, and the firm, white meat quite comparable to turkey. Chicken pie in addition makes the dinner a feast. Rather tart apple-sauce goes with either of these substitutes for turkey, and for vegetables, onions and winter squash and white potato balls are among the very best.

Try the celery in cooked form for a change. Cut in inch lengths and simmer until tender in just enough water to cover. Make a rather thick, white sauce with the water in which it was cooked and an equal portion of milk, thickening with flour and butter rubbed together, and season with salt and pepper and a mite of onion if one chooses. Arrange the celery in layers in a baking dish, covering each layer with sauce, and on the top a layer of crumbs and grated cheese. Dot with butter and brown lightly in a hot oven.

In a rich dinner a salad to follow the heartiest course helps digestion and prepares one to enjoy the pies and puddings or whatever sweets may follow. Celery with tart apples, both cut in dice is a good popular combination, or sour oranges with a French dressing on lettuce leaves. Seeded white grapes may be added. Little balls of cream cheese, mixed with chopped parsley, suit both the eye and the palate and make an excellent accessory. Rings of red and green pepper have also merit both decorative and alimentary. It is best to have the salad prettily arranged on individual plates for easiest serving.

The rich mince pie or plum pudding, both traditional features of the old-time Christmas celebration, are often omitted now, and more easily digestible compounds take their places. Either the golden yellow pie of rich winter squash, or the vivid red of the cranberry, first stewed to a rich, solid pulp with sugar, and latticed with bars of flaky pastry, will be timely and attractive.

Plum pudding ice cream is a modern novelty, eminently suitable for the Christmas dinner. For this cream soak a cup of mixed raisins, currants and shredded orange peel in a very little hot water and stir in a teaspoonful of mixed spices, cinnamon, cloves and allspice. Add this to a large cup of milk and one of cream and scald in a double boiler with a small cup of sugar and one well-beaten egg. Flavor with vanilla or orange and freeze. Any plain ice cream in a brick-shaped mold decorated with holly—two or three sprigs standing upright and others laid round the base—is one of the prettiest and most generally acceptable finishing touches for the dinner. Ice cream is really an excellent, wholesome food, one that is generally safe for the weakest digestion and all children consider it a treat. It is, therefore, to be commended for the home table, and in some of its forms it is a dessert easily made in winter, even without a freezer.

Where a tree is to be dressed the

best effect for the labor is had by deciding first of all upon a color. It may be all red and green, or white and green, green and silver or gold—any of these make a beautiful tree, and it can be easily managed by the use of plenty of paper to correspond and ribbon or cords for tying up all parcels. Glass icicles are found in the shops, and silver tinsel to be used with cotton batting to counterfeit snow effects. Balls, dangles and trifling ornaments are quickly made to suit, and any quantity of small baskets and paper candy-holders, so much the better for being home-made. Very small dolls, a dozen or more upon the tree, dressed in crepe paper or in gauzy white materials add greatly to the festive appearance and will be eagerly accepted by little visitors. After all it is the little ways of making cheer that count for most.—Country Gentleman.

THE CHRISTMAS DINNER TABLE.

A simple arrangement for the table is gained by using a thick holly wreath tied on two sides with broad red ribbons and placing in the center a crystal candelabra filled with tall candles.

Another plan is to have a centerpiece of wedge-shaped boxes holding slices of rich fruit cake or Christmas bonbons, with the points of the boxes holding rosebuds with candles. These boxes may serve as souvenirs. A vase of holly or mistletoe is placed in the center of the table. Little candles in star holders can be arranged about the outer edge of the boxes, which are tied with red and green ribbons. The place cards suitable for the season are laid on each plate, while in the napkins are placed crisp bread rolls.

For a family dinner, a glass punch bowl filled with polished fruit, may be used for the center of the table, making a mass of rich and glowing color. A wreath of grapes and holly may be placed about it and silver candlesticks can hold the tall red candles, which may have red shades, if one desires. The place cards represent poinsettias. On the napkins are placed Swedish soup crisps, rolled into cornucopia shape. Use the finest damask cloth and the best china and glass.

A star of brown and green pine cones makes another effective centerpiece, each point ending in a fan made of green pine needles. At each intersection may be arranged a small r electric light bulb, the light being supplied by a battery hidden beneath the poinsettia that is arranged in the center. At each cover is placed a sprig of holly. Bonbons and menu carry out the Christmas colors as far as practicable.—Woman's Home Companion for December.

A CHRISTMAS BLOTTER.

"With two large sheets of blotting paper of contrasting colors and an ordinary little calendar pad may be made an extremely useful gift," says Woman's Home Companion for December. "Out of the large blotters cut twelve small ones of uniform size, about ten by four inches. Paste a 'month' from the calendar, one on each small blotter, and with the colors alternating. Keep the twelve together by tying ribbon around them, with a pretty bow on top. Each month a fresh blotter may be slipped from under the ribbon and the month's calendar is right at hand. Red and green blotters tied with red ribbon are a Christmas combination."

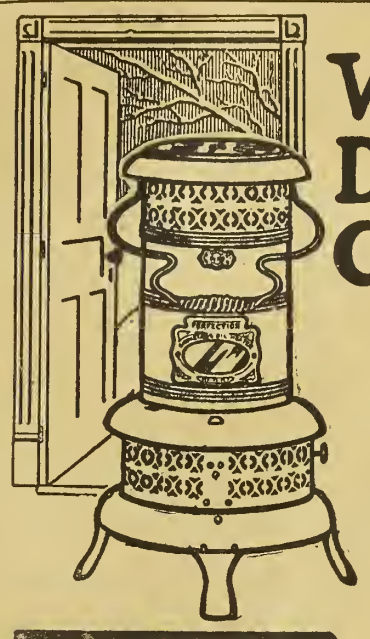
POLYTECHNIC BUSINESS COLLEGE
306 Twelfth Street
OAKLAND : : : : : CALIFORNIA

COME TO OAKLAND
For a Business Education

Polytechnic Business College

Offers the most thorough and complete courses ever devised for young men and women who wish to prepare for the highest and best paying positions.

Six Months will prepare the average young man or woman for a good position. We secure the position. Homelike accommodations, with private families, practically at cost. Oakland is a city of schools, churches and homes. Write for catalogue. Courses in Business, Shorthand and Typewriting, Electrical, Civil, Mechanical and Mining Engineering.



Where the Door Opens Constantly

You can quickly heat and keep cozy the draughty hall or cold room—no matter what the weather conditions are—and if you only knew how much real comfort you can have from a

PERFECTION Oil Heater

(Equipped with Smokeless Device)

you wouldn't be without one another hour. Turn the wick as high or as low as you please—there's no danger—no smoke—no smell—just direct intense heat—that's because of the smokeless device.

Beautifully finished in nickel and japan—ornamental anywhere. The brass font holds 4 quarts, giving heat for 9 hours. It is light in weight—easily carried from room to room. Every heater warranted.

The **Rayo** Lamp meets the need of the student—a bright, steady light—ideal to read or study by. Made of brass—nickel plated, latest improved central draft burner. Every lamp warranted.

If your dealer does not carry Perfection Oil Heater and Rayo Lamp write our nearest agency.

STANDARD OIL COMPANY
(Incorporated)

PLUMBING

Plumbing Materials

WATER SEWER **PIPE**

ALL PLUMBING REPAIRS

We contract to furnish all the materials and do the work or furnish the materials only.

GET OUR PRICES

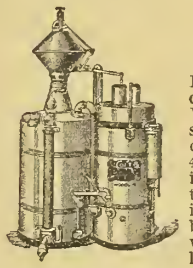
JAMES W. HELLMAN

Hardware, Stoves, Etc.

157-161 NORTH SPRING STREET

LOS ANGELES, CAL.

Light and Cook WITH **COLT** TRADE MARK **Acetylene**



Favor us with an inquiry concerning Colt Acetylene. We shall take pleasure in sending you free of charge our excellently compiled 44-Page Catalogue containing complete and instructive matter regarding piping, fixtures, stoves and burner pertaining to this wonderful and inexpensive lighting system.

Fowler Shankland, Pacific Coast Distributor
204 Severance Building
Cor. 6th and Main, Los Angeles
Phones: F7514; Main 4830

Angle Lamp

The Light That Never Fails

Thousands in use all over the country. A good light is the greatest pleasure and the first necessity of every home.

The only lamp on the market that is sold under an absolute guarantee.

Remember, the light from Kerosene is the light science has agreed upon as being the purest and best, because it is soft and mellow and restful to the eyes.

Here are a few of The Angle Lamp Merits:

NO UNDER SHADOW. NO SMOKE, NO ODOR, LITTLE HEAT.

GREAT ECONOMY—COST LESS TO BURN than an ordinary lamp. As easy to operate as gas or electricity, and better than either. ABSOLUTELY SAFE under all conditions. Lighted and extinguished like gas. Burned HIGH or LOW like GAS without a trace of odor. And a BRILLIANT, soft, steady, shadowless light—but this you will have to see to appreciate.

The lamp as shown in cut burns 22 hours on 3 quarts of oil.

Send for Illustrated Catalogue with Prices

Boesch Lamp Co., (Est. 1869) 1135 Mission St., San Francisco

Hague Domestic Oil **Burner**

Showing the Method of Attaching to Cook Stove. A device for using low grade distillate. Saves 40 per cent of cost of coal or city gas—let us prove it. Write for circular.

Hague Domestic Oil Burner Co.

214 Winston St., Los Angeles, Cal.

Make Yourself and Family the finest Christmas Present on Earth. My Portable Billiard Table means worlds of undiluted enjoyment for all. A postal will bring catalog showing many styles and sizes, at prices easily within your reach.

C. Ridderhof, Laughlin Bldg., Los Angeles

AGENTS WANTED

GOPHER DOPE to exterminate gophers, ground squirrels, rats, mice.

KILLS A BUG Moths, Mosquitoes, Bed Bugs Ants, Roaches, Fleas, Lice and Mites on Fowls. Disinfectant and Germicide.

PUROLINE A Powerful Antiseptic and Deodorizer. Odorless, non-poisonous. For use in hospitals, homes, public institutions, boards of health and ranches. ***B. & G. Disinfecting Co.,*** 417 Laughlin Building, Los Angeles, Calif.

Pioneer Rubber Sanded ROOFING

What Rubber Sanded Roofing will do is told of in our Booklet, "Roof Talk," which will be sent free upon request, together with samples of the Roofing itself.

PIONEER ROLL PAPER CO.
Department 11 **Los Angeles, Cal.**

A Colfax, Washington, Chester White breeder has shipped a number of fine animals to Honolulu.

The Produce Markets

Los Angeles Markets

LOS ANGELES, Dec. 16, 1908.

Butter.

Butter has begun to decline showing a drop of 5 cents on extra this week. At present quotations market is firm. Actual selling price 2½ cents advance of quotations on extra, all other grades same as last week.

Produce Exchange wholesale quotations are:

Creamery ex per roll 12½
Firsts 65
Dairy per lb 25
Eastern extra per roll 65
Ladles 24
Cooking 24
"Butterine" ....16@20

Cheese.

Southern California Anchor ....17@19
Northern fresh ....17@17½
Longhorn ....18@19
Eastern singles ....16@18
Cheddars ....17@18
Swiss ....17@18
Imported Swiss ....27@28
Daisy ....17@18
Oregon 16½
Limburger ....17½@18

Eggs and Poultry.

Eastern storage declined 5 cents during the week which also forced the local extras down a peg or about 2 cents lower than last week.

Eggs local candled ....38@40
Eggs case count buying price....35
Storage selected ....33@35
Eastern storage short time.....39@40

Dealers pay for live stock.

Hens per pound ....12@14
Young roosters per pound........16
Fryers 16
Broilers per lb 21
Roasters ....15@16
Old rooster 7
Turkeys ....16@20
Geese ....12@13
Ducks ....12@13
Squabs ....1.25@1.75

Live Stock.

The following quotations are f.o. b., Los Angeles, on all stock.

Hogs from 175 to 200 pounds 6¼
Prime steers 4¾
Heifers ....3¾@4
Calves per pound ....4½@5
Sheep ewes per head ....3.25@3.75
Lambs per head ....2.50@3.00
Wethers ....4.00@4.50

Potatoes.

Wholesale prices are:

Sweets per ctl ....1.25@1.35
Early Rose fy ....1.85@2.00
Northern Burbanks fy ....1.10@1.30
Local Burbanks 1.50
Highland fancy ....1.10@1.30
Coast 1.60
Salinas 1.65
Oregons 1.50

Onions.

Wholesale quotations:

Silverskin new 1.25
Australian Browns ....1.10@1.25
Danvers 1.00
Lompocs ....1.10@1.25
Garlic 12½

Vegetables.

Asparagus per doz 1.25
Artichokes per doz Northern..1.00@1.10
Beets per doz ....30@35
Bell peppers per lb ....5@10
Beans string ....5@8
Beans Limas per lb ....4@6
Brussels sprouts per lb ....9@10
Cabbage sack ....1.00@1.25
Cabbage red per lb 3
Celery per crate ....2.50@2.75
Chili per lb ....3@5
Chili dried ....10@12
Corn per lug box ....50@60
Chicory per doz 40
Cucumbers per doz hot house..40@75
Cauliflower per crate ....1.50@2.00
Carrots per doz 35
Egg plant per lb 5½
Green onions per doz bunches......20
Horseradish per lb 12
Lettuce per crate 1.10
Lettuce choice 75
Mushrooms per lb 35
Okra 7
Peas sugar per lb ....6@7
Parsley 20
Parsnips ....35@40
Rutabaga per doz 40
Radishes per doz ....15@20
Salsify 40
Summer squash per box 60
Spinach per doz 20
Turnips doz bunches ....30@35
Tomatoes lug box ....40@60

Citrus Fruits.

New Crop Navels ....2.00@2.75
Tangerines ....2.00@2.25
Valencias 4.00
Grapefruit seedless ....3.50@4.50
Grapefruit seedlings ....3.00@3.50
Lemons fy 2.00
Lemons choice ....1.50@1.75
Limes per basket 50

Fresh Fruits.

Wholesale prices on the market are:

Baldwins 4 tier ....1.75@2.00
Bellflowers 1.10
Newton Pippins 1.10
Fall Pippins 1.10
Alexandria 4-tier ....1.00@1.10
California Jonathans ....2.00@2.75
Red Pearmains 1.25
Spitzenberg ....1.50@2.25
Casaba doz ....75@1.25
Christmas melons per crate ..1.75@2.00
Figs per fig box 1.25
Figs black per fig box 1.25
Guavas per basket ....3@4
Muscats per lug box 90
Grapes Tokay 1.50
Grapes Red Emperors 1.50
Cornichons 1.25
Pears lb 6
Pears Winter Nellis per box 1.00@1.75
Persimmons per crate ....1.25@1.50
Pomegranates per box 1.75
Quinces 75
Raspberries per box ....10@12
Strawberries per box ....7@8

Dried Fruits.

Wholesale prices are:

Apricots ....8@10
Evap. apples fy per lb ......7½@8½
Figs loose white 4½
Figs blk 4½
Peaches in boxes ....6@8
Peaches sacks 5½
Pears ....8@9
Nectarines ....9@10
Prunes ....4½@9

Beans Dried.

Wholesale prices:

Limas per ctl ....4.85@5.00
Pink No 1 ....2.85@3.00
Lady Washington ....4.60@4.70
Small white 5.00
Black eyes ....3.45@3.65
Garvanzas 3.30
Lentils 9.00
Bayou 3.50

Nuts.

Almonds IXL per lb 13½14
Almonds choice 13
Pecans polished ....16@17
Peanuts Virginia ....6½@7
Peanuts California ....5@6

Honey.

Wholesale quotations:

Extracted Water White 8
Extracted Light Amber 7½
Comb W W 15
Comb white 14
Beeswax........30

Hay.

Prices paid to producers f. o. b. Los Angeles are as follows:

Barley No 1 ....17.00@19.00
Barley No 2 ....15.00@17.00
Alfalfa northern per ton ..13.00@14.00
Alfalfa local ....15.00@17.00
Tame oat No 1 ....18.00@20.00
Wheat No 1 ....16.00@18.00
Wheat No 2 ....14.00@16.00

Grains.

Wholesale selling price f. o. b., Los Angeles.

Wheat new per ctl........1.90
Kaffr corn 1.80
Corn Eastern sacked 1.80
White oats 1.85
Seed Rye........1.75

Feed Stuff.

Wholesale selling price F. O. B. Los Angeles as follows:

Cracked corn 1.85
Shorts 1.80
Bran 1.65
Oil cake meal 2.50
Feed meal 1.90
Rolled barley 1.65

PAGE FENCE "JUBILEE YEAR."

It's a pretty good record when a fence "stands up" for 25 years, and that is the record made by the Page Woven Wire Fence Company. When the United States Government asks for bids on wire fences the specifications say that all bidders must figure on "Page Fence or equal."

It is in use by over 800,000 farmers, stock and poultry raisers, dairymen and fruit growers, a pretty solid endorsement. One good point in the Page Fence is its entire lack of welded wires and short strands, the stay wire being one continuous piece, firmly secured top and bottom, and wrapped three times around every horizontal. This prevents the sliding up and down which invites stock to enlarge the opening. These horizontal wires are coiled lengthwise and are so elastic that when stock stampedes into it it will spring right back into place when the weight is released.

"Jubilee Edition" catalogue is just issued which will be sent free if you mail a postal card to the Page Woven Wire Fence Co., Adrian, Mich.

San Francisco Markets

SAN FRANCISCO, Dec. 15, 1908.

Butter.

Butter declined a couple of cents early in the week but at this writing is advancing and the market is in strong condition.

The official quotations of the San Francisco Wholesale Dairy Produce Exchange for yesterday are as follows:

California extras per lb 31
California firsts 29
California seconds 25
California thirds........20
Eastern extras........27
Ladles extra 23
Firsts 21
Storage Cal ex 29

Cheese.

California young American fy ..16½
Firsts........16
California flats fy 14½
Firsts 14
Young American Oregon fy......16½
Eastern N. Y. Cheddars fy 17
Eastern fy........16½
Oregon flat fy 14

Eggs and Poultry.

Eggs declined heavily the last of the week but are now advancing again but not up yet to last week's quotations. Market firm with promise of advanced rate.

Official quotations of the S. F. Wholesale Dairy & Produce Ex. are:

Fresh ranch extras 44
Eggs firsts per doz 40
Eggs second 35
Cal Storage 35
Firsts 32½
Eastern Storage ex........30
Eastern firsts 28
Eastern seconds 26
Hens per doz ....4.00@6.00
Hens extra ....7.00@9.00
Young roosters ....6.00@7.00
Old roosters ....4.00@4.50
Fryers per doz ....5.00@6.00
Broilers per doz ....4.00@5.00
Geese per pair ....2.00@2.50
Goslings per pair........1.75@2.00
Ducks young ....6.00@8.00
Live Turkeys ....18@20
Dressed Turkeys ....20@25
Pigeons young........2.00@2.50

Live Stock.

San Francisco prices gross weight:

Steers No. 1 ....4¼
Do second quality ....3½@3¾
No 1 cows and heifers 3¼
Second quality 3
Hogs 100 to 150 ....5¾
Hogs 150 to 250........6¼
Rough heavy ....4½@5
Calves per lb ....3½@4¾
Lambs spring ....4½@4¾
Wethers No 1 ....4¼
Ewes No 1 ....3¾

Potatoes.

Wholesale market quotations:

River whites fy ....75@90
River whites poor ....50@75
Salinas Burbanks ....1.25@1.50
Sweets per crate ....1.25@1.50
Sweets sacks ....1.00@1.25
Oregon Burbank ....1.10@1.25

Vegetables.

Wholesale quotations:

Bell peppers per lb ....10@12½
Brussels Sprouts 46
Celery per doz ....50@60
Cucumbers per doz ....1.00@1.25
Chili peppers per lb ....4@5
Corn per sack........1.50@1.75
Egg plant per lb ....8@9
Green peas per lb ....7@9
Lima beans ....6@8
Mushrooms ....10@25
Marrowfat squash per ton ..10.00@15.00
Squash per box Southern ......50@1.00
Onions green per box........70@75
Okra per box ....1.25@1.50
Rhubarb per lb ....3@5
Tomatoes River large box ..1.00@1.25
String beans ....8@12½
Wax beans ....7@10
Garlic new ....6½@8

Onions.

Onions per sack ....75@85

Citrus Fruits.

New Navels ....1.25@2.00
New Navels fy and large sizes 3.00@4.00
Tangerines crates ....1.00@1.25
Grapefruit seedless ....3.50@4.50
Grapefruit seedlings ....1.50@2.00
Lemons ch ....2.00@2.50
Lemons fy ....2.50@3.25
Limes........4.00@5.00

Fresh Fruits.

Bellflowers ....75@85
Bellflowers No 2 ....60@65
Spitzenberg ....1.50@2.00
Newton Pippins ....90@1.00
Crabapples........50@60
Figs per crate one layer........50@1.00
Grapes Tokay ....75@1.00
Grapes Isabellas crate ....1.00@1.25
Grapes Cornichon ....75@1.00
Huckleberries per lb........12@15
Nectarines white........50@60
Winter Nellis ....75@1.25
Persimmons ....50@75
Pomegranates per box ....1.25@1.75
Aligator pears per doz........7.00@9.00
Quinces per box 65
Raspberries per chest ....5.00@9.00
Strawberries per chest 10.00
Watermelons per doz........1.25@2.00

Dried Fruits.

Prunes 4-size basis........3¼@3¾
Santa Clara ....3¾@4
Apricots per lb: Choice 8@9; fancy 10@11½.

PEACHES—Choice 5@5½; fancy 6@7.

Apples Evap ....6@7¼
Pears ....5@8

RAISINS—1907 crop f. o. b.; Clusters and layers. 30-lb bxs—Imperial Clusters, 6-crown, $2; Dehesa Clusters, 5-crown, $1.75; Fancy Clusters, 4-crown, $1.40; London Layers, 3-crown, $1.10; do, 2-crown, $1.05. Seeded, 25-lb bxs—Fancy bulk per lb, 6½@7c; Choice bulk, 6½@7c. Loose Muscatels, 50-lb bxs— Standard, 4-crown, 5½c; do, 3-crown. 4¾c; do, 2-crown, 3¾c; Seedless, 4¾c. Seedless Sultanas— Unbleached, 4¾@5c. Thompson Seedless—Unbleached, 5½@6¼c. Dried Grapes, 4c.

New Crop Raisins—Preliminary prices are named as follows: Cluster—Imperial 6-crown, $2@3; Dehesa, 5-crown $2.50; London Layers, 2-crown, $1.25; 3-crown, $1.35; 4-crown, $2. Thompson's Seedless, 5¾c. Loose Muscatels, 5¾c. for 4-crown, 5c for 3-crown, 4½c for 2-crown and 4¾c for seedless.

Nuts.

Walnuts S S No 1 new crop 13¼
Walnuts No 2 9
Almonds nonp 11¼
Almonds IXL ....10½@11
Ne Plus Ultra 9¼
Chestnuts, Cal ....9½@14

Beans Dried.

Limas 4.25
Pink ....2.60@2.65
Small white ....4.50@4.70
Large white ....3.75@3.85
Black eyes 3.25
Red Kidneys 3.50
Garvanzas ....1.75@2.25
Bayo ....3.10@3.15
Horse beans ....1.75@2.25

Hops.

Hops new crop ....7@9

Honey.

White comb ....15½@16
Amber ....12@14
Extracted W W ....6@7
Extracted light amber ....6½@7
Beeswax No 1 per lb ....25@27
Beeswax No 2 per lb ....24@25

Hay.

Somers & Co. say:

There is no general apprehension at the present time concerning the outcome for with concessions in freight rates which can be granted under emergency measures, considerable quantities of hay can be brought here from the surrounding states. It is our idea that the market will be maintained at but little above the present range until possibly at the very end of the season, at which time we may have a short period of extreme prices. The rather moderate demand on the San Francisco market should prevent any great excitement or great advance over present quotations.

Today the market holds at about the same range as was noted a week ago; on some days with light receipts sales are effected at above quotations but any day with an over-supply brings a reaction again. With the loss of our Government export trade because of high prices it is found that our market can absorb but moderate quantities of hay with ease.

Choice wheat hay ....20.00@22.00
Good wheat hay ....18.00@19.50
Other grades same ....16.00@17.50
Wheat & oat ....15.00@20.00
Tame oat ....15.50@19.00
Wild oat ....14.00@18.00
Stock hay ....11.00@13.00
Alfalfa ....11.00@16.50
Straw per bale ....60@95

Grains.

Wheat No 1........1.67½@1.70
Barley new ....1.42½@1.45
Corn large yellow ....1.80@1.85
Oats white ....1.67½@1.75
Oats gray ....1.65@1.72½
Rye new crop ....1.45@1.50

Feed Stuff.

Bran per ton ....29.00@31.00
Feed cornmeal per ton ....37.00@38.00
Cracked corn per ton ......38.00@39.00
Rolled barley per ton ......30.00@31.00
Oil cake meal per ton........38.00@39.50
Cocoanut cake per ton ......25.50@26.50
Middlings ....33.50@36.00

Citrus Market

LOS ANGELES, Dec. 16, 1908.

Shipments during the past week have been sufficient to supply the Holiday

trade and so far as sales to the present are concerned a fair price is being received for all shipments except those shipped showing too much of the green.

Lemons are rather quiet and only a moderate number going forward at this writing.

Shipments to date, oranges, 696, lemons, 492. To same date last season oranges 1231, lemons 471.

NEW YORK, Dec. 14.—Four cars navels, eight cars lemons, one car Louisiana navels, one car Arizona navels sold. Demand very good for well colored lemons. Several cars green lemons sold very low. Market very strong on navels. Clear, favorable.

NAVELS—	Avge.
Mariposa fy Cal Cit Union	$3.85
Golden State TCC Ft Ex	3.80
Sunset SS Ft Ex	3.40
Gobbler fy or Stewart Ft Co	3.45
Solano (resold car)	2.90
Pride of Louisiana Navels (vent)	3.10
Desert (halfboxes) Arizona Navels	3.90
Cactus (boxes)	6.00
Cactus (half boxes)	3.45
LEMONS—	
Ind fy Growers' Ft Co	3.15
Ind choice Growers' Ft Co	2.60
Conqueror Ind Fruit Co	1.65
Golden Sceptre or Rialto O Co	2.30
Conqueror Ind Fruit Co	1.75
Chess Queen fy Ely-Gilmore	2.00
Marguerite ex ch Cal Cit Union	1.80
Whittier ST Ft Ex	2.75
Pico ST Ft Ex	2.20
Homer QC Ft Ex	3.20
Camel QC Ft Ex	2.55

CLEVELAND, Dec. 14.—Rain predicted. The market is firm on good fruit. Three cars sold, seven on track. Four cars of Florida oranges sold, average about $2.00 per box. The market is advancing on Floridas. There are ten cars of Floridas on track.

NAVELS—	
Antelope	3.20
Naranjo	2.50
Golden Orchard Ind Ft Co	2.95
LEMONS—	
Aster or Citrus Ft U Rialto	2.65
Wreath Spence Ft Co	2.05

ST LOUIS, Dec. 14.—Weather is cool. The market is strong on large sizes navels and lemons. Four cars of Florida oranges sold, average $2.10 per box.

NAVELS—	
Sphynx TC Ft Ex	3.00
Argonaut	2.80
Carmencita ST Ft Ex	2.65
VALENCIAS—	
Argonaut ST Ft Ex	2.75
LEMONS—	
Club ST Ft Ex Colegrove	2.25
Valley ST Ft Ex Colegrove	2.45
Bridal Veil or Limoneria Co	2.55
White Cross Limoneria Co	2.15
Loma ch N W Blanchard	2.00

PITTSBURG, Dec. 14.—Two cars sold, six cars on track. The market is strong on navels. The market is fairly steady on lemons. Nine cars of Florida oranges sold, $1.80 average. The market is steady on Floridas. Weather favorable.

NAVELS—	
Golden Orchard Ind Ft Co	3.05
Circus Sparr Ft Co	2.05
Maine ch Sparr Ft Co	1.80

BOSTON, Dec. 14.—Six cars sold. Weather favorable. Market is unchanged. One car on track.

NAVELS—	
Rainbow	2.70
LEMONS	
Visalia TCC Ft Ex Lemon Cove	2.50
Lemon Cove TCC Ft Ex L. C.	2.65
Big R SB Ft Ex Rialto	2.90
Yacht SB Ft Ex Rialto	2.05
Protection fy Ohio Lemon Co	3.00
Clubhouse	2.50

PHILADELPHIA, Dec. 14.—Two cars lemons sold. The weather is cool and clear. There are ten cars on track. Ten thousand boxes of Florida oranges sold from $1.15 to $2.15 per box, average $1.65. The market is easier on Floridas.

LEMONS—	
Pet SA Ft Ex San Dimas	2.42
Greyhound SA Ft Ex San Dimas	2.14
Las Fuentes Crocker-S Summrld	1.89
Montecito Crocker-S Summrld	1.44

CINCINNATI, Dec. 14.—Weather cool. The market is weak. Two cars lemons and nine cars oranges sold. There are five cars on track. Florida Brights sold $1.85 to $2.10. Russets also sold at $1.85 to $2.10 per box.

LEMONS—	
Blue Jay OK Ft Ex	1.55
Circus Sparr Ft Co	2.75
Senorita sd Bos & So Riv Ft Co	2.30

AMERICAN SURFACE IRRIGATION PIPE

SAVES WATER, GRADING AND TIME

The **only** way to **irrigate Alfalfa. Cheaper** than **Flumes.** This is only **one** of our **specialties.** We make **Riveted Water Pipe** in lengths of **ten feet** from **single sheets.** Let us **prove** to you that we make **Pipe** and **Tanks right.** WRITE FOR CATALOGUE.

AMERICAN STEEL PIPE & TANK COMPANY

FORMERLY TALLERDAY MANUFACTURING COMPANY

636-7 Pacific Electric Building Los Angeles, Cal

QUERIES AND REPLIES.

Continued from page 595.

large quantity and knowledge of how to get best results would be valuable indeed.—Inquirer, San Diego.

Poultry manure is good for almost any garden crop, but especially beneficial upon all vegetables that are wanted crisp and succulent. Care must be observed that the applications are not too heavy at any one time, as it is a highly concentrated manure, and an overdose will work injury to the crop. —Q. A. L.

Some compost with an equal quantity of cow manure, using plenty of land plaster to prevent loss of nitrogen. If applied direct to soil it is well to spade into soil well, thoroughly mixing before planting seed.

Bone Cutter.

Please tell me of a bone cutter which a woman may manage.—Mrs. L. R., Fair Oaks.

Cutting green bone is a hard proposition at best and the only one which a lady will enjoy running will be one run with a gas engine. There are many good ones handled by the poultry-supply houses advertising in the Cultivator, but all will take fairly good muscle.

Planting Vineyard.

I am preparing to reset an 80 acre vineyard 40 to muscats, 8 each to Thompson Seedless, Red Emperors, Cornichons, Tokays, and Black Moroccos. I wish to ask if rooted vines of the last five varieties named can be gotten in your section, and at what price? Is it safe to ship them from the San Joaquin Valley?—A. H. C., Covina.

I would buy my vines as near home as possible, and see that the quality of these was high before purchasing them. I would not trust to any one else for so large a setting of vines. I would know for myself that they were good before putting them into the ground; $1.50 is cheap for cuttings if they are all made from the butts of the vines. I would rather pay a price that would allow me to put a careful man into the vineyard to follow the pruners and make the cuttings from the fresh wood, making the cuttings as fast as they are pruned and heeling them in every night. These we know will then be as good as we can possibly make them. When it comes to vine-growing there is so much that we do not know positively that it is well to put into practice all that we do know.—M. E. S.

Burr Clover for Green Manuring.

I note that you recommend burr clover for cover crop. Where can I secure seed? How many pounds should I sow to the acre?—H. B. B., Hanford.

We put the seed in with a single drill in one row between each row of grapevines and trust it to spread itself afterward by its seeds. If I remember rightly, we tried to sow sixty pounds to the acre, but found we had actually sown as high as eighty. It did not prove too much, however. After a piece is once sown to burr clover, it will come up every year if you hold back the plowing a little. The first expense is therefore the only one. If you are not in a great hurry to have it to plow under, sowing every other row will soon give you enough to cover the ground. All cover crops mean later plowing and pushing the work with more horses. We try to hold off as late as possible to let the burr clover form at least a few seeds for next year. We have several pounds, about twenty, of Tangier peas sown for seed this year. These are inoculated and are being planted as an experiment for the United States government. They are said to grow faster than the common field peas, and mature earlier; if this proves to be the case, they may prove to be the nitrogen-producer we are seeking for the vineyards.—M. E. S.

Bitter Cream.

After the cream from the milk of our cow stands twenty-four hours, it becomes very bitter. We are feeding alfalfa, bran and pumpkins.—N. R. B., Riverside.

The cause of bitter cream is not often a fault of the cow or of the feed she is eating. It often comes from a bacterial growth in the milk that develops at a temperature too low for the lactic acid bacteria to increase. The milk or cream turns bitter instead of souring. The remedy is first to scald everything used around the milk to get rid of the spores of these bacteria. The coldness will preserve it from all changes, while the increasing of the temperature to sixty or sixty-five degrees will cause it to sour naturally. Thanks for your kind appreciation of my little efforts to be helpful to others.—M. E. S.

Veterinary

Dr. R. T. Whittlesey, veterinarian, of 714 East Seventh street, Los Angeles, will answer questions in this department. In writing of sickness or injury to any animal be explicit in giving symptoms and particulars. Always enclose full name and address, but if assumed name or initials are preferred they will be used.

If an immediate mail reply is wished enclose $1.00 for such service, but for replies in paper only, no charge is made if the answer will be of general interest.

Please address all questions that are to receive gratuitous replies through these columns to California Cultivator, 115½ N. Broadway.

All communications to Dr. Whittlesey direct should contain a great big dollar.

Tumors.

I have a gray mare with bunches around her jaw and head from ear to ear which cause her to breathe hard when driven. Claimed to be coloring substance and gathered in the glands when she changed from black to gray; also one large bunch back of left shoulder low down. None of the bunches are sore but are hard. She eats hearty and keeps in good condition. Can the bunches be taken off with safety to the animal?—W. H. C. Holtville.

They are melaninotic tumors caused by the coloring matter not used up in light gray or white horses.

There is no need in removing them unless they interfere with some function and in those cases might be a difficult operation. I think in your case it would be a difficult and dangerous operation except for an expert surgeon.

A Good Liniment.

I have a colt seven months old which I think took cold about two weeks ago. There was a little discharge at the nose at first. The colt seems to be all right except it has a loose cough; squeezing it a little by the throat causes it to cough. It is all right other ways. Please let me know of some remedy.—C. P., Campbell.

Have the following liniment made and rub on the colt's throat. Ammonia, turpentine, cottonseed oil—equal parts, shake well before using.

Horse Running at the Nose.

What would you advise in the case of a horse running at the nose? I have an old horse which from time to time will run more or less whenever he catches a little cold. When working, it gradually decreases.—H. A. G., Morgan Hill.

Any horse running at the nose is dangerous. It may be glanders or only a simple discharge at the nose, but it is dangerous for you to take any chances. If I am not mistaken, you are in Santa Clara county, and I would advise you to call on your county veterinarian, Dr. Browning, in San José, and have horse tested with malline.

DESCRIPTION OF PLANTS AND SEEDS.

It requires a 132 page booklet, and large pages at that, to describe and illustrate the seeds, bulbs and plants handled by the C. C. Morse Company of 125-127 Market Street, San Francisco. The Morse Company is one of the biggest seed growers and handlers on the Pacific Coast, and this catalogue fully represents their business. The illustrations alone are an education as to the method of handling seeds in the Santa Clara valley where most of the Morse seeds are grown on their seed farm. The seed and plant descriptions are also instructive. This catalogue will be sent for the asking.

SEED CATALOGUE.

Another magnificent catalogue has been issued by the Aggeler & Musser Seed Company, successors to Johnson & Musser Seed Company of 113-115 North Main Street, Los Angeles. This concern has recently more than doubled its store room space and this catalogue is in keeping with the increased business facilities. Nearly every seed grown in California is catalogued here and a vast fund of information may be had by its perusal.

DECIDUOUS FRUITS.

While not exclusively a deciduous fruit catalogue, the one recently issued by the Marshall Nurseries of Fresno gives most extensive descriptions and in many cases illustrations of deciduous fruit trees. This nursery is situated in the center of the great deciduous belt of the San Joaquin Valley, so these trees are given the greater part of the descriptive matter. However it must be mentioned that eucalypts, of which this firm is growing nearly a half million, are prominent, and roses, ornamentals and other factors are all featured in this book. The catalogue will be sent free on application.

The attention of our readers is called to the Security Ladder made in Riverside by Mr. E. A. Meacham. Mr. Meacham is himself a prominent orange grower and has recently solved a vexatious problem in providing a "ladder that is worth buying," as he quotes his customers. These ladders have made an enviable reputation in the year he has been manufacturing them and he is evidently intending to capture the trade in this important line by reducing his prices to the lowest limit as announced in the columns of the Cultivator.

The Popular Western

Built In the West **Best** For the West

FACTORY AT YOUR DOOR

LONGEST LIFE LEAST FUEL FEWEST PARTS ALWAYS GOES

Largest Well Testing Outfit In Southern California

Irrigation Plants

Designed
Constructed
Installed

We Test Our Customers' Wells

WESTERN GAS ENGINE CO.

WORKS AND OFFICE:
908-932 No. Main St.
Los Angeles, Cal.

New Pomona Double Plunger Deep Well Pump Head

Most Efficient Deep Well Pump in the State

It Is Made in California

Built in Three Sizes—from Ten to Forty Horse Power

It is the smoothest running deep well pump because there are no dead centers, no jerk or jar, and no danger of breaking the pump rods. Be sure and write for our big catalogue. Watch this space for further information.

Pomona Manufacturing Co.
Pomona, Cal.

THE Latest Deep Well

Guaranteed to deliver from 100 gallons per minute upwards, depending on the diameter and capacity of well, from a depth of 50 to 300 feet below the surface. Can be either belt driven or direct connected to electric motor as occasion requires.

Write for Catalogue 46B.

Byron Jackson Iron Works

Turbine Pump

A deep well pump that has no valves or plungers to wear or get out of order, no gears, consequently no noise or breaking of teeth.

Compact, durable, always primed and ready to operate, constant flow, hence increased capacity of well.

This type of pump is fast taking the place of Vertical Steam, Deep well Plunger and Propeller Pumps.

Main Office and Works:
Carlton Station
West Berkeley, Cal.

All Soils Alike to Wood Pipe

The heaviest adobe, the most corrosive alkali, the lightest sand; all alike where Wood Pipe is used.

It Resists Them All

Wood Saturated. Air Excluded—Can't Rot. Metal in Bulk, Galvanized, Asphalted—Can't Rust. High factor of Safety in Binding—Can't Leak.

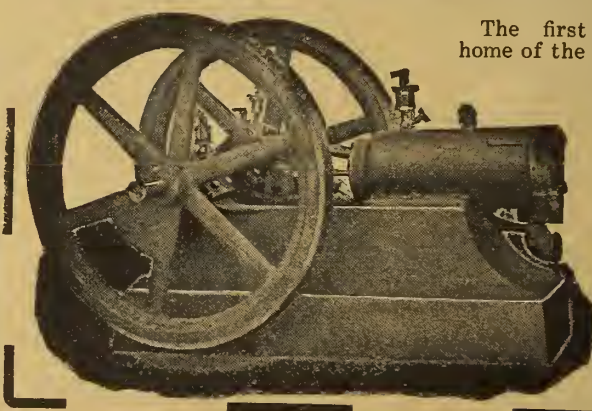
Prices, specifications, hydraulic data and general information gladly furnished upon request.

Continuous Stave Pipe. Machine Banded Stave Pipe

NATIONAL WOOD PIPE COMPANY 404 Equitable Savings Bank Building LOS ANGELES, CAL.

318 Market Street, SAN FRANCISCO — Northern Office, OLYMPIA, WASH. — Dooly Block, SALT LAKE

Samson Gasoline and Distillate Engines



The first home of the **SAMSON** engine is a large one. Its second home, which is everlasting, is a happy one.

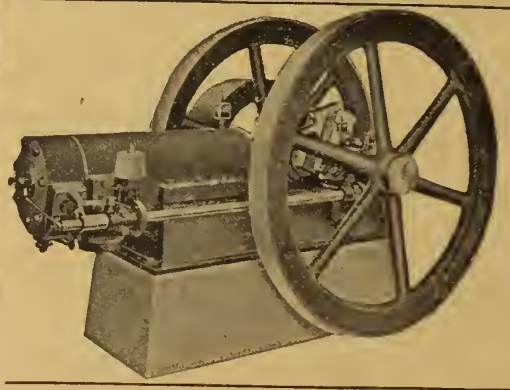
They may be compared with the sea—always ready to roll.

Samson Iron Works

Office and Factory:
1100 to 1198 Aurora St.
Stockton, Cal.

BRANCHES:
San Francisco,
Cor. Market and First Sts.
Fresno, 920 J St.
Los Angeles,
204 N. Los Angeles St.
W. L. Cleveland Co., Agent

HERCULES DISTILLATE ENGINE



Heavy, Strong and Simple in Construction

The Right Engine at the Right Price

Horizontal and Vertical; All Sizes. Buy direct from the manufacturer and save agent's commission. Send for our new Catalogue C.

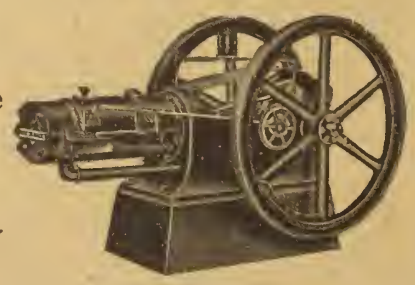
The Hercules Gas Engine Works
351 Market St., San Francisco
Telephone Douglas 3630

Commercial Gas Engines

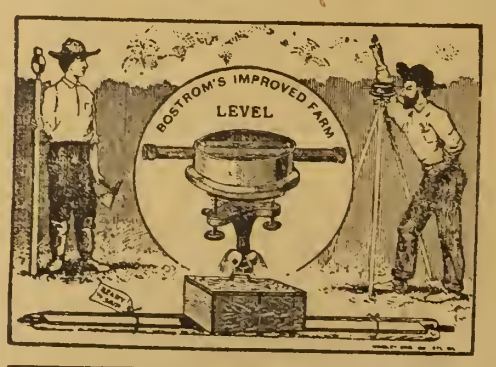
are Better Engines than you have been using.

See One Buy One

So will your neighbors.
Send for Bulletin No. 12



Commercial Engine Company
953-955 No. Main St., Los Angeles, Cal.



BOSTROM'S IMPROVED FARM LEVEL

Used for irrigation and drainage work. Cheapest and best level yet invented for farm use. Has the latest patented improvements in simplicity and usefulness. Can be operated by any one. Price including telescope tripod and target rod $15.00.

PALACE HARDWARE COMPANY
581 Market Street, San Francisco.

Coast Agents. Send for Circular.

ARNOTT HARNESS $10.00 to $80.00

Everything guaranteed. Money back if not satisfactory. Factory in Los Angeles. California leather for all uses. Send for No. 10, eighty page FREE Catalogue.

ARNOTT & COMPANY 112–118 So. Los Angeles St. Los Angeles, Calif.

630.5
CA
stack

California Cultivator

Published Weekly — One Dollar a Year

Los Angeles — December 24, 1908 — San Francisco

Fruits and Flowers of San Joaquin

A Riot of Roses.

A Branch of Prunes.

300,000 Babies For Sale

We are booking orders now for baby chicks, ducklings, turkeys, goslings, etc. We expect to sell over three hundred thousand in 1909. Our 1908 sales were over 230,000. Send for our price list and full details; we will be glad to send it. We ship safely anywhere in California, Mexico, Arizona, Nevada, etc., on main lines within 48 hours. Write us your wants. Largest chick dealers in the world. We know how to hatch and ship. No finer stock anywhere than ours. Visitors welcome. Write today.

Pioneer Hatchery, 108-112 E. 8th St., Los Angeles

The Wm. H. Hoegee Co.

Incorporated

Los Angeles

Greatest Sporting Goods House on the Pacific Coast

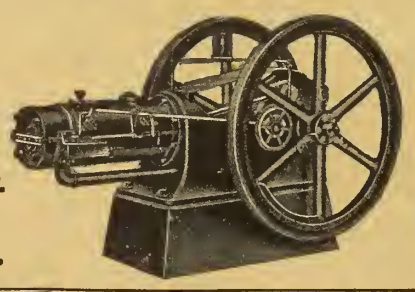
We extend a cordial invitation to those who may not be able to obtain certain goods from their dealers to try our mail order system. We issue a number of catalogues illustrating the goods we manufacture or handle, and will be glad to mail you any of them if you will mention line of goods interested in.

WE MANUFACTURE

Tents, Awnings, Stack Covers, Irrigating Hose, Corduroy and Khaki Suits, Picking and Feed Bags, Ammunition Pouches, Gun Cases, Scabbords, Etc.

Commercial Gas Engines

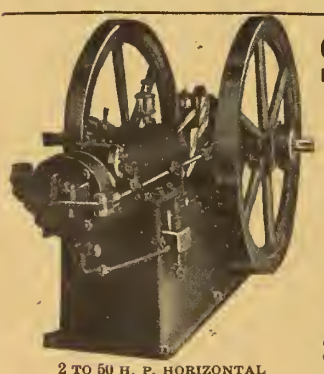
Are what all engines should be:
Simply Perfect and Perfectly Simple



Modern in every detail. An inspection will convince you. Write for Bulletin No. 12

Commercial Engine Co.

953-955 N. Main St. Los Angeles, Cal.



2 TO 50 H. P. HORIZONTAL

STOVER GAS ENGINES

The simplest and the best. We have had long experience installing pumping plants. We know our business. See us before you buy. 2 to 50 H. P.

LIVINGSTON & LEE

352 So. Los Angeles St., Los Angeles, Cal.

A Handy Little Engine

Just the thing to run the feed cutter, the pump, the churn, the grinder, or anything on the ranch. It's well named

The Little Wonder

Write or call on

Wm. Gregory

602 No. Main St. Los Angeles, Cal.

AGENTS WANTED

GOPHER DOPE to exterminate gophers, ground squirrels, rats, mice.

KILLS A BUG Moths, Mosquitoes, Bed Bugs Ants, Roaches, Fleas, Lice and Mites on Fowls. Disinfectant and Germicide.

PUROLINE A Powerful Antiseptic and Deodorizer. Odorless, non-poisonous. For use in hospitals, homes, public institutions, boards of health and ranches. ***B. & G. Disinfecting Co.,*** 417 Laughlin Building, Los Angeles, Calif.

EDISON PHONOGRAPHS, VICTORS, ZONOPHONES

Records and Supplies, delivered at your nearest railroad station upon receipt of full retail price. Write for particulars and ask for catalogue. Peter Bacigalupi & Sons, 1113-15 Fillmore St. San Francisco

SECOND HAND **PIPE**

AND CASING

All our pipe and casing has newly cut threads with new couplings attached and dipped in asphaltum. Guaranteed good as new. Prompt delivery on carloads or less. Small orders receive same attention as large ones. All sizes of pipe, also fittings and valves.

WEISSBAUM PIPE WORKS

133 Eleventh St., San Francisco

TREE TANGLEFOOT

A Sticky Preparation Applied Directly to the Bark of the Trees

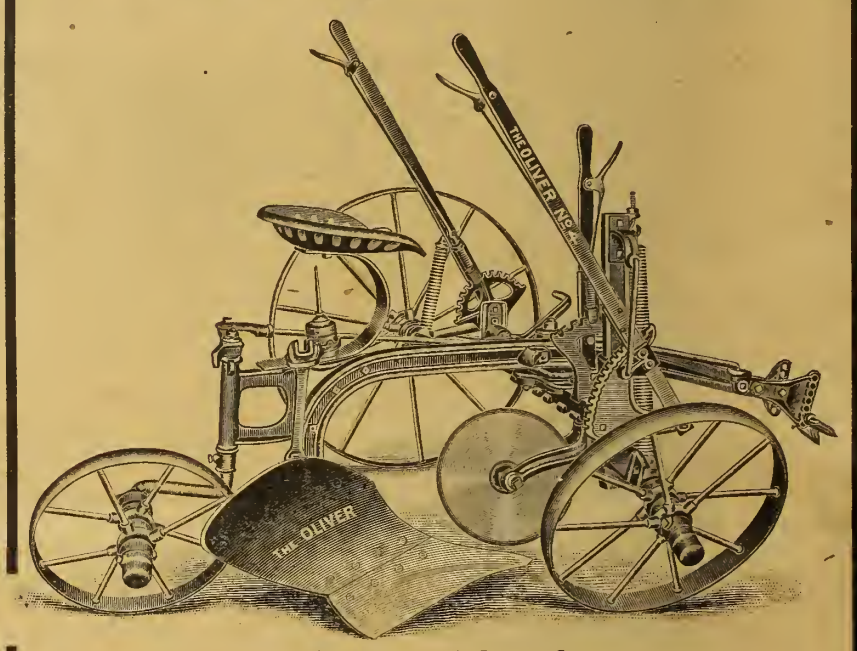
Will not injure trees. A band 5 inches wide and 1-16-inch thick cannot be crossed by any climbing insect pest. Remains sticky five to ten times as long as any other known substance. You can test it at slight expense, as no apparatus is required. Used by the carload in New England against the Gypsy and Brown-Tail Moths. In California it preserves prune orchards from the Canker Worm. Wherever the Gypsy or Brown-tail Moths, Tussock Moths, Fall or Spring Canker Worm or Web Worm appear TREE TANGLEFOOT is of great value, and should be used when the caterpillars begin to crawl while they are very young

Price 25c per lb. Liberal discount on quantities. The only safe and effective banding preparation. Send for testimonials.

THE O. & W. THUM COMPANY

Manufacturers of Tanglefoot Fly Paper **Grand Rapids, Michigan**

The Newest and Best Sulky Plow



Oliver No. 4

A new and thoroughly practical Sulky Plow.

Best suited to the needs of Beet and Bean Raisers because of its strength and because it does more perfect deep plowing than any other plow.

Write for detailed information about this Sulky Plow and about the full line of Oliver Steel and Chilled Walking and Gang Plows.

Newell Mathews Co.

Southwestern General Agents 200 N. Los Angeles St., Los Angeles, Cal.

Red Cross Wind Mill

Is built right, Works right. Runs in light wind. Has ball bearing turn table and outer thrust. Easy mill to set up and take care of. Built upon honor.

Woodin & Little Pump House

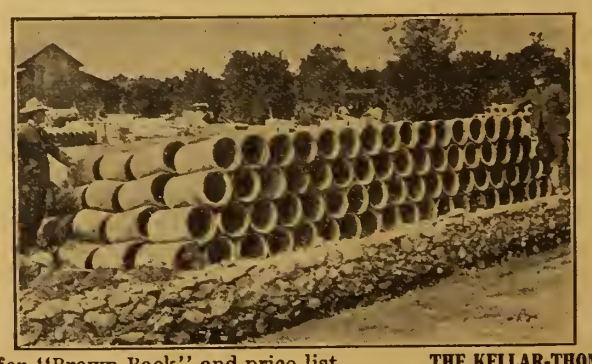
33-41 Fremont Street, San Francisco

PUMPS FOR EVERY SERVICE AND USE

Pumps for Irrigation, Road Sprinkling, Electric Motors, Gasoline Engines, Spraying, Whitewashing, Wine Pumping, Wind Mills, Hand and Power Use; Steam, etc.

Gasoline Engines Wind Mills
Tanks Pipe Pipe Fittings

SEND FOR CATALOGUE



From photograph showing amount of

Ten-Inch Pipe

made by four men from 10 bbls. of cement in 9 hours — 280 two-foot joints, or 560 feet. This pipe was made with the

"K T" Moulds

An equal amount can not be made with any other tools in the same period of time. Write for "Brown Book" and price list.

THE KELLAR-THOMASON MFG. CO., Covina, Cal.

When writing advertisers, mention Cultivator.

California Cultivator

Vol. XXXI—No. 26 Los Angeles, California, Thursday, December 24, 1908 Subscription $1 a Year

The Evaporation of Apples

An Address Delivered Before the State Fruit Growers' Convention at Sacramento

By W. I. NEWCOMB, of Sebastopol, California

THE disposition of fruit not suitable for green shipment or for canning purposes has been, and always will be, more or less of a problem for the fruit grower. In these days when the market calls more and more for better quality, the apple grower finds, after his best packing fruit is sold, still much fruit on his hands to dispose of, wind falls, that bruised in packing, also small sizes. This cull fruit is largely dependent upon the thoroughness of the spraying methods employed, the season, and the pruning and thinning work done.

While evaporated apples today are a by-product of our orchards, a glimpse at the early history of the business in Sonoma county shows that it was to provide for a market for the product of the orchards that were put out by the first settlers. The early pioneers were quick to recognize in the cool, coast summers a suitable climate for the apple. Every home had its three or four acres, and some as many as thirty, planted with a multitude of varieties. The fruit of these young orchards, which yielded so abundantly, was often allowed to go to waste, for lack of proper market facilities.

In 1874 the late W. J. Hunt bought an Alden evaporator that was shipped out from New York. This was an expensive, cumbersome machine to operate, the fruit being elevated the entire height by chain pulleys on the side. Owing to the cost of operation, Mr. Hunt did not run it again until 1876, when he made another attempt, putting up the fruit in two-pound cartons. The press to pack these packages cost $130. Although the fruit sold for 25 cents per pound, the venture still did not show a profit, and the machine was never used again. However, the price obtained for the fruit was an incentive for further effort by Mr. Hunt and others. By 1879 and 1880 Santa Rosa had two, and Petaluma, Bloomfield and Sebastopol each had one large dryer, where the farmers sold their apples by the ton, hauling them in some instances ten or twelve miles. But these long hauls of fruit, which, when ready for market were only about one-seventh of the weight delivered, soon opened the eyes of the apple men to the advantages of operating on a smaller scale at home. By 1885, a number of dryers, as they are called, were built throughout the apple section, and today we have 100 or more scattered about the coast hills of Western Sonoma.

The Chinamen were quick to "catch on" to this kind of work. Their habits of rigid economy and thrift soon put the evaporated apple output in their hands, usually working the fruit on a share basis. But the Chinaman's thrift and economy often prompted him to apply too much moisture to his apples to make them "pack easy." His horror of waste kept him from "trimming" as he should have done, and he was apt to put in inferior fruit, consequently "China apples" became a trade term. Now, the Chinamen are getting old and not much account. The Japanese and Hindus have not taken up this kind of work to any great extent. Our own young people, however, are becoming very proficient in the art, together with the packing of the green fruit, the two operations going hand in hand. This pleasant occupation furnishes employment for many for four or five months in the summer and fall, and is helping us to solve some of the problems of "Our Country Life."

The dryers we have about the country are cheaply constructed as far as the building is concerned on account of fire liability. Scarcely a season passes without two or three of these buildings going up in smoke, consequently few insurance companies care to handle this class of risks, what do charge from 5 to 7 per cent.

Our dryers are nearly all built on the same plan, the upright two trays wide, and from 12 to 15 trays high, being the style settled on as being the cheapest and most easily operated. The size of the tray is a personal preference. Usually sloping ground is preferred for a site, in order to get the fire box or furnace low down, to prevent the scorching of fruit. The upper side will then be more convenient for unloading the green fruit from the orchard truck or wagon. The furnace is enclosed within brick walls on which the evaporator is set. These walls should be high enough to give from 4 to 7 feet of air space between the top of the furnace and the bottom tray. Connected with the furnace is a double run of pipes, making a double turn the length of the evaporator. These are to prevent loss of heat. Usually a large drum is connected with the pipes at the back to further hold the heat. The evaporator is made of matched lumber, constructed in "runs" the size of the trays. A ventilator projects from the evaporator through the roof of the building to carry away the moisture in the air. This hot air draft is furnished with cold air ventilators, through openings in the brick walls, about a foot square at the ground level. It is more convenient to have the sides of the evaporator all doors for convenience in putting in and taking out the fruit. On one side of the evaporator is a room for receiving the dried fruit, on the other a larger one for receiving the apples, peeling and placing them on the trays. This work is usually done by a man or stout boy to run the peeler, and one or two girls or women to "trim" and "spread" the fruit on the trays. After the apples are placed on the tray they are put in the sulphur box and exposed to the fumes of burning sulphur to preserve the natural color of the apple. This exposure requires from 20 to 40 minutes, according to the variety of apple, the earlier and more open grained apple requiring less, while the hard, late apple takes more time.

When Ruling No. 76 of the Pure Food Law was announced last year, the apple men came in for their share of consternation, but tests soon proved that apples contained less than one-half of the sulphur dioxide allowed under the ruling. As taken from the sulphur box it contains two or three times the amount allowed, but from 75 to 90 per cent passes off in the process of evaporation. From the sulphur box the trays are placed in the evaporator and heat applied. It is possible to fill and get dry the capacity of the dryer each day by some firing a part of the night. After the fruit is dry it is taken out and the trays emptied in the packing room, where it is packed as sold or removed for safety.

About 100 pounds per day for each person employed is an average day's work. One crew of seven this fall put out 1060 pounds in 10 hours, two "peelers," four "spreaders," and one dryer tender. From one and one-half to four cords of four-foot pine wood is required to evaporate one ton of dried fruit, and from five to eight pounds of sulphur. Two and one-half cents is about the average cost of drying and packing in fifty-pound boxes, which is the standard package, although some markets, Germany for instance, prefer the twenty-five-pound box. Some ten, five and one-pound boxes are put out. It would seem that retail trade would be stimulated by small packages of more attractive fruit.

The buyers continually deplore the quality of our fruit, and suggest government inspection aas a remedy. This might be accomplished under the Pure Food Law. The shrinkage is generally estimated at about seven to one, early varieties shrinking more, and the late, less. By actual weight 100 pounds of windfall Baldwins gave 16 pounds of dried fruit, the shrinkage being 6¼ to 1. A quite large percentage of waste in the peels and cores can be utilized by sun-drying, there being a small market for this product at the jelly factories, prices ranging from $15 to $25 per ton. But a better way is to feed it directly to hogs, as the seeds are quite nutritious and make a very good stock hog feed. Hogs weighing 100 pounds or more thrive better on this diet. Hard grain cannot be fed with the peelings as the hogs get tender teeth.

This year Sonoma county will turn out about four million pounds, Watsonville district two and one-half million pounds, Mendocino and other districts enough to make eight million pounds.

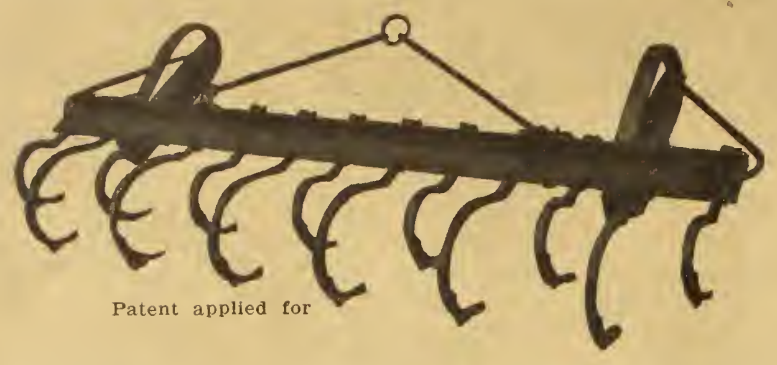
Germany takes some of our apples, but the most are consumed in our own country. Alaska takes a part, as do the Rocky Mountains and Middle West points. Texas, too, is a large buyer, as is also Uncle Sam for his Army and Navy and Indian Reservations. New York state, being the largest producer of evaporated apples, largely controls the market price.

Apples are quoted Fancy, Choice, Standard and Prime, with a variation of two to three cents per pound on the extremes. It is claimed that our Choice sell on a par with the New York Standards. As our output is rapidly increasing, we will have to look more to tthe quality of our fruit. Some day the American people will awake to the fact that the best returns are not always obtained by the maximum of production.

The International Institute of Agriculture, established under the patronage and through the efforts of the King of Italy in 1905, will be practically organized in the winter of 1908-9. This institute is sustained by 46 countries.

Among the purposes of this institute are the collection, study and publication of statistical, technical and economic information concerning farming, both vegetable and animal products, the commerce in such products and the prices prevailing in the various markets; the ascertainment of the wages paid for farm labor; the publication of information concerning new diseases of vegetables which may appear in any part of the world; the publication of information concerning agricultural cooperation, insurance and credit; and the submission to the adhering governments of measures for the protection of the common interests of farmers and for the improvement of their condition.

WILLIAMS' GOOSE-NECK CULTIVATOR



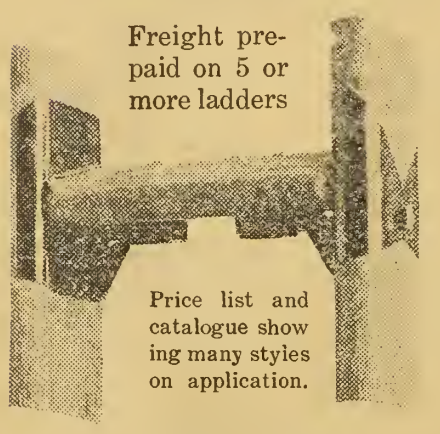
Patent applied for

Especially adapted for citrus orchards. Sizes 7 to 14 ft. Lightest draft. Write today

WILLIAMS & SON, Mfrs., Orange, California

ARNOTT & CO. General Distributors, 115 So. Los Angeles St., Los Angeles, Cal

Security Ladders



Freight prepaid on 5 or more ladders

Price list and catalogue showing many styles on application.

A profit to you on every hour's use. Long lived. Acknowledged to be the

Lightest Strongest and Best

Our bid for your patronage is this. For cash with order,

Straight Ladders 25c per Ft.

E. A. Meacham - Riverside, Cal.

Disc Harrows Cultivators
Spike Harrows Plows

From the manufacturer to the consumer direct. Does this not interest you? We can give you better goods at lower prices than any company in Southern California. No dealer's commission. No rent. No high priced salesmen to pay. The saving is for you. Give us a chance to "show you."

Southwest Supply Co.

No. 127 South Los Angeles Street, Los Angeles, Cal.

Exclusive Agents for the celebrated Racine-Sattley lines of ***Implements, Vehicles, Wagons***

Air Dried Spruce Boxes

FRUIT, EGG, BUTTER
AND ALL OTHER KIND

C. A. Smith Lumber Company

Correspondence Solicited BAY POINT, CAL.

TENTS

Fumigating and Lemon Curing Tents our Specialties

Irrigating Hose, all sizes. Prices and Samples quoted upon application. Write your wants Wagon Covers, Hay Covers, and Canvas Covers of Every Description.

Mellus Bros. & Co Phones—Home, F 4871; S. S., Main 8500 250 East Fifth St., Los Angeles, Cal.

Citrus Trees Navels Valencias Lemons Pomelos

Sweet and Sour Orange **Seed-Bed Trees,** strictly first-class stock, free from scale. We also have several hundred Phoenix Canariensis and Washingtonia Robusta Palms for sale cheap. Write for prices in large or small quantities.

Southland Nurseries, F. H. Disbrow, Prop.

Phones: Main 949; Home 2520 R. D. No. 1, PASADENA, CAL.

Don't be sidetracked by using inferior Fertilizers, but use the best - - - - - - **Tom Lewis' Fertilizers**

Unequaled for Field, Garden, Orchard, Vineyard, and All Kinds of Vegetation. For catalog and prices write

Thomas Lewis, 1916 Tenth St., Sacramento, Cal.

With the Citrus Growers

PERSIMMONS.

THE market for persimmons is quite limited and, in my judgment will never be otherwise. This is not my opinion formed from personal tastes, for it is a favorite fruit of mine and if everybody consumed the same proportion of them that I do when I can get them, the demand would not be supplied for many years. But the fact remains that persimmons have been eaten for generations in this country and still the demand does not increase to any appreciable extent.

This is due to the character of the fruit. It lacks the refreshing acids that are found in nearly all fruits. It is true that many new and improved varieties have been introduced but they are persimmons just the same, and they cloy most persons after eating one or two.

Nearly every person can eat several peaches, apples, oranges etc., in a day and still retain an appetite for them. Not so with the persimmon. This is the prime factor that will always insure a light demand for the fruit. Horticulturists who imagine that there is going to be a greatly increased demand for the fruit will no doubt be greatly disappointed if they plant with that idea.

Every family orchard should have one or two persimmon trees in it for it is a delicious fruit for some member of the family, as a usual thing. There are many varieties, all of which are good but for a small family orchard a good selection of two varieties would be Hyakume and Goshio. The former is an early variety with little or no astringency and can be eaten while still firm. The flesh is brown aud crisp. Goshio is a later variety that is not good to eat until it softens up in the good old persimmon way.—J. W. Mills.

ORANGE CONDITIONS IN FLORIDA

THE need of co-operation and of greater care in marketing all fruits is shown by Florida conditions in oranges as presented in the following from the Florida Fruit and Produce News:

Pretty tough. Isn't it? Could it be worse? Look at the sale in New York of a carload of Chapman's Old Mission Brand of California Valencias. Fancy, $8.75 to $9.50 per box. Choice, $7.60 per box; Standard, $5.75 per box.

There you are. Fancy Florida hard to sell anywhere at $2.50 per box. Choice, $1.50. What's the reason? Whose fault is it? Is our fruit as good? Is it handled as carefully?

Keep going on like you are going, Mr. Orange Grower, and both you and us will have to look up a job somewhere.

There is a remedy to prevent the present miserable conditions. It is not necessary that oranges should be rushed out of this state all at the same time. The orauges in the northeru part of the state mature and color up earlier than those in the southern part.

If all sectious were organized and represented at a geueral meeting, it could be decided which sections should ship first aud the crop could be moved systematically instead of every man rushing his fruit to market, helter-skelter, to get any old price that can be obtained.

The law of supply and demand regulates the price, just as sure as the good Lord made little apples, and as long as men are chumps enough to think they can beat it, just so long will they have their present conditions to contend and put up with.

It is beyond our comprehension why men will work, deprive themselves of many of the necessities of life, to make a crop, and then use it to keep his neighbor from getting a living out of his crop. Of course he don't mean to do this, and don't think he is doing it, but that is just what he is doing. The whole bunch is individually competing with each other, ruining the markets and depressing prices, while a systematic method of marketing would stop it all, and result in hundreds of thousands of dollars being saved to the growers. But don't do it, just go along as you are doing and you will be broke. Then who will sympathize with you? Who should? Do you deserve sympathy? You will just get the grand laugh. Business men adopt business principles and stick to them, else they would not succeed. If business principles were adopted and followed by the growers they, too, would succeed.

COSTLY LESSONS.

The shipping of green fruit has resulted this year in more serious losses than usual. The fruit has been pushed so as to secure the big prices and pushed forward in such a condition that it has disappointed purchasers. This should not be. The only excuse usually offered is that "some one will do it if I don't."

The ambition to be the first should be a mark of disgrace instead of a credit. Because that first shipment, when made in October or during the first of November as is usually done, can only take money out of some other grower's pocket, because such fruit being unfit for food for humans, injures the market for weeks to come.

Florida is making a strenuous fight to stop the evil and this year's results in California will probably convince many growers that something must be done here. Most of the southern part of the state has learned the lesson and profits by it.

The Exeter Sun in an issue of sometime since said:

Already serious loss stares several of the growers, in fact many of them, in the face because of sending the fruit out in a grass colored condition, or as one fruit jobber in Buffalo, N. Y., wrote to W. O. Randolph, "The oranges we are getting from California at present are 'Irish Granges' and it is too early for St. Patrick's Day."

Mr. Randolph, continuing further anent the subject, said: "For some reason the color did not come as early as usual and they failed to color during the journey to the eastern market."

Mr. R. D. Williams, the well known orange grower just east of Exeter, returned from an extended trip through the north and northeast last Friday. He first went to Butte, Montana, then to Seattle and from there to Portland and at each of these places and several smaller ones he investigated the orange coudition.

He found almost everywhere plenty of California oranges and of this year's crop, but very few selling. In fact, at Butte there was a great de-

mand for Valencias of the past summer at 60 cents per dozen but scarcely a person would take a navel of this year's crop because of the green and poor condition of them.

In Seattle and Portland the same condition of affairs prevailed, there being absolutely no market for the crop and all of them being stored in the sweat houses. Some of these he looked at and found them to be getting soft and mushy.

The editor of the Lindsay Gazette has the following to say:

The writer dropped into one of the packing houses last Saturday, Nov. 21, and we were told that they were then packing the first fruit that was ripe enough to send to the eastern market. It may require some hard knocks before growers learn that the best policy is to ship riper fruit but he must come to it sooner or later. One grower said the other day that he would sign an agreement to not pick his fruit before Nov. 10th if others would do the same.

In conversation with several growers the past week the Sun has been informed that nearly everyone of them is willing to wait until the fruit is riper, but that just so long as one man ships the others will.

There should be a meeting of the growers next year and arrangements made whereby only a few cars of fruit are to go out and the big receipts from them, if there are any, be divided amongst the growers in total.

It is ruining the good reputation of the country to ship such fruit, and unless it is stopped, will ruin the growers.

YELLOW SPOTTING OF CITRUS LEAVES.

During this summer and fall specimens of citrus leaves affected by a greasy yellow spotting have been received at the experiment station from several localities in the citrus region. This disorder has been noticed in a few places in previous years, but it has evidently been more prevalent during the present season. Some of the places from which it has been reported are Tropic, DeLand, Winterhaven, Eustis and Clearwater. Several affected groves have been carefully studied. In one orange grove nearly every tree was affected, and in some trees a healthy leaf was hard to find. In another grove which was shedded and contained both oranges and grapefruit, from 50 to 75 per cent of all the trees were more or less attacked. It was equally bad on hammock and high pine land. No relation to any particular brand of fertilizer was noticed.

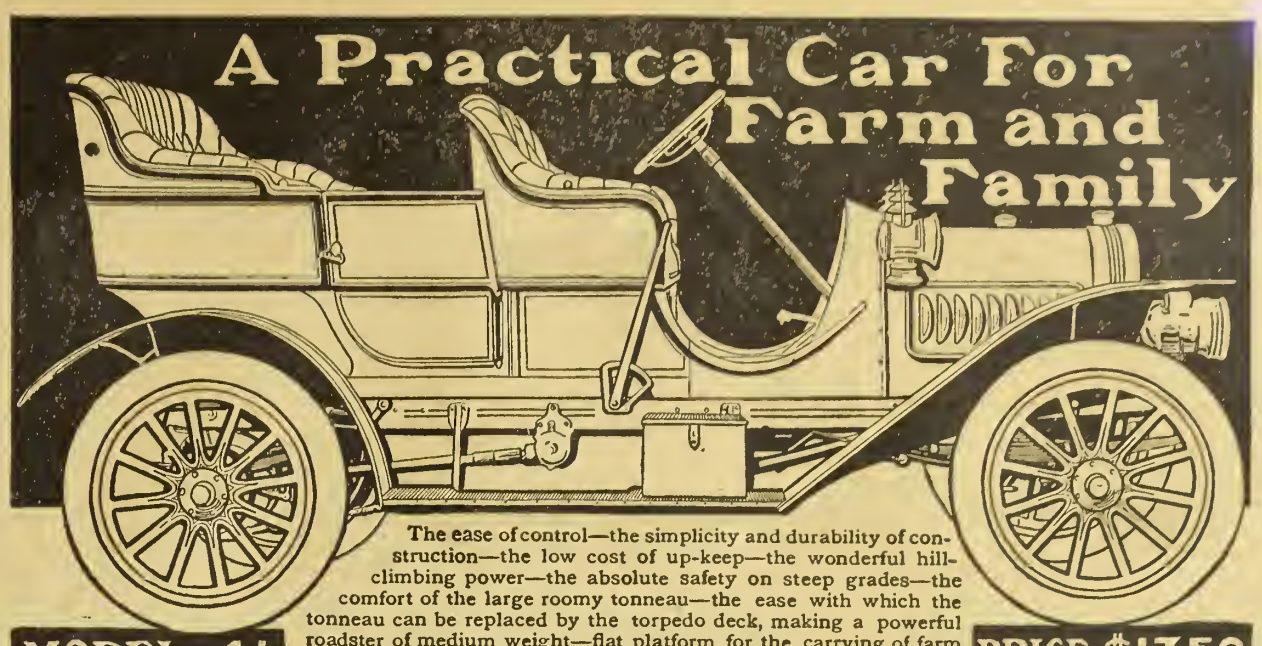
Varieties Affected.

Grapefruit appears to be more frequently and severely affected than oranges, although the disorder seems not to be confined to any particular variety of citrus. Among oranges, the King and Enterprise Seedless were found to be very susceptible.

Description.

The symptoms of this malady seem to be confined to the leaves; although a spotting was noticed on some fruits from a grove near Eustis that very much resembled the spots on the leaves. The appearances on the leaves are yellowish to golden-colored spots, a fraction of an inch or more in diameter. They usually occur between the main veins and extend through the substance of the leaf. The spots differ in appearance on the upper and under surfaces of the leaf. On the upper surface, the yellowish or golden color is more noticeable, and the central portion of the colored area is often darker in color than the margin. The spot is usually not raised above the upper surface of the leaf. Occasionally dark-colored elevations, from the size of a pinhead upwards, may appear within the yellow. On the under surface the spot nearly always projects beyond the surrounding surface of the leaf, and usually has a dull, greasy look, and a yellowish-brown or olive-green color. The surface of old spots may become rough and dark-colored. Cross sections of the leaf, seen under the miscroscope, show a swelling of the cells in the spongy part of the leaf next the lower surface, with scattered brownish deposits. In some cases, the cells adjoining the upper surface may also be affected.

A definite cause of this disease is not known. It is perhaps a physiological trouble. At times it is associated with die-back, of which it may perhaps be a form. The microscopical structure of the diseased tissue is similar to that of the die-back. We cannot as yet recommend any treatment for this trouble. One grower reports having obtained favorable results by applying lime and mulching. —Florida Experiment Station Bulletin.



MODEL 41 PRICE $1350

The ease of control—the simplicity and durability of construction—the low cost of up-keep—the wonderful hill-climbing power—the absolute safety on steep grades—the comfort of the large roomy tonneau—the ease with which the tonneau can be replaced by the torpedo deck, making a powerful roadster of medium weight—flat platform for the carrying of farm implements, farm produce, baggage, etc. These are but a few of the special features that make the

Rambler
THE CAR OF STEADY SERVICE

A Practical Car for Farm and Family Use

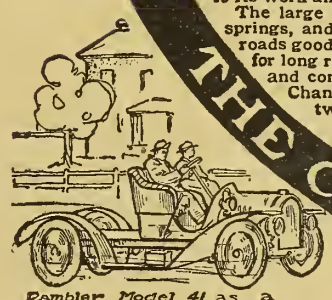
It is built to meet every condition demanded of the automobile on the farm. It is built in the largest automobile factory in the world, where nothing but the very best of tested materials are used—where none but the highest skilled labor is employed to operate the finest machinery that human brains can devise; all under the personal supervision of a man with whose name the word Rambler has been identified for 29 years. It is this close, personal attention to the details of construction that is your safeguard—your guarantee that the Rambler will stand up to its work and never disappoint.

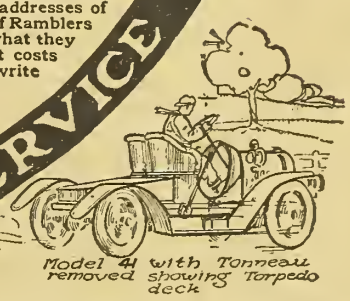
The large wheels, the big tires, the perfect springs, and soft, elastic cushions, make all roads good roads. You can take your family for long rides after the day's work is done and come back refreshed and happy. Change the touring car into a luxurious two-passenger roadster that the younger folks will enjoy—a car that will make them contented and more willing to stay on the farm. The Rambler is so simple in construction that it does not require a mechanic to take care of it. Over 90% of Rambler owners drive and take care of their own cars.

You can learn to run a Rambler in an afternoon, and you will find it as easy to manage as the gentlest horse on your place.

When we ask you to pay $1,350 for a Rambler we are offering you the best car that can possibly be built for that money. Let us send you our *Farm Folder* No. 156. It's free and will give you much useful automobile information. It will give you the names and addresses of many farmers who are owners of Ramblers—why they choose that car—what they do with their cars and what it costs to maintain them. Don't fail to write for this Farm Folder.

Thomas B. Jeffery & Company,
Kenosha, Wisconsin.


Rambler Model 41 as a Utility car


Model 41 with Tonneau removed showing Torpedo deck

The Roessler & Hasslacher Chemical Co.
100 William Street, New York
Works: Perth Amboy, N. J.

CYANIDE guaranteed 98-99% for generating HYDROCYANIC ACID GAS

The only positive eradicator of the SAN JOSE SCALE, RED and BLACK SCALE and other insect pests

FOR SALE BY

F. W. BRAUN - Los Angeles and San Francisco
HAAS BARUCH & CO., " "

George B. Warner's
Orange County Nurseries
Established 1889

Grower and Dealer in Citrus and Deciduous Trees of all Standard Varieties

Soft Shell Walnut Trees, 1, 2, and 3 years old. Grafted Placentia on Native Black Walnut Root and Soft Shell Root. Street and Ornamental Trees, Palms, Dracænas, Blue, Red and Sugar Gums (large stock.) Write for prices.

Sales Yard—Corner Sixth and Main
Residence—Tenth and Bush Sts
Santa Ana, California
Phone—S. S. Red 92

Orange Seed Bed Stock

20,000 Orange Seedlings, 1 year old, 14 to 18 inches tall. Good healthy stock. Write for prices.

Barbour Ranch San Gabriel, Cal.

Save Time—With the Brewster Picking Sack—Save Fruit

A new method sack—invented and perfected by lifelong growers. Eminent orchardists pronounce it perfect. Those who have tried it say they would not be without it. Actual tests show that a man can pick twenty-five per cent more fruit with it and with greater ease.

Sack forms semi-circle about picker's body—is supported by straps over both shoulders and held tight by belt around body. The picker can thus work with ease either on ground or ladder. When full, it does not extend below the hips.

A great feature of the Brewster Sack is the patent gate (see illustration) WHICH PRACTICALLY ELIMINATES BRUISING. Simply unfasten a hook—the gate drops—and the fruit can be quickly but very gently poured out.

The sack holds as much fruit as the old style sack.

Made in two grades.

Regular picking sack grade, sent express prepaid for $1.50.

Special extra quality—that will outlast two ordinary picking sacks—express prepaid $1.75.

Sierra Madre Sack Co., Sierra Madre, Cal.

We want reliable men in every locality to demonstrate this sack and act as our agents.

TREES TRUE TO NAME

AND

Propagated From the Best Specimens of Their Kind

TWO IMPORTANT FACTORS

Placer Nurseries

(Established 1878)

OUR ASSORTMENT

Comprises all the Best Commercial Varieties of

Peaches
Plums
Pears
Apricots
Almonds
Cherries
Apples
Persimmons
Grapes, Etc.

Order Now
Write Us

and our stock is the best that years of experience, care in selection, and care in growing can produce. That is what you want.

Catalogue and Price List Mailed on Application

The Silva-Bergtholdt Co.

Newcastle, California

Agents Wanted

Trees Grape Vines

Full Line of Commercial Sorts

Grown on Virgin Soil, True to Name, and Healthy. Nineteen years of fair and square dealing makes us the most popular nursery in the West. ***Wilson's Trees and Grape Vines*** long noted as the very best. Catalog and Price List for the asking. Address

The Fresno Nursery
F. H. Wilson, Proprietor
Box 615a - - Fresno, California

Citrus, Deciduous and Ornamental

Trees Plants Roots Vines

All the Leading Varieties

Burbank's Spineless Cactus by the Pound or Ton

Our Potted Plants and Shrubbery are free from frost and insect pests. Reliable Agents wanted to work on commission. Send for Catalogue.

San Fernando Nursery Co.

San Fernando, California

1-2 Million Eucalyptus Trees In Variety

Transplanted in flats of 100 each. We prefer orders of 1000 rather than 10,000; outside limit 20,000. Our trees are of the highest standard in quality. Correspondence invited. Our Booklet telling when, how, and what to plant free to our patrons only. Address

W. A. T. STRATTON, Nurseryman, Petaluma, Cal.

Deciduous Fruit Culture

By J. W. Mills

CRUDE OIL EMULSION FOR WINTER SPRAYS.

In a talk on sprays and the winter use of them by Dudley Moulton, of Campbell, the entomologist in charge of California deciduous fruit insect investigation, Bureau of Entomology, Department of Agriculture, Mr. Moulton said as reported by the San Jose Mercury:

"Numerous inquiries have recently been made regarding the spraying of fruit trees here in the Santa Clara valley for the Italian Pear scale, the Brown Apricot and the Black scales, and the lichens which gather on the larger lower limbs. Since it is just now time that this spraying be done, the following notes and formulas are presented. Orchardists have been variously advised to use the Caustic Soda, or the Caustic Soda and the distillate oil in mechanical mixture, the Lime-Sulphur 'Rex' and other lime-sulphur solutions, and the crude oil emulsions. All of these sprays are good but the orchardist is at a loss to know just which spray will be most economical and at the same time give the best results.

Caustic Objectionable.

"The caustic soda is an effective spray for lichens but it is not at all desirable for the Italian Pear Scale. Caustic soda and distillate oil would be much better but this mixture must be applied with a power sprayer. The caustic soda is efficient only as the spray is caustic and to be effective the scales and lichens must be killed immediately after the spray is applied. This wash too has the tendency to burn and shrink the bark which afterward becomes very brittle, and it would not seem desirable to use it on the same trees more than once. The lime-sulphur 'Rex' solution and the other lime-sulphur solutions which are not prepared at home are found to be far inferior when compared side by side with the home-made mixture. They do not kill all the lichens neither do they kill all of the scales when they are applied at the strengths which are recommended by the manufacturers. The home-made lime-sulphur wash is to be preferred when a sulphur wash is desired.

Crude Oil Better.

A crude oil emulsion, made with a soap and any one of the heavy California crude petroleum oils has given by far the best results. The spray is not caustic and is not immediate in its action. It rather covers the barks with a thin vaseline or oily coating which spreads and penetrates for several weeks. It seems to loosen and kill the lichens so that they drop away after the rains and the spray continues to penetrate underneath the encrusted scales, until finally all are killed. None of the other sprays is so thorough in its work of cleaning the trees of all of the above mentioned scales and the lichens and no one of them can be prepared so cheaply. The emulsion will cost about one-half cent per gallon ready to apply to the tree, the other sprays will cost from one to two cents per gallon or more.

Some Others.

"Several local proprietary soaps can be used to make up a crude-oil emulsion but they are rather expensive. Whale-oil soap, or a home-made fish-oil soap serves the purpose just as well. Whale-oil soap costs about 3 cents per pound, while the fish-oil soap can be prepared at home for about one and one-half cents per pound. Other formulas for soaps which may include rosin, kerosene, or crude carbolic acid are often recommended, but these are more expensive and they do not emulsify our crude oils any better, and apparently not so well as the simple, home-made fish-oil soap. The following soap formula has been obtained from the manufacturers of Babbitt's lye and is entirely satisfactory. Place six gallons of water in a boiler or caldron and then add two pounds of lye. Boil the lye until it is all dissolved. Then add one gallon of fish-oil and boil slowly for about two hours or longer. Let it boil slowly so that it will not boil over. This should make about 40 pounds of soap or about a five-gallon can full.

Formula.

"The crude-oil emulsion is made after the following formula:

5 lbs. of whale-oil or home-made fish-oil soap.
1 lb. lye.
43 gallons water, preferably warm water.
5 or 6 gallons crude oil.
To make 50 gallons of emulsion.

"Dissolve the soap in five or ten gallons of warm water and later place this in the spray-tank or barrel and add water to make the full 43 gallons. To this add one pound of caustic soda or lye. After the soap and lye are dissolved pour the crude-oil in slowly and stir thoroughly while this is going in. The emulsion is then ready to be sprayed onto the trees. The secret of making a good crude-oil emulsion is to be sure that the soap and the lye are thoroughly dissolved in the full amount of water before any crude-oil is added for if any water is added to the mixture after the oil is in, free oil will begin to gather on the top immediately. The emulsion should be stirred constantly while it is being sprayed onto the trees. This crude-oil spray is also recommended as a winter spray for the Red Spider. It can be applied on any of our deciduous trees as a winter spray without fear of injury until the blossom cluster buds begin to unfold."

The last rabbit drive in the Antelope Valley gave a net results of 4000 bunnies killed.

Six of the Most Valuable New Fruits

Ever Introduced in California

"Improved French" Prune
Originated by Luther Burbank

"Concord" Walnut French Variety
Grafted trees only. Better than Franquette or Mayette

"Paul" Cherry Finest Black Cherry

"Philippi" Grape Handsomer than Tokay; a month earlier. Disinfected cuttings only, to comply with quarantine laws.

All these, like Muir, Lovell, and Phillips Cling Peach, are of California origin.

"Comet" Red Currant Much larger, earlier and sweeter than any other.

"May Duke" Gooseberry
Earliest of all; large; smooth skin.

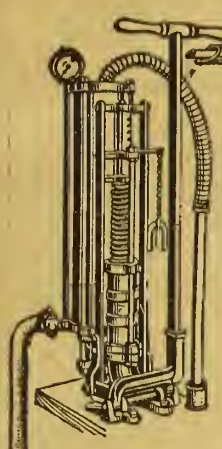
Write for Further Particulars.

EUCALYPTUS TREES by the 1000 or 100,000. No stronger stock; grown in the open, without lath shade or screen, therefore hardened to all weather.

GENERAL NURSERY STOCK

Leonard Coates Nursery Co., Inc.

EST. 1878. INC. 1905.
Morganhill, Santa Clara County, Cal.



Saves One-Third the Labor

Wouldn't you like to cut your labor expense an even third? You can do it on your spraying—and this advertisement tells you how. What's more, the work will be done more quickly and better. Use

Bean Magic Spray Pumps

The Bean patent spring (shown in the cut), divides the work; the operator does half at each stroke of the handle, and works against but half the pressure indicated on the gauge. Bean Magics are built in two sizes; both have non-clogging ball valves, porcelained cylinders, and other exclusive Bean features. They're the easiest running, least troublesome pumps on the market.

Our illustrated catalog No. 21 describes ten sizes of hand pumps, and contains much valuable spray information and formulas. Catalog No. 22 describes Power Sprayers. Both books sent free. Write for our special offer; mention number of acres and kind of fruit.

BEAN SPRAY PUMP CO.
212 W. Julian Street
San Jose, California

EUCALYPTUS SEED

Eucalyptus rostrata, the Red Gum
E. corynocalyx, the Sugar Gum
E. tereticornis, the Forest Red Gum
E. globulus, the Blue Gum
E. citriodora, Lemon-Scented Gum
E. cornuta, the Yate Tree
E. polyanthema, the Red Box
E. leucoxylon, Victorian Iron Bark
and Many Other Valuable Sorts

I shall be pleased to correspond with prospective buyers and give particulars as to prices on the seeds I am offering. Trial packets of any variety 15c each, 2 for 25c, or twelve for $1.25. Also young trees of many varieties for sale. Send for circular and cultural directions.

THEODORE PAYNE
NURSERYMAN AND SEEDSMAN
Home Phone A2480
345 S. MAIN ST., LOS ANGELES

300,000 Eucalyptus

Fruit Trees
Shade Trees
Roses Shrubs
Palms Ferns

And everything that you need for your ranch or garden. Send for free catalogue

Sycamore Grove Nurseries
SAINT & WARNER
4584 Pasadena Ave. Los Angeles

Highland Orange Growers' Association has materially improved its equipment for packing oranges.

GREEN MANURING CROPS.

IT is the general belief among the deciduous fruit growers of Central and Northern California that it is more bother than it is worth to grow green crops for fertilizers among the trees and vines. The cleaning up after pruning and the inconvenience at plowing time in the spring keep many from planting green manuring crops. It was not many years ago that many citrus growers of the south objected to growing these crops in their groves because of the inconvenience of taking out the fruit in the winter and spring when the green stuff was knee high and besides it mashed it down and destroyed it. It being suggested to them that they plant every other space and alternate their planting each year, they proceeded to do so. The result was that they soon dropped this method and planted everything solid. They found that it was better for the soil where fruit was hauled over it, to have a coating of green stuff. The land was not packed so hard and the green stuff that filled the spaces was no inconvenience after all. The fruit could not be picked soon after a rain unless drying winds followed. The result is, in the Riverside district alone, where a few years ago, only a few hundred acres were sown to green stuff, there are now close to ten thousand acres of citrus groves planted to green manuring crops every year. The improvement in the physical condition of the soil is so marked that it renders subsequent cultivation much more effective and cheaper, due to the more friable condition of the soil.

Remedies.

The tight and hard condition of the soil in many of the orchards and vineyards of Northern and Central California is due to the lack of humus in them. The soils have been depleted of it from constant clean cultivation. The remedy is to add humus by applying either stable manure or growing green manuring crops. Where the former is cheap and convenient, it should be used by all means. In addition to it, green crops should be grown as abundantly as possible so as to add the greatest amount of humus.

After many years trial in the southern part of the state, it was found that winter vetch was the best for green manuring as it would not get dry and stringy if allowed to stand a little after the proper time for plowing under.

Obstacles.

Growing green stuff in an orchard is not a problem except under two conditions: A dry spring which may catch the grower without means of irrigation, with a dry weedy orchard on his hands, or an exceedingly wet spring may delay plowing so late that he will have a wilderness of stuff to plow under so late that it will not have time to rot before dry weather comes on. An irrigation plant that will soak up the orchard will overcome both of these obstacles. Such an outfit will more than pay for itself in most cases for irrigation later and before the fruit is harvested. There are few seasons when irrigation would be necessary as a supplement to growing green fertilizer and the improved physical condition of the soil will render both cultivation and irrigation more effective. It has been our experience with the grape soils of Yuba county before grapes were grown, that places where wild clover and lupins grew abundantly, and even the California yellow poppy, that the soil was always friable and mellow after land adjoining would be dried out and hard. These places always raised the largest crops of grain and hay.

After some of this land was planted to orchard, the plots that had been so well supplied with humus continued to be more friable and more easily gotten into "shape" than other parts where the soil appeared the same in other respects; also, the trees while young made a better growth where the humus was present, and continue to show a difference to this day.—J. W. Mills.

Imperial Valley Lands have a greater earning capacity per acre than any land on earth. For price list and information address, James S. White Jr., and R. A. Holt, Holtville, Cal.

"THE MAN WITH THE HOE"
SHOULD SOW

MORSE SEEDS
ALWAYS RELIABLE

Our new general Catalogue is now ready for mailing and will be found of great value to the planters of

SEEDS, PLANTS AND TREES

This Catalogue is the finest we have ever issued and will be mailed free to all who write to us.

C. C. Morse & Co.

If in the city call at
Retail Store
125-127 MARKET ST.
Opp. junction with California

When writing address us at
41 Jackson Street
SAN FRANCISCO

GRAFTED WALNUTS
Placentia Perfection
If interested Write Us for Information

A Few Thousand ***Orange and Lemon Trees*** *For Sale*

Whittier Nursery — *Established 1887, Home Phone 288*
Chas. H. Hamburg — *Whittier, Cal.*

GRAFTED WALNUT TREES
Different varieties on black and soft shell roots, **25c** and up.

Orange and **Lemon Trees, 50c** and up. Special Prices on Large Orders. **Deciduous, Eucalyptus** and **Ornamental, Berry Bushes, Grapes, Roses,** Etc., Etc.

Magnolia Nursery
A. R. Rideout, Proprietor · Whittier, California

Do you want to make money?
If so, write us for prices on our nursery stock. We have a fine stock of peaches in such varieties as—

Muirs, Lovells, Phillips, Tuscans, Elbertas

These are the varieties for California and our trees have proven themselves superior to irrigated stock. We are making SPECIAL rates on the smaller grades, subject to withdrawal when stock becomes exhausted.

Get your trees from **"The Old Reliable"**

ALBANY NURSERY COMPANY
ALBANY, OREGON

And they'll be right.

ALL KINDS OF
STREET AND ORNAMENTAL TREES
MONTEREY CYPRESS and GUAVAS.

We can furnish palm and other ornamental trees eight feet high, which add greatly to the value of a place as soon as planted. We also have a large stock of Eucalyptus Globulus, Corynocalyx, Rudis, Rostrata, Terticornis, Diversicolor, Robusta and Ficifolia. Our special eucalyptus circular, telling how we grow and handle our eucalyptus by the Carroll method, mailed free.

Wholesale and Retail

The Anaheim Evergreen Nurseries, Tim Carroll, Proprietor
Anaheim, Orange Caunty, California

The oldest nurseries in Southern California, established in 1868 by present owner. Nurseries located 200 yards west of West Anaheim station (S. P. R. R.) Sunset Phone Main 413.

5000 Grafted Walnuts
1 and 2 year old grafts

On California black and English walnut roots. The stock of the California black are all from northern grown seed from large trees.

Prices very reasonable.
Eucalyptus in variety.

GEO. S. WEINSHANK
505 Magnolia, Ave. Whittier, Cal.

The market prices for dressed squabs are best during January, February and March.

$75 to $95 PER MONTH
For Men or Women

15 to 35 years of age, after short period of instruction in railroad and commercial telegraphy. Pleasant, clean work, short hours. We place all graduates. Demand is greater than supply, due to recent eight hour law. There is a

BIG FUTURE

for the ambitious. Many high railroad officials began as operators. Only a normal charge for instruction. We run this school not to make money, but to supply operators for our system.

Write **S. P. TELEGRAPH SCHOOL**
542 Central Ave. Los Angeles, Cal.
This ad may not appear again. Write NOW

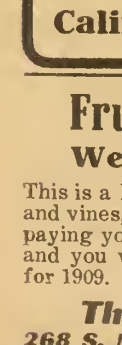
Southern California orange growers will pay at least $650,000 less for orange boxes than last year, owing to reduction in prices.

The Seed House
OF THE
Great Southwest

1909 Seed Catalogue We are now mailing 45,000 copies of the most complete Manual of Garden, Field, Flower and Tree Seeds, Nursery Stock, Eucalyptus, Incubators and Poultry Supplies.

If you do not receive yours by the 20th of December, write for it and get your name on the list.

Aggeler & Musser Seed Co.
Successors to Johnson & Musser Seed Co.
113-115 No. Main St. Los Angeles, Cal.

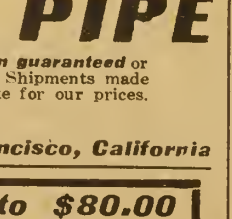


SEEDS
TREES PLANTS BULBS

If you are interested in the Best Seeds, Etc., write for our 1909 Seed and Plant Annual, which we will mail to you free. Please mention this paper.

Trumbull Seed Company
Successors to Trumbull & Beebe
61 California St., San Francisco

Crimson Winter Rhubarb



$1.50 a Dozen $6.00 per 100
$40.00 per 1000

Now is a good time to plant.
Pedigreed Stock.

Fruit Trees and Berry Plants of All Kinds

J. B. Wagner, Pasadena, Cal.
The Rhubarb and Berry Specialist
Dept. F

201 Killed
in one day with one bottle
Bille's Gopher Poison

Circular with affidavit and many testimonials. Not a common Poison—in a class by itself. Endorsed by Agricultural Experiment Stations. $1.25 for large bottle. Money refunded if not as represented. If not sold by your dealer, we will prepay express on two bottles on receipt of $2.50. Or $1.75 for one bottle Poison and one bottle Poultry Remedy (best made) express prepaid. Send for free Booklet. Send us 10 names of persons having poultry and we will mail you an Egg Separator. Very handy and useful.

West Coast Mill
Los Angeles, Cal.

Use the Famous Rex Lime and Sulphur Solution

For spraying your trees and vines. Hundreds of carloads of these goods have been used on the Pacific Coast, giving the best of satisfaction for Scale, Scab, Red Spider, Red Scale, Apple Mildew, Grape Mildew, in fact, all kinds of insects and fungi that prey upon California Citrus and Deciduous Fruits.

Manufactured and Sold by the
California Rex Spray Company, Benecia, Cal.

Fruit Growers and Vineyardists
We Would Advise You to Use Our P.N.K.

This is a Fertilizer well adapted to produce a good, vigorous growth to your trees and vines, and the best quality of fruit in quantities that you desire, consequently paying you large interest on the money expended. Make a trial of this brand and you will use no other. Write for our pamphlet, ***"The Farmers' Friend,"*** for 1909.

The Pacific Guano and Fertilizer Company
268 S. Market Street - - San Francisco, California

SECOND HAND PIPE

We will sell you pipe that can be used for any purpose. ***Satisfaction guaranteed*** or money returned. We handle all sizes of standard pipe and casing. Shipments made on same day as order is received. Price of pipe is low now. Write for our prices.

Pacific Pipe Company
S. W. Corner Howard and Main Streets, San Francisco, California

ARNOTT HARNESS $10.00 to $80.00
Everything guaranteed. Money back if not satisfactory. Factory in Los Angeles. California leather for all uses. Send for No. 10, eighty page FREE Catalogue.
ARNOTT & COMPANY 112-118 So. Los Angeles St. Los Angeles, Calif.

Financial Conditions Facing Small Fruit Growers

Written for the Cultivator by J. W. Roe of San Gabriel, Los Angeles County.

IF I comply with your request for my opinion of the industrial situation of Southern California, you will pardon my personal allusions.

I enclose a photo which will be my text. This shows a strawberry patch, 2½ acres of which was in full bearing this season.

One acre of this ground netted me over $1100 two years ago. The whole patch did not pay expenses this year, and you ask why. My answer is Japs.

They have increased the acreage over eight times this season in this valley.

When I pay from $1.50 to $1.75 a day for help my berries cost me about 82 cents per crate to get them ready to haul to market. This includes labor, water, fertilizer, boxes and all expenses, except marketing, my time and interest on investment.

I keep an account with my berries just as your bank does with you. Every cent paid out for their maintenance is charged to them and when I sell a berry it is credited to their account. In this way I know exactly what I'm doing.

J. W. Roe's Berry Ranch.

A Jap came to my house a few days ago for some sweet potatoes. He could talk very good English. He said to me, "You raise strawberries too." "Yes," I said, "I have a few. How many have you?" "Eight acres," he replied. "Where?" I asked. "On Mr. Baldwin's ranch" he answered. "Did you make any money this year?" said I. "No, we lose money all time; no pay water, no pay rent, no pay boys for work either, no pay rent last year. 'Alright,' Mr. Baldwin say, 'maybe you pay me next year.' We pay boy $1.00 to $1.25 a day, not more."

Well, I can compete with any white man living, in my business, but I can't compete with orientals who are harbored and backed up by white men in this fashion.

I said to this Jap. "Before you Japs came into the San Gabriel valley, truck gardeners could make a living, but since you came here we have lost money. You had better move out: we don't need you."

One dozen Japs will live on what it costs me for a family of four.

They are not to be trusted—are dishonest.

A Chinaman is a white man beside a Jap. A Chinaman may produce stuff for less than a white man, but he will never cut the price. The Jap will cut under all the time.

But for the loyal support of my Pasadena customers I'd have had to turn my berries out to grass this season.

I said to them, "Boys I must have at least $1.00 per crate for my berries or I can't bring them to you." And three of them did take my entire crop. The lowest they paid me was $1.00 per crate and at this time they were buying Jap berries for 60 cents per crate that were just as good as mine.

You can rest assured that I fully appreciated this. They argued that it would be to their advantage to help me keep my berries, for as they said, "Roe will be in the garden business when these Japs are sent home."

As I told our Congressman McLachlan, "I don't mind paying big wages to white men who spend their money here, but I do hate to see the yellow coin of the realm running in a continual stream to Japan." Nor is the berry grower alone. There were thousands of acres of potatoes raised in the San Gabriel Valley by Japs and sold at 60 cents per hundred this year. A white man can't produce them for that amount of money.

The Japs are renting orchards and soon apples, peaches, and apricots will fall under the ban. I believe I am safe in saying that fully 65 per cent of the farm products of California are produced by Japs.

You as an American can't rent, buy or borrow, beg or steal a piece of land in Japan to raise anything on. Give them the same treatment here and they will soon leave the country.

They are a great damage to California. The thousands of tourists who come here every winter find out these conditions before they go back and when they get home their friends ask them about the industrial situation in California and they simply tell them the truth. Intelligent white labor won't rush to California to compete with Japs. They never will come, in my opinion, until they are protected by laws prohibiting Japs from owning or operating real estate in this country.

The Japs are doing to the market gardener of California just what free trade in citrus fruits would do to the orange and lemon growers here, driving them out of business. Is this to be a white man's country or not? Ask your congressmen.—J. W. Roe.

The Board of Supervisors of Yuba county is somewhat at logger-heads with the State Horticultural Commission as to the payment of inspectors which are sent there by the State Horticultural Commission. The supervisors maintain that the state should bear the expense of a matter which concerns the fruit growers of the entire state, to a greater extent than those at Marysville.

The Ornamental Garden

POTTING PLANTS.

THE country house is seldom supplied with shrubs, hanging baskets and flowers as it should be. They are usually so plentiful in the garden that the lack in the house is not felt. But we are sure a more general cultivation of potted plants will result in much satisfaction. A few bright flowers in pots aid in quickly beautifying a room.

The best way is to have a little lath house or place where the plants may be grown and kept in good condition. Then one should keep twice as many plants as needed in the house or porch at one time. The reason is that a basket hanging in the house or on the porch cannot be given the thorough drenching and the care which it can outside. In time it loses its thrift when it can be placed in the lath house and another put in its place while it takes on new growth.

Then the growing of new plants and potting is fascinating. Cuttings and seed may often be begged and borrowed so that it is not an expensive fad.

Regarding the potting we note the following in the Homestead:

Prepare good soil. Prepare more of it than you need just at this time, because you will require more or less all through the season, as many plants will need re-potting. Pick up old broken pots and crockery and break them up into bits for drainage. Wash old pots well before using them.

Many complain about the failure of plants to live when received by mail or express.

Never pot them at once or, in other words, do not take them out of their wrappings and put them directly in a pot. Set them in a shallow vessel of water and leave them there until the small quantity of soil about the roots has become thoroughly soaked through. If wrapped in moss treat exactly as if sent with earth adhering. In potting, be sure not to use large pots for small plants. This is one reason why so many are lost. The owner does not understand why it is not just as well to put the plants as soon as received in the pots they are to occupy when fully grown as it is to be to the trouble of shifting from time to time. So he puts a small plant in a six or seven-inch pot and it never seems to amount to anything and in the majority of cases it dies. The reason is the young plant has but few roots and those small ones and it cannot digest the food found in a large pot of earth. Its stomach is not equal to the demands made upon it and it dies of dyspepsia or overfeeding. If put into small pots at first it gets all the nutriment it can make use of and soon starts into healthy growth.

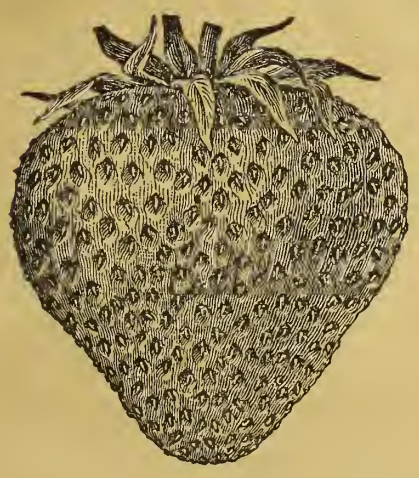
If your pots are new ones soak them well before putting plants in them. Unless you do this the porous clay will absorb most of the moisture from the soil it contains and thus your plant will be robbed of its rights at a critical time. Water well as soon as potted and then place the pots in a shady place and leave them there until you notice signs of growth. Then bring to the sun. Plants in small pots will need watering daily, as the small quantity of earth they hold will dry out rapidily. In potting be very careful not to injure the delicate roots. Spread them out loosely over the soil when the pot is about two-thirds full. Then put a handful of earth on them to settle the compost in about the roots. This is preferable to crowding the soil down. A thorough watering will generally settle the soil quite as firmly as it ought to be about the roots of young plants. Sprinkle all over daily. A moist air is of great benefit to young plants; indeed, it is an item of the greatest importance because plants sent out from a greenhouse miss the damp atmosphere which prevails there and often die in a room where the air is dry.

THE PEPINO.

The pepino is a biennial solanum, rescmbling somewhat the pepper in foliage, but with a tendency to spread out on the ground like the tomato. The flowers are blue, grow in clusters, and are very abundant. The seedless fruit is yellow, splashed with violet, and is about the size and shape of a goose egg on the average. The flavor is somewhat like a musk melon. As a salad it is excellent, and worthy of attention for this use alone. It is never likely to become very popular, however, as too much educational work is required to bring about appreciation.

Of the other fruits tried, such as mangos, eugenias, etc., none do sufficiently well in this climate to justify further attention, and I do not thing it likely that they will ever be a success.—C. P. Taft.

100,000 The Dollar Strawberry



The phenomenal strawberry that has crowded out many of the old standard varieties, and which is now being grown almost exclusively in some of the leading strawberry districts of California. It combines three most desirable characteristics which make it a pronounced success from a commercial standpoint, viz., it is an upright grower, a heavy cropper and good snipper. Of upright growth and shy of runners, it may be planted closer than the average variety, insuring a larger yield per acre. The berries are borne on large crowns and are firm, sweet and juicy. Tne "only" strawberry for California.

Send for Catalogue of Berries and Trees

A. Mitting
Santa Cruz, Cal.

Suberb New Roses

Alice Roosevelt **Pink Cherokee**
Anna Mueller **Rhea Reed**

Besides all the choicer new and standard sorts. One hundred and thirty-five varieties described in our new

Twentieth Anniversary Catalogue

of trees, roses and plants. We want all rose and plant lovers to have a copy; it's free, send for it today.

TREES We have a full line of Nursery Stock, including citrus and deciduous fruit and nut trees: Also eucalyptus trees, 15 varieties.

ROSE BUSHES, ORNAMENTAL, SHADE AND STREET TREES.

We publish a price list, a descriptive catalogue. and a special Eucalyptus pamplet.

Orange County Nursery & Land Co.
Main office and Nursery
Riverside Branch, Cor. Market and 7th, Sts.
Corcoran Branch, Whitely Ave.
Fullerton, Cal.

Illustrated Rose Book

Why not send for our new photo illustrated Rose Book? It's a little the finest thing ever published on the rose in the United States, and as well, we are the largest growers of this line in the world. GOOD ROSES, good varieties, ROSES WORTH GROWING, cost you no more than "any old thing" grown and handled in any old way. (Note our guarantee in catalogue.) For the money, labor, etc., judiciously invested nothing in the floral line will yield such satisfactory returns as the ROSE. REMEMBER, WE PAY THE EXPRESS and charge you no more than our neighbor who comes to our place for his roses.

California Rose Company
Incorporated 1901
Pomona, Los Angeles County, Cal.

Marshall's Nurseries..

Growers of
Fruit Frees, Grape Vines, Shade and Ornamental Trees and Plants.
Catalog sent on application
S. W. MARSHALL & SON
Fresno, California.

Harris Seed Co.
San Diego, Cal.
Seeds, Plants and Poultry Supplies
High Grade Seeds at Reasonable Prices.
WRITE FOR CATALOGUE.

New Crop Seed
Plant Good Seed
Reap Good Crops

We carry everything in good new
Grass Field Vegetable SEEDS

Don't fail to plant our celebrated
Big Leaf Jersey Kale
for your poultry.
10c per oz.

Send for Booklet

Hickey & Vonsen
P.O. Box C, Petaluma, Cal.

E. H. Learned, Tropico, Cal.
GROWER of STRAWBERRY PLANTS
Plants now ready. ***Brandywine, Klondike*** and ***Excelsior.*** Price $2.50 per thousand. Of the very best selected stock. Reduced rates in quantities a matter of correspondence.
Address mail R. F. D. No. 5, Los Angeles

Improved Berry Plants
Strawberry, Blackberry, Raspberry, Loganberry, Himalaya, Phenomenal Berry and Dewberry Plants in variety. You will save money by getting our catalog before ordering.
G. H. HOPKINS & SON
Burbank, Cal.

Live Stock and Dairy

By Mrs. Minna E. Sherman

ALFALFA.

THE question was asked at a farmers' institute the other day where the dodder came from, when it suddenly appeared in an old field of alfalfa that had been previously clear of this pest. The seeds are probably carried there by the wind, by the passing of people or animals, and also by the birds. The seeds of the variety of dodder common to California are of the round yellow shape, while there is a form that has the kidney shaped seeds. These would be less readily sifted out. The dodder reminds me of some guests I have known that came for a week and stayed for a season or two. They are at first reasonable and not independent and like the dodder then become a parasite. The dodder when it grows to a certain size reaches out and roots into the side of the stem of an alfalfa shoot, then it stops feeding from the soil and feeds from the sap or juices of the alfalfa. The leaves of the dodder have become mere scales, as they have nothing to do with sustaining the life of the plant. Dodder is usually destroyed by having old hay piled over it and then being burned. Before covering, have a careful man go to spots with a good strong corn knife and cut the alfalfa close below the place where the dodder starts on the stems; pile the hay on the cut portion and then put the freshly cut alfalfa over the top to completely cremate it. Watch the alfalfa fields and see that they are not infested again; cut out the first spots that appear and do not allow them to spread by the seeds.

Bermuda and Morning Glory.

The two other pests of the alfalfa fields are Bermuda grass and morning glory. These are not easily handled like the dodder. They destroy the alfalfa by their dense surface growth completely covering the ground and preventing either sun or rain from reaching the ground. The morning glory plant may be subdued by the use of waste from the wineries; the pomace is full of tartaric acid and if spread over the infested spots of land thickly and let lie there over one season the land will usually be clear of the morning glory. It requires the pomace to be quite thick, say ten inches over the surface, and to extend for a foot or two beyond each side of the spots.

Bermuda grass we know less surely how to destroy. I would not consider it wise at present to plant alfalfa on Bermuda infested land. Johnson grass is not so hard to control as it seems; indeed, we have little trouble with it any more. In the alfalfa field it passes away gradually if the field is made into hay each year. The grass seeds are then never allowed to form; the roots do not penetrate deeply and the plant is greatly weakened. I have seen it pass out of alfalfa fields on the ranch more than once. Alfalfa is a twenty year perennial; it often persists even longer in growing.

I have a vineyard that was once an alfalfa field that has in spots close to the ditch lines, places where there are strong alfalfa roots that are over twenty years old. There is no reason why alfalfa fields could not be made to pay for twenty years or more. The use of gypsum on the alfalfa each fall, only two hundred pounds to the acre, will increase the crop many fold. The gypsum is all the better if it passes through the stables and the manure goes out with it. The manure helps to grow alfalfa and it is well to put it on sometimes. I used to have a manure spreader for this work. At present it is not in order and is a tool that is missed sorely. It is usually not thought worth while to try to increase the amount of alfalfa hay to the acre; this is a mistake, for the more we can grow on an acre the better we are farming, and the cheaper the hay comes in per ton.

Disking.

This is one way of increasing the number of alfalfa plants to the acre. The disks are set straight to run and cut the crowns downwards without tearing them out. The disking is done while the land is soft in the winter time. Then after disking, try sowing some barley and cross disking it in. This will make a crop of mixed hay for the first feeding and may be used for horse hay. The two crops practically will grow on the same land. The foxtail is crowded out and where the alfalfa field is the only land that has not been planted to vines or trees, the hay for the horses is secured. The use of straight alfalfa hay for the horses makes them stock up badly. The older horses on the ranch will come out with badly swelled legs each morning. That this trouble is caused by the alfalfa is proved by changing these horses to barley or wheat hay, when the whole trouble will disappear. Then disking in the barley for the horse hay and cutting the other crops of alfalfa early enough to be soft for the cows, the alfalfa field will answer the double purpose of making all the hay needed. Where an old alfalfa field shows depressions that do not grow alfalfa well, it will pay to fill them, even if the soil is hauled in from a little distance. There are often half days of idleness when these jobs can be done little by little, until in a few years there will be no waste places on the ranch.

Seed.

Once in every year comes a crop of alfalfa particularly fine for seed. If it has been fertilized the year before the entire field will break into deep blue bloom with large heads and perfect blooms. By letting this ripen too far for hay, it can be cut and the seed harvested. The July setting with us gives the best seed. The seed hay may be cut with the common mower and dried. This entails some losses, yet it pays to make your own seeds. Dry and bring the hay into the barn or into a building with a wooden floor; then spread out the masses and whip it with long willow poles; after a few days take up the straw with forks and the seed will be on the floor. Put it through a fan mill and the chaff blows away. If it is to be marketed, screening it will help its appearance further and make it more salable.

Inoculating.

While alfalfa grows well almost anywhere it cannot be started so readily nor will it produce so great an amount of hay as when the soil is freshly inoculated. I take enough of the soil from two to four inches deep off the old alfalfa field and put it in-

Creamery Supplies

Cream Separators, Milk Cans, Combined Churns, Milk Bottles, Babcock Testers, Brushes, Butter Moulds, Wrappers, Engines and Boilers, Milk Coolers

PASTEURIZERS
MILKING MACHINES

Creamery and Dairy Supplies and Machinery of all Styles and Sizes

Send List of Goods Wanted and we will Quote Prices

O. J. WEBER CO.
555-57 S. Los Angeles St.
LOS ANGELES, CALIFORNIA

300,000 Feet Water Pipe Cheap

ALL SIZES

150,000 feet of this shipment is second-hand pipe, practically as good as new, and is now on sale at a big discount by the Adams Pipe Works, 2025 Bay street. Sizes and prices: ¼-inch 2 cents per foot; ⅜-inch, 2 cents per foot; ½-inch, 2¼ cents per foot; ¾-inch, 3 cents per foot, 1-inch, 4¾ cents per foot; 1¼-inch, 6 cents per foot; 1½-inch, 7 cents per foot; 2-inch, 9¾ cents per foot; 2½-inch, 15 cents per foot; 3-inch, 19 cents per foot; 3½-inch, 24½ cents per foot; 4-inch, 30 cents per foot. Oil well casing prices and sizes: 2-inch. O. D. 7 cents per foot; 2-inch, I. D. 9 cents per foot; 3-inch, 13½ cents per foot; 3¼-inch, 16 cents per foot; 3½-inch, 17 cents per foot; 4-inch, 20 cents per foot. All pipe is carefully inspected, new couplings and new thread are put on every piece, every joint is guaranteed to be first class, serviceable pipe. Mail orders promptly filled. To reach the Adams Pipe Works in Los Angeles, take car marked Pacific Boulevard, starting east on Seventh street from Broadway. Ask conductor to let you off at Bay street and go east half a block. Phones. F1917. Broadway 1264.

PASPALUM DILATATUM

King of dairying and fattening grasses. The great Australian drouth resister. Primest heavy seed direct from the grower, 4 lbs. (ample for trial) post free, $2.00. Full information.

C. F. JULIUS
Central Bucca, Coffs Harbor, New South Wales

HOLSTEINS

We Have For Sale a Number of Registered Young Bulls and Heifers $100

All our stock comes from the celebrated herd formerly owned by the Pierce Land and Stock Co., the premium herd of Holstein Friesians in California. Oakwoods Stock Farm Co., Lathrop, Cal

John Lynch Breeder of Registered **Shorthorns**
MILK STRAIN
Box 321 Petaluma, Cal.

Berkshires--Shorthorns
My Berkshires took 9 First, 6 Second and 4 Third Prizes and both Gold Medals. 50 Head For Sale.
G. A. MURPHY, PERKINS, CAL.

THIRTY THOROUGHBRED
Poland China Hogs and Pigs
FOR SALE
W. R. McCaslin, R.F.D. No. 1, Rosevelt Ave, Sacramento

The Whiting Jersey Stock Farm Company
Is making the very best strains of blood fresh from the island of Jersey a specialty.
Whiting Jersey Stock Farm Co. Heber, Imperial Co., Cal

Hay For Sale. Buy your hay in car lots. Special attention given to supplying alfalfa to dairies.
E. R. LONG
Bakersfield, California

Geo. C. Roeding, Fresno, Cal, breeder of
Thoroughbred Holstein Bulls and Heifers
Thoroughbred Berkshire Boars and Sows

Thoroughbred Poland China Swine
Black Minorca and Barred Rock Poultry
High Grade Stock of Best Strains.
Young Stock For Sale
W Bassett Hanford, Cal

PURE BRED BERKSHIRES
Young Stock For Sale
Wm. H. Bird Box 6, Compton Cal.

When writing advertisers, mention Cultivator.

GOMBAULT'S CAUSTIC BALSAM

A safe, speedy and positive cure for

Curb, Splint, Sweeny, Capped Hock, Strained Tendons, Founder, Wind Puffs, and all lameness from Spavin, Ringbone and other bony tumors. Cures all skin diseases or Parasites, Thrush, Diphtheria. Removes all Bunches from Horses or Cattle.

As a HUMAN REMEDY for Rheumatism, Sprains, Sore Throat, etc., it is invaluable.

Every bottle of Caustic Balsam sold is Warranted to give satisfaction. Price $1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars, testimonials, etc. Address

THE LAWRENCE-WILLIAMS COMPANY, Cleveland, Ohio.

***The Monarch* Stump Puller**

The Monarch is a Puller constructed on the most correct and scientific principles, and is made of the strongest and best materials obtainable.

The Monarch

Is the most successful and most popular Stump Grubber on the market today.

Write Us for Catalogue of Stump Pullers, Farm Implements, Wagons and Vehicles.

Pacific Implement Co.
133-153 Kansas St. San Francisco

CUTTER'S Anthrax and Blackleg VACCINES

Are given the preference by 80% of California stockmen because they give better results than others do.
Write for prices, testimonials and our NEW booklet on Anthrax and Blackleg
The Cutter Laboratory
Berkeley, California

Live Oaks Farm

Frank A. Meacham, Proprietor.
Importer and breeder of RED POLLED CATTLE, SHROPSHIRE SHEEP, RAMBOUILLET SHEEP, HORNLESS AMERICAN MERINO SHEEP. Both sexes for sale. Take electric car at Petaluma or Santa Rosa for LIVE OAKS STATION. Address all mail to Petaluma, Sonoma Co., Cal.

VENADERA HERD OF REGISTERED JERSEYS

I have for sale a number of richly bred young bulls, some of them from cows that have high official yearly records.

GUY H. MILLER,
Route 3. Modesto, Cal

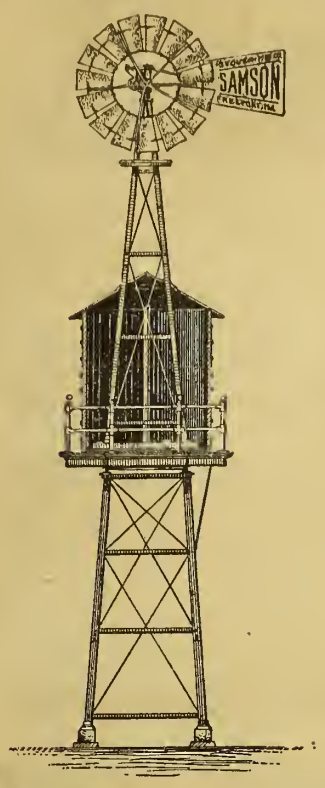
Rhoades & Rhoades
Expert Live Stock AUCTIONEERS

Sales conducted in all parts of California and adjoining States. Write for dates and terms. Twenty-five Years' experience.
830-32 South Main St., Los Angeles

When writing advertisers, mention Cultivator.

SAMSON WIND MILLS

Have double gears, removable bearings and center lift, which double the life of the mill. They will last longer, pump more water and give better satisfaction than any other WIND MILL.



This is an up-to-date Sub-structure, Tank and Wind Mill outfit complete; substantial, economical and attractive. We build all kinds. Write us or our general agents for full information and prices, description &c., before purchasing.

The STOVER MFG. CO.
FREEPORT - ILLINOIS
California Avenue
CRANE CO., LOS ANGELES and SAN FRANCISCO
General Agents for California

Pioneer Rubber Sanded ROOFING

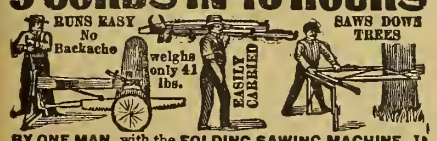
The Roof that "proves," sun-proof and rain-proof; needs no paint or repairs. Following are a few "Wont's" about Rubber Sanded Roofing:

Won't chip. Won't warp.
Won't tear. Won't crack.
Won't rust. Won't decay.
Won't shrink.
Won't crumble.
Won't need repairing.
Won't absorb moisture.
Won't attract electricity.
Won't need any paint to preserve it.
Won't be affected by any climatic changes or conditions.
Won't cost as much, in the long run, as other roofing.

What Rubber Sanded WILL do is told of in our booklet "ROOF TALK," which will be sent free upon request, together with samples of the Roofing itself.

Pioneer Roll Paper Co
Makers of Rubber Sanded Roofing and Refiners of Asphaltum
Department 11, Los Angeles, Cal.

9 CORDS IN 10 HOURS



BY ONE MAN, with the **FOLDING SAWING MACHINE.** It saws down trees. Folds like a pocket knife. Saws any kind of timber on any kind of ground. One man can saw more timber with it than 2 men in any other way, and do it easier. Send for **FREE** illustrated catalog, showing latest **IMPROVEMENTS** and testimonials from thousands. First order secures agency. Address
FOLDING SAWING MACHINE CO.,
168-164 E. Harrison Street, Chicago, Illinois.

SEED GRAIN
Black and Red Oats, Wheat, Barley, Bean Screenings, Etc.
constantly on hand and for sale at lowest market rates
Bray Brothers Buyers of grain and beans Members Merchants Exc.
220 Clay St. San Francisco, Cal.
Established in 1855. Correspondence Invited.

Last week was farmers' week in Imperial valley, the institutes being held in nearly every town.

to a trough of water, stirring it well; then stir in the alfalfa seeds and spread them out to dry on a sunny day, planting each afternoon the seeds inoculated in the morning. Another way is to broad cast the earth over the surface of the new field and harrow it in. The earth and seed can be broad cast at the same time. The amount of seed to the acre varies greatly; around here ten pounds is the common amount sown and then the disking is depended on to thicken up the stand. This means waiting for a couple of years to secure the same thickness of stand that sowing 25 pounds to the acre would have secured the first season.—M. E. Sherman.

A BIT OF ANTHRAX HISTORY.

THE following bit of history of the dread disease anthrax is from an address made by Dr. R. T. Whittlesey before a State Convention held in Los Angeles some time ago and later reprinted in pamphlet form by the State Board of Health.

Bacteridian anthrax is the most ancient infectious disease of animals that is known. Moses, in the book of Exodus, speaks of a murrain that affected all the animals of the Egyptians of whatever kind.

Diseases spoken of by Homer, Plutarch, Dionysius, and others of the old writers, were probably no other than anthrax.

Lucretia (428 B. C.) designated it ignus sacer; Columella gave it the name of malignant pustule. Virgil described a disease of the sheep, which was transmitted to man by contact of furs, wool and cadavers, and produced in the integument ulcerating lesions, which extended to the muscles.

The Arabians knew it under the name of Persian fire. Mezenay (966 A. D.) called it St. Anthony's fire.

In the latter part of the fifteenth century, the Senate of Venice prohibited, under penalty of capital punishment, the offering for sale of any meat coming from cattle with anthrax.

In 1617, Athanasius Kisehner gave the description of a disease of the bovines, which was transmissible to man, and which killed sixty thousand people.

It is first noted in Germany and Hungary in 1712; Poland, Silesia, and Saxony, in 1726; in France, in 1731. It invaded Franconia in 1755 to 1761; Finland and Russia, 1758 and 1759; Guadeloupe, 1774.

Chabert, in 1780, has shown that the different forms of anthrax constitute one and the same disease. Kausch, in 1805, gave a good description, but did not recognize its contagiousness.

Anthrax of sheep was well studied by Delaford and Gerlach in 1845; and while Delaford did not believe in its contagiousness, Gerlach demonstrated it experimentally.

In 1850, Heussinger published a work on anthrax, in which he considers it a malarial neurosis. In 1855, Pollinder announced that he had found in the blood of bovines affected with anthrax a quantity of little sticks; these were seen by Davaine in 1850, and Dorpat in 1857. Cohn was the first who considered the little sticks bacilli, and suspected their sporification.

Koch has enlightened us upon the development of spores and their transformation into bacilli.

Preventive inoculation was discovered by Toussaint, and later matured by Pasteur.

The bacteria appear in the living organism, in the form of straight rods, cylindrical and immobile, the extremities distinctly marked, and, in general, their length is about double the diameter of a red-blood corpusele. They are found in all the tissues of cadavers affected by anthrax, but are more plentiful in the spleen.

"MAIL ORDER" AND "JOBBING" CREAM SEPARATORS

We have all heard a lot about the "CHEAPNESS" of the "MAIL ORDER" cream separator, but not so much about that of the "JOBBING" cream separator, and most of us have lost sight of the fact that there naturally isn't much difference between them. THE SAME "CHEAP" CONSIDERATIONS NECESSARILY CONTROL IN EACH CASE.

The "MAIL ORDER" cream separator has got to be MADE "cheap"—because the "mail order" house has got to buy "cheap" in order to sell "cheap," and it may be depended upon to buy as cheap as it can.

The "JOBBING" cream separator—the one which the big implement concern buys and jobs to its dealers—has got to be MADE "cheap"—because the implement concern has got to buy "cheap" in order to re-sell, and it may naturally be depended upon to buy as cheap as it can.

DE LAVAL cream separators are not sold to "MAIL ORDER" concerns—because they cost more to MAKE than "mail order" cream separators cost to SELL. DE LAVAL cream separators are not sold to "JOBBING" houses—because the jobbers cannot buy them "CHEAP" enough and because there is no room for any "jobbing" profit in them.

The BUYER-FOR-USE of a cream separator, like the buyer of anything else, GETS WHAT HE PAYS FOR. If he wants "CHEAPNESS" in first cost he stands to get it in a "MAIL ORDER" or a "JOBBING" separator. If he wants QUALITY and FULL VALUE for his money he is absolutely certain of getting it in a DE LAVAL cream separator.

You pay your money and you take your choice.

DE LAVAL DAIRY SUPPLY CO.

108 So. Los Angeles St. LOS ANGELES
42 E. Madison Street CHICAGO
165-167 Broadway NEW YORK

General Offices: 101 DRUMM STREET, SAN FRANCISCO.

107 First Street PORTLAND, OREG.
1016 Western Ave. SEATTLE
Box 1052 VANCOUVER, B. C.

When writing advertisers, mention Cultivator.

California Short-Horn Sale

Get of the Noted Sires **King Edward** and **Straight Archer**
From the Herds of
Mrs. J. H. Glide and **Howard Cattle Co.**

40 Bulls

Sale to Be Held at
Chase's Pavilion
478 Valencia St.
San Francisco, California

20 Heifers

January 5th, 1909

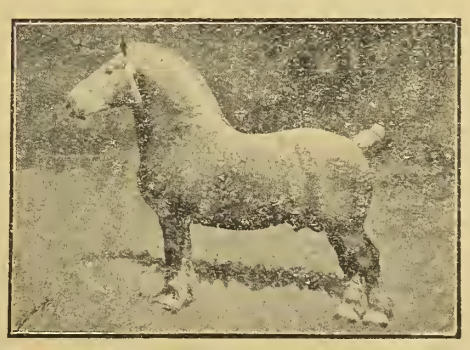
Write for Catalogue
Mrs. J. H. Glide
Sacramento, Cal.

Write for Catalogue
Howard Cattle Co.
641 Mission St., San Francisco

Fred H. Chase & Co.
Geo. P. Bellows
Auctioneers

The Lafayette Stock Farm

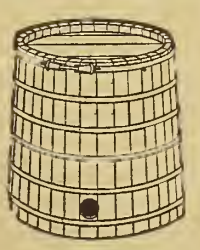
Lafayette, Indiana — *J. Crouch & Son, Props.*



Percheron, Belgian German Coach Stallions and Mares

Our last importation of Percheron, Belgian and German Coach stallions and mares arrived in our barns August 1st, among them the prize winners of France, Belgium and Germany, and we can show buyers over 200 head of high class stallions, which we will price as low as any reliable importer can, and give liberal guarantee & terms. If your locality needs a stallion, write us.

J. Crouch & Son
1309 J St. Sacramento, Cal.


Wine Tank

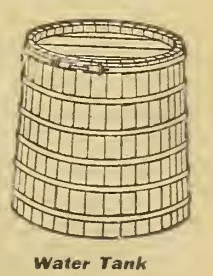
Tanks Tanks

WINDELER'S PLANING MILL AND COOPERAGE

GEO. WINDELER, Prop

Water Tanks, Wine Tanks made from carefully selected stock by careful and experienced workmen. "Tanks that are well made last a long time." It will pay you to get my prices before buying.

Geo. Windeler
144-154 Berry St. San Francisco, Cal.


Water Tank

When writing advertisers, mention Cultivator.

California Cultivator

ESTABLISHED 1889

Subscription Price One Dollar per year, payable in advance. Dates of expiration of subscription accounts appear each week on the address label. John Jones 7-08 means July 1, 1908. Notify us by mail if you desire to discontinue.

Thursday, December 24, 1908

Address All Communications to

CULTIVATOR PUBLISHING CO.
115½ No. Broadway, Los Angeles.
733 Merchants Ex. Bldg., San Francisco.

Copy for Change of advertisement must be in office on Saturday preceeding date of issue. New advertising copy should reach the office not later than Tuesday to insure insertion.

CULTIVATOR PUBLISHING COMPANY
H. A. PERKINS, EDITOR AND GEN. MGR.

C. B. MESSENGER - - - - Associate Editor
FRANK H. THOMAS - - Advertising Manager
H G. HUTCHINS - - Subscription Manager

EDITORIAL CONTRIBUTORS:

J. W. MILLS - - Deciduous and .Citrus
JOHN ISAAC - - - Horticuiture
J. B. NEFF - Walnut Culture and Irrigation.
Mrs. M. E. SHERMAN - Live Stock and Dairy
Q. A. LOBINGIER - - Vegetable Garden
RALPH E. SMITH - - Plant Pathology
S. A. PEASE - Plant Diseases and Injurious Insects
MRS. FRANK METCALF - - - Poultry

Entered at the Post Office at Los Angeles, California, as Second-class matter.

Contents

FRUITS AND FLOWERS OF SAN JOAQUIN, Cover.

EVAPORATION OF APPLES, 603.

CITRUS.—Persimmons; Florida Orange Conditions; Costly Lemons; Yellow Spotting of Citrus Leaves, 604, 605.

DECIDUOUS.—Crude Oil Emulsions for Winter Sprays; Green Manuring Crops, 606, 607.

VEGETABLES AND SMALL FRUITS.—Financial Conditions Facing Small Fruit Growers, 608.

ORNAMENTAL GARDEN.—Potting Plants; The Pepino, 609.

LIVE STOCK AND DAIRY.—Alfalfa; Anthrax History, 610, 611.

EDITORIAL.—Cold Weather; Frost Protection Fuel; God Bless Us All; National Live Stock Association; Walnut Dip Decision; Big Premiums for Live Stock; Butter Production of California; State Dairy Bureau; Phosphate Lands, 612.

AGRICULTURAL NOTES OF THE PACIFIC COAST. Northern, Central, Southern, the Coast, 613.

POULTRY.—Buckeyes; Broiler Raising; Twentieth Annual Show, 614, 615, 616.

GENERAL AGRICULTURE.—Fertilizer for Sugar Beets; Farm Implements, 617.

QUERIES.—Peanut Butter Sandwiches; Peanuts; Alkali; Nodules on Peas; Lady Bugs; Poinsettias; Ditch Manuring; Eucalypts, 618, 619.

HOUSEHOLD.—California's Yuletide; The House of Children; Christmas Dainties, 620, 621.

PRODUCE MARKETS.—Los Angeles Market; San Francisco Market; Citrus Markets, 622, 623.

COLD WEATHER.

Orange growers of California sat up and took notice during the last few nights of last week that the weather was decidedly chilly. Some who had provided themselves with smudge or heat-making fuel did considerable firing during two or three of the colder nights. The temperature ranged from in some cases possibly as low as 26 and from that up to 38 or 39, which we think was the official temperature at the Los Angeles Weather Station. Fortunately the ground was fairly well filled with moisture, the fruit is ripe enough, so it will take a very severe freeze to do any material injury. Other conditions were favorable to as slight a damage as possible with the temperature which ranged during the coldest nights. Some of the lower and colder sections will doubtless have some injured fruit, but this will be an extremely small proportion of the entire output of the State.

FROST PROTECTION FUEL.

When the chilly weather began last week there were continual requests in this office for information as to where briquettes for frost protection fuel might be secured. Unfortunately the office could give no information of value to such inquirers. A few years ago frost protection received more attention than it has during the past two or three years and a company was formed in Los Angeles for producing the small stoves and the fuel for burning in them. But 4 or 5 years of almost frostless winters have put people to sleep on the frost question and the last year or two there has been practically no demand for this fuel or the stove. The only possible alternative for any company engaged in such business was to die or at least to go out of their business. Now when the need comes, of course there is no method of meeting it.

This situation should impel those who are most vitally concerned to devise some method, either through some large co-operative company, or by inducing private capital to take the matter up, to provide this fuel for emergencies like that which occurred last week. Of course, every section of California is in a "frostless belt" when it comes to advertising literature, but when it comes to a magnificent crop of oranges worth $500 or $1000 an acre hanging on the trees on a cold night, it is very satisfactory to the orchard owner in many of our citrus sections to know that he has at hand means to compel our enemy Jack to stay over the fence.

GOD BLESS US ALL.

The nipping cold weather of the past few days gives a very real tinge to the memories of old times when Santa Claus was supposed to be about with his reindeer and sleigh. We presume the weather conditions which recall the old memories do not increase the Christmas spirit, especially of orange growers. But with it all it has been a very successful and satisfactory year. Some have done ill, some only the average, others have done well. We presume there never was a year when the same general results did not prevail.

Whatever may have been the results of the year's work individually, only good can come from encouraging to the limit the spirit of peace and good will which should prevail at this time. We trust that every reader of the Cultivator will have the utmost limit of happiness and good cheer at this season, and that the successes and mistakes of the past year will be stepping stones to greater successes next year. In the words of Dickens' Tiny Tim, "God bless us all, every one."

NATIONAL LIVE STOCK ASSOCIATION.

Preparations are now being made for a great convention of the members of the American National Live Stock Association which will be held in Los Angeles January 26-28. It is estimated that between 500 and 1000 delegates from all parts of the west will be in attendance. The officers of this association are: President, H. A. Jastro, Bakersfield; vice president, N. McKenzie, Trinidad, Colorado; secretary, T. W. Tomlinson, of Denver, Colorado. Messrs. Jastro and Tomlinson are now in Los Angeles making preparations for a great convention. In his call for the convention, President Jastro says: "Never before in the history of the live stock industry has the need for concerted action been more imperative. Many questions of great interest to stockmen will be considered by Congress and the Legislatures of the different States, and it is vitally important that all concerned in the prosperity of our industry should now forcibly express their views through this national organization."

WALNUT DIP DECISION.

We have seen no public announcement of the recent decision of the Court of Appeals of the case of the Anderson Barngrover Company vs. the Walnut Growers' Associations of Southern California, but we understand a decision has been reached and that it is adverse to the walnut growers. It is rumored that the growers will continue the fight, however, and they still have hopes of ultimately winning this suit. If they do not win, it will be the loss of many hundreds of thousands of dollars to that industry.

BIG PREMIUMS FOR LIVE STOCK.

The management of the Live Stock Department of the Alaska-Yukon Exposition announces an appropriation of $100,000 which has been made for premiums in that one department of the exposition. It is proposed to bring one of the finest collections of animals together ever shown on the coast and to that end this vast sum is to be used as the lodestone which it is hoped will bring to Seattle a string of stock on the 27th day of next September which will rival anything heretofore shown in the United States. The live stock exhibit will last until October 9. Classifications and rules together with a list may be had by addressing the exposition management at Seattle.

BUTTER PRODUCTION OF CALIFORNIA.

According to statements in the synopsis of the report of the State Dairy Bureau, the past year has shown the greatest increase in the production of dairy products of any year in its history. The production of butter in the state during the year ending September 30, 1907, was 44,599,211 pounds; while that for the year ending same date 1908 was 48,469,585 pounds. This production has come up from about 23,000,000 pounds, which was the output for the year 1898.

This increase is doubtless made possible by the rapid introduction of irrigated districts which has encouraged the more extensive production of alfalfa. The counties which have shown the most marked increase are Fresno, Kern, Kings, Merced, Sacramento, San Joaquin, Stanislaus, Tulare and Yolo. Fifteen years ago these counties purchased much of their butter, while today every one is a butter shipping county.

In the matter of prices that for butter has gone higher during the past two years than during the past fifteen years. The average wholesale price for fancy creamery butter on the San Francisco market last year was 30.10 while this year it is 27.8.

The Bureau estimates that the dairies of California turned out products for the year ending September 30, 1908, of a value of $25,224,151.

STATE DAIRY BUREAU.

We are favored by Secretary Saylor of the State Dairy Bureau with an advance synopsis of the Seventh Biennial Report. The members of the Bureau are J. A. Bliss, Alameda county, F. W. Andreasen, Humboldt county, and M. T. Freitas, of Marin county. William H. Saylor is the secretary and chemist in charge of the work. The report deals principally with work of the bureau especially in respect to its enforcement of dairy laws. It refers, however, to the fact that the state board has had employed to cover the entire state only three dairy inspectors. These three have been putting in less than half the time of the year, inspecting over twenty-one hundred dairies, creameries and cheese factories. The board has prosecuted during the year 84 cases, some of them against dairymen for maintaining unsanitary dairies.

The importance of the work of this board and the effect of enforcement of the dairy laws for the good of the industry would be such that the state legislature should give to it more financial support. Instead of three inspectors there should be many in all parts of the state prepared to enforce our dairy laws. There is nothing which so injures the dairy business and the consumption of dairy products as the fact that many of our dairies are so filthy that they are hot beds of bacterial growth. Thorough inspection and enforced cleanliness on the part of these careless ones would have a wonderfully beneficial effect on the entire industry.

PHOSPHATE LANDS.

Upon the recommendation of the National Conservation Commission in Washington, President Roosevelt has instructed the Secretary of the Interior to withdraw from entry public lands in Wyoming, Idaho and Utah which are believed to contain phosphate rock. Phosphoric acid is one of the two substances which must exist in the soil if it is to be productive, and it is considered that at the present rate of production the known available supply will be exhausted in fifty years. The action of the government in withdrawing this land is to prevent its export and consequent reduction of supply to American farmers. The production of 1907 was 2,265,000 tons of phosphate rock; of this amount there was exported 900,000 tons, which is about 40 per cent of the entire production. It is fortunate that this step has been taken as it is of vital interest to every one in the United States who has the welfare of our future agricultural inhabitants at heart.

Agricultural Notes of the Pacific Coast

Northern California

Red Bluffs recently shipped 25 carloads of sheep in one day.

The work of canaling the Yuba City slough is nearly completed.

The precipitation of the recent rain in Colusa county was .51 of an inch.

Farmers near Upper Mattole, Humboldt county, are complaining of too much rain.

Sutter county will have the largest sugar beet farm in the state, over 6000 acres in extent.

One of the finest hop ranches in Sonoma county has recently changed hands, passing to Raford Peterson.

Oroville expects a new pre-cooling plant to be established to enable more perfect shipping for long distance orders.

Coyotes are so fierce in Nevada City that a couple of them recently attacked a man who was compelled to take refuge in a barn.

A number of cattle are being shipped from Shasta county to San Francisco market. Anderson alone shipped 11 carloads recently in one week.

A co-operative movement is on foot among the raspberry and logan berry growers of Santa Rosa to secure more profitable sales of their fruits.

The farmers of Gridley have organized for mutual protection with especial reference to the marketing of fruit so as to secure more profit to the members.

The Sacramento Valley Sugar Company located at Hamilton in Glenn county has rented several hundred acres of land in District Number 70 in Sutter county.

The Alameda Sugar Company is increasing its capacity to handle beets during the coming year by installing three cars of machinery in addition to its former plant.

The creamery men of Humboldt county recently held a meeting at Ferndale. The purpose of the meeting was to bring dairymen and creamery men into closer relationship.

At a recent meeting of the Yolo County Horticultural Commission the organization was perfected by electing August Brink of Winters chairman, and Hayward Reed, secretary.

At a recent meeting of the Calaveras-Alpine Cattlemen's Club it was resolved to offer a reward of $500 for the arrest and conviction of any person caught stealing cattle from any member of the association.

Snow is so deep in Northern Siskiyou county, especially in the Salmon river country, that all wagon travel along the roads has been stopped. It is in order for Easterners to refer to Sunny California in connection with this.

At a recent meeting of the State Agricultural Society at Sacramento at which the directors discussed the premium list for the coming State Fair bids were opened for the Agricultural and Manufacturers' building on the fair grounds.

A Gridley farmer fattened his hogs this season for market by turning them loose in a 200 acre wine grape vineyard. He said that some of the hogs got a "protracted spree on account of some of the grapes fermenting after a heavy rain storm."

Central California

Lindsay shipped 615 cars of oranges up to the present time.

Sanger, Fresno county, has shipped about 75 cars of oranges.

Tulare City shipped last year 1553 cases of honey, averaging 120 pounds per case.

More rain has fallen over the San Joaquin valley than last year up to this date.

W. H. Volck has been reappointed Entomologist of Monterey and Santa Cruz counties.

An extensive planting of the spineless cactus is to be made by farmers about Lindsay.

It is proposed to make extensive plantings of asparagus on the rich land about Lodi.

A string of farmers' institutes covered almost the entire Fresno county last week.

Tulare Grange recently celebrated the forty second anniversary of the founding of the order.

The Southern Pacific demonstration train visited many parts of the San Joaquin valley last week.

Tulare claims the largest eucalyptus nursery in the world, with over two million trees ready for spring planting.

Tulare county is taking the record for the greatest planting of eucalyptus trees of any county in the state.

A Bee Keepers' Institute was held in Fresno last week. Ralph Benton of the College of Agriculture being in charge.

The Tulare County Fair recently held at Exeter netted to the management $1000 after paying all expenses.

Tulare county citrus growers claim that they will ship oranges to the value of a million and a half dollars this year.

The raisin packers of Fresno have proposed to the growers to rent them seeders that the growers may seed their own raisins.

Santa Clara Valley Pioneers Association discussed at length during a recent meeting the manner of handling the forest reserve of this state.

The marketing of raisins is still progressing very slowly, the trade seeming to wait to learn what the new combine of growers proposes to do.

The state hospital located at Agnew, Santa Clara county, has an extensive poultry plant with accommodations for over 1200 hens and brooder accommodations for 2000 chicks.

A new orange and lemon district is being developed, five miles northeast of Sanger, named Orange Cove. As conditions are favorable, this is expected to become a successful citrus colony.

The County Entomologist Association consisting of the entomologists of five counties, namely: Santa Clara, Santa Cruz, Monterey, San Benito and San Mateo, recently held a meeting in San Jose.

A new style of packing table grapes for car shipments is proposed by a fruit grower at Lodi. His plan is to pack in open crates instead of in baskets. The new plan gives access of air to all parts of the fruit.

Southern California

Imperial county has a new highway commission.

Escondido is producing some exceptionally fine lemons this year.

The Brawley people are now assured of the early installation of a skimming plant.

Brawley is looking forward to the early establishment of a milk-skimming station.

Owing to large quantities of feed in the Imperial valley great droves of cattle are being shipped in for the winter feeding.

A large number of pines and native trees are being planted in the Sierra Madre mountains, especially in the San Gabriel reserve.

Riverside has a date palm which is thirty-two years old, now bearing heavily; the present crop is estimated at 300 pounds.

Shipment of citrus fruit from Southern California has been much the lightest this season of any year heretofore up to this date.

The fifteen acre farm of asparagus near Brawley is planning to ship extensively to various coast points during the coming season.

As a rule, the shipment of oranges from most Southern California points has been of most excellent quality and generally fairly ripe.

Ventura county hopes to receive a total of nearly $3,000,000 for her output of beans this year, and nearly another million for sugar beets.

Cantaloupe men of the Imperial valley are still somewhat at sea as regards the situation of the next season's marketing of cantaloupes.

The recent farmers' institute at Beaumont was pronounced very successful and gave a new interest to horticultural work in that section.

This year proves that the California lemon stands a better chance in the general market of the Atlantic Coast cities than does the imported lemon.

State Milk Inspector Starr dropped on the restaurants of San Luis Obispo and several complaints were issued against them for serving milk under standard.

Another magnificent pre-cooling plant is now promised to be located at San Bernardino. It will be built by the Santa Fé Railroad Company and will cost a quarter of a million dollars.

Many urge that the orange growers continue their advertising campaign which was taken up last year in the state of Iowa. It was proved that the consumption was greatly increased by the advertising campaign.

The Santa Ana farmers have begun the planting of sugar beet seed. Contracts aggregating 6000 acres have been signed up. One hundred and thirty thousand pounds of seed have been shipped in and distributed by the Southern California Sugar Company.

The Riverside Press estimate of the coming year's citrus crop is 30,050 cars. The largest producer of oranges of any one section is Redlands with a 4350-car estimate. Riverside estimates quite a shortage over last year's output, or about 4225 cars of oranges with 1075 cars of lemons.

The Coast

Heavy shipments of live stock are being made from Grangeville, Idaho.

Nineteen thousand people attended the National Apple Show at Spokane in one day.

A Vancouver man has sold his entire production of his prune orchard at $105 per ton.

The Oregon State Dairymen's Association recently met in an annual meeting at Salem.

The Idaho State Dairymen Association will meet in annual session at Caldwell, Idaho, January 8-9.

First snow at Wenatchee, Washington, fell on December 8. It was declared to be a very open fall.

Red Butte Creamery Company has filed articles of incorporation, and will operate at Great Falls, Montana.

The sixteenth annual convention of the Northwest Fruit Growers' Association was held at Portland December 2.

Prune growers at Kendrick, Idaho, are holding their crop of prunes for better prices. About ten cars are in hand.

The fifteenth annual meeting of the Washington State Dairymen's Association was held at Chehalis last week.

The State Horticultural Convention of Washington was held at Spokane at the time of the recent apple show.

The fruit growers of Husum, Klickitat county, Washington, have recently organized in order to sell fruit to better advantage.

Seattle has a great shortage of turkeys. It is claimed that practically all the available stock was cleaned up by the Thanksgiving trade.

F. H. Newell of the Reclamation Service has recently been in the Hawaiian Islands with suggestions for reclamation work in those islands.

As a rule the farmers of the Northwest proclaimed their farm life conditions before the Roosevelt Country Life Commission to be almost ideal.

Oregon State Dairy Association is appealing to the legislature for more satisfactory pure food laws, especially with reference to the dairy products.

The University of Idaho is making special efforts to organize the farmers of that section of the State. There have been but two farmer organizations heretofore.

The biggest raid inspectors have ever made on imitation butter was recently made in Denver when 2000 pounds belonging to the Star Creamery was confiscated.

The recent National Apple Show at Spokane opened the eyes of a vast number of people to the importance of the apple industry of the northwest section of this country.

Northwest Grain Growers' Association of Winnipeg, Canada, has issued a circular giving an estimate of the amount of wheat in Manitoba, Saskatchewan and Alberta, an aggregate of 99,311,840 bushels.

An apple grower near Seattle wishing to rid his fruit of pests before sending to market, fumigated so thoroughly that he blistered all the apples so that they were rejected and ordered destroyed on reaching market.

Don't Forget Quality

MIDLAND Poultry Food

Is based on ***quality*** and it is quality in Poultry Food that produces eggs. ***Cheap filler*** and ***cheap grain*** will ***not*** make eggs. ***Midland Poultry Food*** contains only the ***choicest*** cereals and animal food the market affords. You ***can't*** afford to try and be successful and not get results. ***Midland Poultry Food*** will produce results. Try it and see. $1.95 per sack

PETALUMA Incubators and Brooders

Are still here, after others are gone. ***The Standard of the World Machine.*** Winners of ***more prizes*** awarded by ***World's Fair Judges*** than any other make.

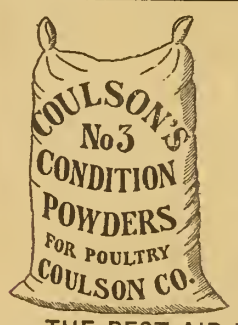
Remember, we make a hot water machine. One of the ***best hot water machines*** on the market.

Send for our Illustrated Catalogue.

Petaluma Incubator Company
Petaluma, California

Our General Agents for Incubators and Brooders and Midland Poultry Food:

Petaluma Incubator Co., Petaluma, Cal.
Aggeler & Musser Seed Co., 113-115 N. Main St., Los Angeles
Berrar & Robertson, San Jose, Cal.



Coulson's No. 3 Condition Powder

THE BEST AID IN GETTING THOSE HIGH-PRICED EGGS.
It acts as a tonic and digestive. Enables hens to lay more eggs during fall and winter.
Our FREE booklet, "THE RIGHT WAY," gives full particulars.
SOLD BY DEALERS EVERYWHERE.
Manufactured only by

Coulson Poultry & Stock Food Co., Petaluma, Cal.
Germain Seed Co., Distributing Agents, Los Angeles, Cal.

Poultry Supplies

To Be Successful:

Buy **Petaluma Incubator and Brooders**

Feed **Midland Poultry Food** Makes Hens Lay

Get Our Prices on Egyptian Corn, Swift's Beef Scraps, Bone Mills, Clover Cutters, and all Poultry Supplies. **Send for Our Large Illustrated Catalogue.**

Aggeler & Musser Seed Co.
113-115 North Main St. Los Angeles, California

Southern California Agents for Petaluma Incubators and Brooders and Midland Poultry Food

Stop That Guessing

The
Los Angeles Incubators

Are now equipped with a moisture guage that will accurately register the moisture; relieves the operator of all guess work and assures better hatches than ever.

Henry Albers Co., 534 So. Main Street Los Angeles

White Wyandottes

Eggs for hatching from these great egg machines. Prices $1.50 to $2.00 per 13. Orders booked now for delivery after Jan. 1st., 1909.
Wm. C. Parker, 111 Pacific Avenue, Santa Cruz, Cal.

Now is the time to hatch **BANTAMS**
Golden Sebright, Buff Cochin, and Light Brahma Eggs, $2 per 15. Prize winners.
M. E. Dillingham Box 67, San Gabriel, Cal.

Profit in the Poultry Yard

By Mrs. Frank Metcalf

We solicit short articles of a practical nature from the fancier and utility breeder, giving their experience with poultry. All inquiries pertaining to feed, management, disease and its prevention will be answered through these columns.

BUCKEYES.

THE Buckeye is not well known on the Coast as yet but in the East is attracting attention.

They were originated in Ohio by Mrs. Frank Metcalf, now writing for the Cultivator, and are now adapting themselves to California under Mrs. Metcalf's guidance, though a few of them were tried in the state before she moved here.

Regarding their history and description Mrs. Metcalf writes:

Brief Buckeye History.

I bred Buckeyes as Peacomb R. I. Reds until I saw the R. I. Red Standard was not what I required. I raised both Rose and Single Comb R. I. Reds, and was very successful with them, but found that the dark red birds preferred scored less than the reddish buff birds I disliked. Therefore I called upon Chas. McCalve and T. E. Orr, at that time President and Secretary of the American Poultry Association, to come to our home and advise about the Standard. They both agreed that if we would keep the birds dark red, we must allow for a bar of slate in undercolor, and that the distinctive Gam'y shape and Pea-comb warranted the claim to a breed characteristic of our own, but as the R. I. Red people objected to the use of the word red, we dropped that and had the breed admitted simply as Buckeyes, in Minneapolis, in 1905. I have never pretended that I evolved a show breed, yet in 1907 I showed 50 birds, scoring from 89 to 95 points, 40 of them running 90 and better. The judges who scored them, Eugene Sites and T. E. Orr, both mentioned their uniform appearance, in their speeches after the judging was over.

Description of Buckeyes.

Weight for cock, 9 pounds; cockerel, 8 pounds. Weight for hen, 6 pounds; pullet, 5 pounds.

The Buckeye cock is large, broad breasted, of upright carriage and very stately. In shape resembling Indian Games, but modified by fluffier plumage. He is strong, vigorous and very gallant. In color the richest dark velvety garnet red, with yellow legs and skin.

The new revised Standard demands that the Buckeye hen shall be dark red, with long, deep body which proclaims the great layer, and her eggs are brown or pink in color, and of large size.

Confusion sometimes results as to what a Pea-comb really is. The Pea-comb is a small, close-set comb, having three serrated rows, joined together at the base, the central row higher than the side rows. In short, the Pea-comb looks like three little combs grown together.

Utility Points.

For broilers they are unsurpassed, as they grow so rapidly and have so much breast meat at an early age, while the fine-grained deliciously flavored flesh encased in the tender yellow skin makes a toothsome carcass.

One point about the Buckeye hen has never been fully touched upon, and that is her kind disposition and patience as a sitter and mother.

As egg producers they are the equal of any.

Mrs. Metcalf With a Flock of Buckeyes.

CHICKEN CHAT.

Broiler Raising.

Would you kindly let me know through your paper if there is money in raising friers or broilers every month in the year, even when eggs are the highest? And if there is, are you supposed to sell both males and females? If the pullets are kept, and only the roosters are sold, won't it bring the pullets in to laying for only a short time, and then they will moult? I have always heard that chickens raised in certain months of the year, say September to December, will lay only a short time and then moult.

Please let me know what is best to do. I have a large ranch, abundance of shade, spring water, and well-drained soil for them. Even in the heat of the summer it never gets too warm at the springs, and the ground is always wet and cool. My object is to have young stock for market all the year around if profitable. Kindly write articles in your paper about pigeons. I know very little about them, and have some. Respectfully, Mrs. C. D. E.

Your conditions are as nearly ideal to make broiler-raising profitable as can be found, and a fair trial will convince you that there is profit in it if rightly managed.

The roofing with lasting life—

Genasco
Ready Roofing

Doesn't dry-out, crack, pulverize, rot, nor rust. Keeps its weather-resisting qualities longer than any other roofing, because it is made of Trinidad Lake Asphalt.

Any handy man can lay Genasco. Cement and nails in every roll. Mineral or smooth surface.
Ask your dealer for Genasco. Look for the trade mark. And write for free samples and Book 35

THE BARBER ASPHALT PAVING COMPANY

Largest producers of asphalt, and largest manufacturers of ready roofing in the world.
PHILADELPHIA
New York San Francisco Chicago

GENASCO — THE STANDARD OF EXCELLENCE — TRADE MARK

Harry McIntire
27th and D Sts.
San Diego, Cal.

Hen Pigeons $4.00 pair, mated, any color.
Runt-Homer Crosses Mated $1.50 pr
Cuckoo Cochin Bantams $3.50 per pair
Buff Cochins $5.00 to $8.00 pair
White Wyandottes $5.00 Trio and fine Cockerels $5.00 each. I have won first prizes at all California shows.

Hatching Eggs

FROM

Quality S. C. White Leghorns, Mammoth Imperial Pekin Ducks, Golden Sebright Bantams, Black Tailed Japanese Bantams. All prize winners this season. Write for prices.

Rancho Los Encinas
R. F. D. 76, Glen Ellen, Cal.

Buff Orpingtons

Sullivan's COMMONWEALTH STRAIN is bred for egg production, has won the cream of the prizes at leading shows, from Seattle to the World's Fair. We did not show at the State Fair this year but have better stock than ever, and want you to send for our Prize Record and watch the later shows that we win.

Mr. & Mrs. W. S. Sullivan,
AGNEW, SANTA CLARA CO., CAL.

GUTTING'S SUPERIOR WHITE ROCKS

Won 9 firsts out of a possible 10 and all specials and many other prizes at the great L. A. C. P. A. and Pomona Shows last winter. Place your order now for exhibition birds for the winter shows. Eggs now $3 per setting. Send for circular.

E. GUTTING 134 W. SLAUSON Los Angeles, Cal.

F. E. Baldwin's
WHITE LEGHORNS

THEY LAY
THEY PAY
At Every Pop
THEY SHOW
THEY GO
To the Very Top

Cup for Best Display, Petaluma, '07. Trophy for best display, San Jose, '08. Send for Prices and Free Booklet.

46 Washington Ave. - San Jose, Cal.

COULSON'S POULTRY FOODS
MADE IN PETALUMA
GUARANTEED
SOLD EVERYWHERE

When writing advertisers, mention Cultivator.

POULTRY SHOWS.

San Diego, Dec. 29-Jan. 2—Annual exhibit, San Diego Fanciers' Club, J. F. Goforth, Secretary, San Diego.

Los Angeles, Dec. 30-Jan. 6—Poultry Breeders' Association of Southern California. Dr. C. S. Salisbury, Secretary, Monrovia.

Los Angeles, Jan. 14-18, 1909—The Southwestern Pigeon and Bantam Club at the Made in California Exposition. Mr. Moore of San Francisco and Mr. Frank H. Thomas of Los Angeles will judge.

Los Angeles, Jan. 18-23, 1909—Los Angeles County Poultry Ass'n. Show at Made in California Exposition Building. Manager John D. Mercer, Judges S. Tyler and Frank H. Thomas.

The best way is to sell all cockerels and the poorest of the pullets from each lot, and separate the remainder of the pullets, by fencing in a large piece of ground for their use, thus being able to bring them more slowly to maturity so that when they begin to lay, they will be in a condition and of an age to continue. If let run with the males, they will mate and lay too young, which will cause them to lay one clutch of eggs, then stop for months, perhaps, whether they really moult or not. I don't think it is so much in the month in which they are hatched as in the management after three months of age, that causes this premature laying, and subsequent moulting.

In separating the pullets, be sure and save all of the egg type. Now, it is not a question of fine feathers you want to bear in mind, but you do want to fix the egg-type hen in mind very firmly, and one of the Potter or Hogan books are not to be sneezed at when it comes to this. As you may not feel like investing in one of these, I will try to tell you how to select the egg type without really "giving away" any of the secrets divulged in those books. First, I will give you the feature prized by a wise old farmer away back East, who never thought of "patenting" his idea, and putting it on the market in book form, but which may be quite as valuable, and it is this: For a good layer, select the hen that loks at you with both eyes. This prominence of the eyes and the way they are set in the head will be noticeable after you become accustomed to it, and you will see that those hens have small, neat heads with eyes set well forward, and if you continue the examination, you will see that such hens are bright and sprightly in movement, and usually of the following shape, which is the proper egg type. Long keelbone and long backbone, giving an oblong, not a round-shaped hen. (The keelbone is the bone running from the point of the breastbone back.) Then notice whether the legs are set wide apart, and the wider they are apart the better layer you have.

Now, about setting eggs at 50 cents a dozen for fryers, I wouldn't care to, and you will need some time for rest, so would advise selling the eggs when so high, and aim to produce as many of them as possible by hatching all the time they are low in price.

Pullets of the larger breeds hatched in February and March will begin to lay in August and September, and if they show signs of moulting after lay-

Get Your Share
OF THE
High Priced Eggs
BY FEEDING
Coulson's Egg Food

IT TURNS FAILURE INTO SUCCESS, by enabling you to secure eggs in the fall and winter while prices are high.

Improvements have been effected in the composition of the **EGG FOOD** during the past year so that it is now richer in the various nutrients required by the laying hen, and is a better feed than ever before. Proof of this is had in

Actual Results

By Lewis Herbert of Penn Grove, (near Petaluma, Cal.). Began feeding 1900 hens **COULSON'S IMPROVED MASH EGG FOOD** April. Profits for each month over cost of feed:

May	$125.00
June	125.00
July	200.00
August	240.00
September	170.00

October 15th was clearing over $6.00 a day. Feeds 1¼ sacks **IMPROVED MASH** and 1¾ sacks of wheat a day.

COULSON'S BALANCED RATION POULTRY FOODS ARE GUARANTEED to contain nothing but wholesome ingredients. **OUR GUARANTY IS BACKED BY A $500.00 BOND** deposited with the Petaluma National Bank.

We have agents selling our Poultry Foods in nearly every town in California. If you can not obtain what you want from your dealer, write us and we will tell you where to get it.

Manufactured only by

Coulson Poultry and Stock Food Company *Petaluma, California*

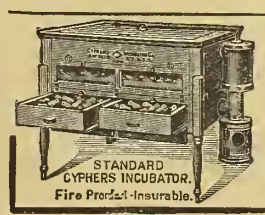
GERMAIN SEED CO., Distributing Agents, Los Angeles, Cal.

West Coast Seed Co.

Don't plant poor seeds—get the best.
Send for free catalogue and price list.
Also of the best

POULTRY SUPPLIES and INCUBATORS

115 W. 7th Street, Los Angeles



INSURABLE INCUBATORS

Do Not Risk Fire Losses on your Home or other Buildings by using an incubator you cannot insure. The Fire Insurance Companies' New Rules provide that **every incubator must bear their insurance label** or insurance moneys cannot be collected. Do not take any risks! STANDARD CYPHERS INCUBATORS—THE WORLD'S BEST HATCHERS—ARE INSURABLE. They bear the official label of the National Board of Fire Underwriters. Write today for our **Free** 212-page illustrated book which tells you all about it. **Address nearest branch.**

CYPHERS INCUBATOR COMPANY, Buffalo, N. Y.
Chicago, Ill.; Boston, Mass.; New York, N. Y.; Kansas City, Mo.; Oakland, Cal.

Ranch Mirasol
EGGS FOR HATCHING—WHITE LEGHORNS—MITCHELL STRAIN
Large birds, heavy layers, bred for highest utility only. Order book now open for season 1909
Carl C. Curtis, Owner Cor. Lincoln Ave. and Ventura St., Pasadena, Cal.
North Fair Oaks Altadena Cars

WHY?

Do All Prosperous Poultrymen Use
Jubilee Incubators and Brooders
Our Catalogue A Will Tell You. It Is Free.
Jubilee Incubator Company ***Sunnyvale, Cal.***

20th Annual Show

Los Angeles County Poultry Association

January 18 to 23, 1909

Entries Close January 15, 1909

Show will be held in the Made in Southern California Exposition, 314-320 South Main Street, in the center of the business section of Los Angeles.

Cash Premiums Cups and Ribbons

T AND T

Best Judges Procurable

Ten Cents Admits to All Attractions

Poultry Show
Home Products Exhibition
Exposition Theatre

All under one roof in a large, well lighted hall, 45,000 feet square. These attractions assure the largest crowds that have ever visited a poultry show west of the Mississippi. Visitors mean buyers. Bring the whole family and enjoy a great day. For Entry Blanks, Premium List, etc., address

John D. Mercer,
104 West First Street, Los Angeles

Trap Nested White Leghorns

I trap nest every bird one year before I put them in my breeding yards. and no bird that has not made a record of 13 dozen or better per year as pullet is used. I cannot afford to breed neither can I afford to sell eggs from a hen that has not made this record as a pullet. I mate 15 hens to a well matured cockerel or yearling cock bird. My breeders have roomy yards, thus assuring strong fertility. A few choice cockerels for sale.

Eggs $1.50 per 15; $7.50 per 100; $60 per 1000.

S. E. Gregg East Adams St. Riverside, Cal.

White Wyandottes

My San Jose Winnings: 1st, 2nd and 3rd Cock; 1st Cockerel; 1st, 2nd and 3rd Hen; 1st and 2nd Pullet. The above winnings were made out of ten entries.

Box 60, R. No. 1 Mrs. C. D. Hubbard San Fernando, Cal.

WOOD PIPE

Made from California Redwood or Selected Washington Douglas Yellow Fir

National Wood Pipe Co.

Machine Banded Stave Pipe Continuous Stave Pipe

SAN FRANCISCO OFFICE—318 Market St.
NORTHERN OFFICE—Olympia, Wash.
LOS ANGELES OFFICE—404 Equitable Bank Bldg.
SALT LAKE CITY OFFICE—Dooly Block.
Prices, specifications, hydraulic data and general information furnished upon request.

PLUMBING

Plumbing Materials

WATER SEWER PIPE

ALL PLUMBING REPAIRS

We contract to furnish all the materials and do the work or furnish the materials only.

GET OUR PRICES

JAMES W. HELLMAN

Hardware, Stoves, Etc.

157-161 NORTH SPRING STREET

LOS ANGELES, CAL.

6% Interest Paid -

ASSETS $2,002,111.

No Admission or Withdrawal Fee, Only 30 Days Withdrawal Notice.

Send For Booklet and Statement

STATE MUTUAL BUILDING & LOAN ASS'N.

223 S. Spring St. Los Angeles Cal.

Excelsior Egg Food

Mr. W. W. Howard, the White Leghorn expert, is feeding Excelsior Egg Food exclusively. Mr. Howard's flock is noted as an egg producing strain. If you are not getting satisfactory results, try Excelsior Egg Food.

Excelsior Scratch Food

Is just what you have been looking for. Give it a trial and you will never be without it.

EXCELSIOR

EXCELSIOR

None Others So Good

No others "just the same." Insist on **Excelsior** or write to us direct. Mention Cultivator.

Excelsior Cereal Milling Co.

242 Central Ave.
Los Angeles, Cal.

ing a week or two, market them. By learning the position of the "laybones," which the Hogan and Potter systems teach, you can select the ones which have laid their clutch out, from those which are still laying, and make no mistakes.

Leghorns and the smaller breeds hatched in April and May are supposed to make the best winter layers. Articles about pigeons will follow by and by, and meantime, will say that it is supposed pigeons mated for the season remain true even when allowed their freedom afterward. They are said to be like turkeys, one mating fertilizing the whole season's eggs.—Mrs. Frank Metcalf.

TWENTIETH ANNUAL SHOW.

The twentieth annual show of the Los Angeles County Poultry Association will be held January 18 to 23 in the exposition building, 320 South Main street.

This show will be unique in many respects and, owing to the many attractions offered in connection with the show, all under one roof and at the small admission of 10 cents to all, it bids fair to attract the largest attendance ever seen at a western poultry show. This should mean sales and good advertising to the exhibitor and general satisfaction to the visitor. Cash premiums will be awarded, also cups, ribbons and special prizes, some of which will be quite valuable and worth special effort on the part of the exhibitor to win. All exhibitors will be given a season ticket, which admits to many attractions each of which is worth much more than the higher prices usually paid for poor entertainment.

It is regretted that space large enough to accommodate all entries could not be secured, but as it is, the association claims the privilege of refusing all entries after space is filled at the rate of one bird to a coop. What is wanted is a large number of exhibitors rather than a large number of birds and few exhibitors. Entries should be made early. Entry blanks are now ready, but the premium list cannot be published before January 1 to 7, at which time it will be mailed to every one interested whose address can be obtained.

HOW TO DO IT.

Mrs. Basley's new book "What to Do and How to Do It; or 1001 Questions and Answers," is one of the most complete manuals for guiding poultry raisers, whether beginners, or old stagers, that I have ever read. It takes a woman to get at the little things which make Poultry keeping successful, and she has done well in giving us this book, and every one who keeps even one hen should have a copy. The price is $1, and will save many times its cost every year, if used as a guide. Copies may be had through the Cultivator. See "Shop Talk" on editorial page.

Corn may safely be largely used in rations for laying hens, but its use requires unusual care not to overfeed for best results, and it must be supplemented by a liberal proportion of animal food. With such care and so supplemented, the use chiefly of corn, whole or cracked, and corn meal rather than much wheat or corn by-products is attended with the following advantages: Lower food cost. both per day and per egg; rather more eggs; higher average weight of fowls, and better market quality when dressed, and an earlier and better molt.

Animal substances are much more valuable as sources of protein in feeding fowls than vegetable substances, even though the latter contain equal percentages of that nutrient. Concentrated vegetable foods, such as soy bean meal, linseed meal, glutten meals etc., should not be used to replace all or even a very large part of animal foods, such as meat or animal meals, beef scraps, cut bone and meat, etc.

It is not so much in the breed as it is in the breeder if good layers are obtained. Buy those fowls which have been bred to lay. Hatch your chickens early, as they will be well matured by fall. Then feed them properly, provide them with good quarters and they will lay eggs in the winter when prices are highest.

It is not best to use largely grains or meals carrying hard, tough fiber in large proportion. Under otherwise similar conditions the less such fiber in the ration, the better will be the egg product. Oats, barley, buckwheat and by-products containing the husks of these grains should be sparingly used.

General Agriculture

FERTILIZER FOR SUGAR BEETS.

THE purpose in the growth of sugar beets is to obtain the largest total yield of sugar per acre, and inasmuch as the sugar content of the beet as well as its right growth and development, is very largely influenced by the character of the fertilization, this matter becomes of very considerable importance in view of the promising development of the sugar beet industry in this country. In Germany and England, where sugar beets have been grown extensively for several years, the question of fertilizer for that crop has been carefully and systematically studied and much of the information we have has been obtained from across the ocean. We have climatic and soil conditions in California which differ materially from those of Germany, but there are certain fundamental principles in the growing of sugar beets that hold good in both countries. The three elements of plant food required to produce a profitable crop are, nitrogen, phosphoric acid and potash. These fertilizers constituents actually removed by a crop of 10 tons of topped sugar beets per acre as follows:

Nitrogen	44 pounds
Phosphoric acid	20 pounds
Potash	96 pounds

Dr. H. W. Wiley, in treating on this matter in a report to the U. S. Government, says: "As to the relation which the quantity of material returned to the soil should bear to the quantity abstracted by the beet, it may be said in general that it is desirable to return as much nitrogen, from one and a quarter to one and a half times as much potash, and two and a half times as much phosphoric acid, as have been removed by the roots. Greater additions of potash and phosphoric acid have no disadvantageous effect upon the crop."

As stated in the beginning, the object of the growth is to secure not primarily beets, but sugar, and since the sugar formation is not perfected until the absorption of the necessary food from the soil has been in a large part completed, any fertilization, promoting a too rapid, or a too long continued growth, has a tendency to reduce the percentage of sugar; and inasmuch as the maturation takes place largely in the months of the early fall, the growth must be forced early in the season. It is essential that a large and rapid leaf growth is made early in order that the food from the air may be acquired. At this stage of the growth the crop requires large amounts of phosphoric acid, and in order that the crop may obtain the phosphoric acid at this period, it must be soluble and immediately available, hence the large portion of this element should be derived from superphosphates.

Since an application which encourages a steady and continuous growth, rather than an early and rapid one, while producing a large yield, causes a reduction in the sugar content of the beet, the early nitrogen fertilization should consist of the quickly available forms, nitrate or ammonia.

Potash is a very important element, since it gives valuable assistance to the plants' sugar concerting power. Potash in the form of sulphate should be preferably used.

A fertilizer that could no doubt be used to good advantage in California, would analyze:

Nitrogen	4 per cent
Available Phosphoric acid	8 per cent
Actual Potash	9 per cent

This could be used at the rate of from 500 to 800 lbs. per acre, two-thirds to be applied some time before planting and thoroughly mixed with the soil, the remainder just before the first cultivation.

If it is desirable to use the materials unmixed, 50 lbs. nitrate of soda, 400 to 500 lbs. superphosphate and from 80 to 100 lbs. high grade sulphate of potash may be applied easily. Another 50 lbs. of nitrate of soda should be applied as soon as the plants have come up.

Another point to observe in growing beets for sugar and it also has an immediate bearing upon fertilization, is the character of the previous cultivation. Soils should be deeply and well cultivated, since with a shallow and poorly prepared soil, plants would have less opportunity to penetrate deeply, and thus too great a growth above the surface of the ground would be encouraged, with a consequent lowering of both yield and sugar content.—D. I. Duncan.

FARM IMPLEMENTS.

The farm home of today is often within earshot of the clang of trolley cars and is generally supplied with the farm telephone. The isolation which in former years characterized farm life has gone and as a general thing it will likely never be known again. Nearer and nearer the farmer is being drawn to his city brother and more and more modern is he becoming.

Another thing: Farmers are by degrees coming closer to each other. Organization has done much toward this end. A certain brotherhood and friend ship seems to be present among farmers much stronger than such senti ments are found in city folks.

The barnyard of today is not the dumping ground that it was years ago. Machinery is expensive and men take better care of it. Manure has been proved to contain dollars and cents and every atom possible is saved. Hence the absence of much rubbish.

Science has told the farmer there is practically no limit to his productive ability and he has accepted the dictum of science. With the progress of agriculture has come the progress of the farmer himself, and what he gives to the world of his bounty he receives again in many ways from the world. This is typified in the modern inventions which add to the enjoyments and pleasures of country life, and the automobile, telephone, newspaper and railroad have done it and are doing it. What race of people take things more philosophically than the farmer? If crops are bad we seldom hear of the farmer running off and blowing his brains out. He sits down on the fence and thinks it out very carefully, and nine times out of ten profits by experience and sets to work to insure a bumper crop the next year if possible. With the end of the scrub beast will come the glory and independence of the dairyman.—Journal of Agriculture.

Do not work the soil deeply about plants that root close to the surface; merely break the crust with the claw rake, or with the fingers.

Why Drive to Market Yourself

when you can't afford to leave your work on the farm? With a rural telephone you can talk to town at any time, making it possible for a boy to go and attend to the details leaving your time free for other work.

The telephone also enables you to take advantage of fluctuations in the market and sell your products at best prices. But good telephone service depends first upon the quality of the apparatus installed and without good transmission qualities a telephone system is worthless.

Western Electric Rural Telephones

have highest efficiency and reliability with lowest maintenance cost. Our apparatus has high transmission qualities over long as well as short lines and is used by the leading telephone companies of this country.

We have brought the rural telephone within the reach of every farmer, and with our Free Bulletins before him a boy can install and operate the system. Our telephones are guaranteed.

Cut out this advertisement, write your name and address on the margin and mail it to-day so that the Free Bulletins, which describe the entire plan in detail, may be sent you immediately.

WESTERN ELECTRIC COMPANY

Eastern	Central		Western	Pacific
New York	Chicago	Manufacturers and Suppliers of all Apparatus and Equipment used in the Construction, Operation and Maintenance of Telephone Plants.	Saint Louis	San Francisco
Philadelphia	Indianapolis		Kansas City	Los Angeles
Boston	Cincinnati		Denver	Seattle
Pittsburg	Minneapolis		Dallas	Salt Lake City
Atlanta			Omaha	

71 Northern Electric and Manufacturing Co., Ltd., Montreal and Winnipeg

Address Our Nearest House

Malthoid Roofing

R. P. Grant, a baker of Visalia, Cal., U. S. A., writes: "During the time I have used Malthoid Roofing, my bakery has been damaged by fire on four occasions, which was communicated from the outside. In none did the fire reach the interior through the roofing, although subjected to terrific heat. Through Malthoid's efficiency as a fire protector, I have saved many thousands of dollars."

The Paraffine Paint Co. San Francisco California

E. G. Judah, General Representative, Security Bldg, Los Angeles

Do Irrigation Work---Quicker and Easier

For Leveling Fields—For Cutting and Clearing Laterals

The photo is from an actual field-scene in New Mexico, where a 20th Century Grader is leveling seed-beds on the great truck-farm of Herman Blueher. He says: "Your 20th Century Grader has no equal for land-leveling, seed-bed making, ditching and for all kinds of irrigation work. I have reduced my force one-third since buying this machine." The

20th Century Grader

weighs only 600 lbs—light and handy—and is easily handled by one man and two horses. It is all steel and malleable iron. Price very reasonable. It pays for itself in one season. If your dealer hasn't it ask for name of nearest agent. Write now for new free booklet with large cuts showing every part.

Baker Manufacturing Co.

281 Dearborn St. Chicago, Ill.

Write for Catalogue

Madary's Supply House

Is the Largest West of the Rocky Mountains

For Beekeepers

All kinds of bee supplies, orange shook, packing boxes, berry crates, grape baskets, etc. The best goods and the lowest prices. Personal attention to correspondence and prompt attention to orders.

Warehouse and Salesroom, 733-9 Aliso Street

Phones—Sunset, Boyle 168; Home 1125

C. H. Clayton, Agent Los Angeles, Cal.

Owners of Live Stock in California
Should Insure in Their Own Association,

The California Mutual Live Stock Insurance Association

Because

It is the only institution of the kind organized under the laws of California with the home office in this State.

We insure live stock against death from disease, fire, lightning, tornado, cyclones and every casualty; also through accident which may necessitate the death of any animal.

Losses are paid promptly without discount and without unnecessary delay.

We have a guaranty deposit under the control of the State Treasurer for the protection of our members and policy holders.

There is $100 of values lost to farmers by death of stock, by disease and accident, where $1 is lost by fire.

We have no dividends or profits paid to idle office holders.

The business of the Association is conducted as economically as is consistent with good management, and the earnings are divided among the policy holders.

This is an age of Mutual Insurance, and it is true the cheapest and strongest companies in the United States to-day are composed of and managed by the policy holders, who are farmers and stockmen, as has been demonstrated in the East.

The directors and officers are elected annually by the policy holders.

WHY PAY LARGE PREMIUMS FOR PROFIT TO EASTERN COMPANIES WHEN YOU CAN CO-OPERATE WITH YOUR FELLOW FARMER AND STOCKMAN AND SECURE YOUR INSURANCE AT COST?

A Few of Our Many Losses Paid Recently:

Great Eastern Tran. Co.	Los Angeles, Cal.	$110.00
E. R. Kellam	Los Angeles, Cal.	85.00
Diamond Coal Co.	Los Angeles, Cal.	70.00
J. N. Osterhoff	Los Angeles, Cal.	200.00
Pioneer Truck Co.	Los Angeles, Cal.	300.00
The Connell Co.	Los Angeles, Cal.	187.50
J. D. Smith	Los Angeles, Cal.	85.00
Chas. W. Herder	Redlands, Cal.	50.00
Garden City Transfer Co.	Los Angeles, Cal.	100.00
Long Beach Milling Co.	Long Beach	130.00
Chas. H. Eager	Los Angeles, Cal.	135.00
Belle Vernon Farms Co.	Los Angeles, Cal.	270.00
Alpine Dairy Co.	Los Angeles, Cal.	220.00
H. A. Bingham Cre'ry Co.	Los Angeles, Cal.	40.00
Glen Holly Dairy Co.	Los Angeles, Cal.	60.00
J. A. Tisdale	Mentone, Cal.	150.00
S. M. Hill	Santa Ana, Cal.	100.00
Chas. E. Dryden	Los Angeles, Cal.	125.00
Wm. Wilson	San Diego, Cal.	200.00
Fred Larder	Los Gatos, Cal.	350.00
Llewellyn Iron Works	Los Angeles, Cal.	200.00
Eagle Liv. & Car. Co.	Los Angeles, Cal.	100.00
Mrs. Helene Hazell	Arlington, Cal.	100.00
Dolph Barnicott	Newcastle, Cal.	150.00
E. D. Morrison	Modesta, Cal.	100.00
Frank S. Herr	Pasadena, Cal.	300.00
John Compasso	Napa, Cal.	100.00
J. A. Glenn	Mojave, Cal.	71.40
Jesus Saenz	Palms, Cal.	30.00
A. W. Bannister	Bakersfield, Cal.	50.00
P. W. Brooks	Holtville, Cal.	30.00
Frank S. Seiler	Chico, Cal.	37.50
Johnson & Greening	Fresno, Cal.	150.00
J. M. Ahrendes	Stockton, Cal.	30.00
M. T. Machado	Duttons Land'g, Cal.	75.00
H. E. Kinkade	Newman, Cal.	30.00
E. Pendleton	Los Angeles, Cal.	100.00
Carl Nielsen	Salinas, Cal.	150.00
Joe R. Fernandez	Turlock, Cal.	30.00
Peter Mathiesen	Los Banos, Cal.	37.50
Azvedo Bros.	Duttons Land'g, Cal.	50.00
Baclarini & Yolo	Duttons Land'g, Cal.	75.00
M. T. Machado	Duttons Land'g, Cal.	250.00

A Few of the Many Testimonials We Are Receiving Daily:

Fresno, Calif., August, 29, 1908.

California Mutual Live Stock Ins. Ass'n.,
Los Angeles, California.

Gentlemen:—

We are in receipt of your check for $150, indemnity for the loss of one horse.

We had upon investigation found that your application and by-laws were not complicated, were easy to understand and did not contain so many technicalities as some companies we had investigated that are doing business from foreign states. We also found that this was the only company organized under the State laws of California that was writing live stock insurance in this State. We therefore insured our stock and would not under any consideration do without insurance in your company.

We are more than pleased with the promptness with which payment was made for this loss.

Yours respectfully,
JOHNSON & GREENING.

Los Gatos, August 6th, 1908.

To Whom It May Concern:

This is to certify that I sustained a loss in the California Mutual Live Stock Insurance Association, of which I am a member, to the amount of $350, by the death of two horses. Thanks to the promptness of the Association I have this day received payment in full, through their State agent, Mr. F. H. Hilliker, and cheerfully recommend the Association to all.

I consider it safe, prompt and reliable and an association that all farmers and stock men should go into, as it furnishes absolute protection at cost.

Very respectfully,
FRED LARDER.

Cal. Mutual Live Stock Ins. Ass'n., Newcastle, August 20th. 1908.
Los Angeles, Cal.

Gentlemen:—

Your General Agents, Messrs. Allen & Hunter called on me to-day and handed me your check for $150.00, payment in full for the loss of one of my horses. I certainly appreciate the promptness with which you have met this claim, and I consider it a very good plan to insure our stock against loss by death the same as other property.

I will recommend your Company to my friends.

Wishing you success, Yours resp'y,
RALPH BARNICOTT.

References:

National Bank of California, Los Angeles, Calif.
Security Savings Bank, Los Angeles, California.
Bank of Germany. Oakland, California.
Or any reliable bank in the State.

M. L. Wright, Pres. J. A. Wright, Secy.

Home Office: Delta Building, Los Angeles, Cal.
Branch Office: 307 Oakland Bank of Savings Building, Oakland, Cal. Phone Oakland 3990

Queries and Replies

Questions to be answered in this department should be received at this office one week before reply is expected. Write plainly on one side of the paper and sign full name and address. Uusigned communications receive no attention.

J. W. P.

If J. W. P. of Yuba City, and others will write, giving name, his queries will be answered. We do not answer queries which are unsigned. We will not use full name in paper when it is desired to omit.

Peanut Butter Sandwiches.

F. K. H., Pasadena, will find the most delicious peanut butter sandwiches are very simply prepared. Just spread fresh butter on the bread and sprinkle lightly with fresh roasted peanuts, either crushed or chopped finely. If care is taken to have both the butter and peanuts strictly fresh you will never find the rancid taste so often found in prepared peanut butter.—Mrs. H. J. P.

Peanuts.

Will peanuts do well in orchard on sandy soil? Will they be profitable? How shall I cultivate and harvest?—J. F. W., Hanford.

You do not say how large the trees are nor how close together, but if they are at bearing age we do not believe it would be advisable to plant peanuts between the trees. If the trees are just planted it would be possible a few rows might be planted for the first two or three years. But even then care must be exercised to return the fertility which has been removed by the peanut crop. As planting time would not come until several months later than this, we will have information regarding planting and varieties in due season.

Alkali.

What shall I do with alkali land to make it fertile? I have used gypsum and am thinking of applying horse manure. Is it advisable to use this after gypsum? It is a very heavy soil, and will grow alfalfa without irrigation.—A. R., Anaheim.

You do not say what kind of alkali it is, but if it is black alkali your application of gypsum will be beneficial. It is probable the horse manure will be of little value in counteracting the alkali, but as you say it is heavy land it can only benefit by being applied, and there will be only advantage in applying after gypsum. As you say it now grows alfalfa without irrigation, it is probable the per cent. of alkali is not very great. Under draining is the best method of permanently benefiting your land.

Nodules on Peas.

Are Canadian field peas nitrogenous plants? If so, at what age should the root nodules begin to form? I have some planted in October, with over 12 inches growth and no nodules have formed yet.—M. A., Reedley.

The Canadian pea is amongst the best of our nitrogen gatherers. The nodules should have formed before this, and probably would have done so had your seed been treated with soil from a field where peas had been successfully grown before, or with the material which seedmen may supply you with now for inoculation. It is probable that another year this same soil will be in better condition as to these bacteria without further treatment, but it will make your next year's crop doubly sure if you will treat the seed or scatter soil from an old field. But may we ask you if you are sure there are no nodules on the roots? At first they are very tender, and in pulling the plant from the ordinary soil you are more liable to strip all the nodules off than you are to leave them on. If you will dig down beside the plant and then carefully wash the roots out with water under pressure, we are not sure but you will find a fair supply of the nodules. If you do not, it will be proof that your soil is very deficient in this beneficial bacterial life, and to put it in the best condition continual green manuring should be followed.

Lady Bugs.

Where can I procure the lady bugs to put in my orange grove? Are they a remedy for the cottony-cushion scale? What is a good commercial fertilizer for orange trees in this locality? My grove is on the plains near Fresno on a heavy loam, and part of it on very heavy adobe. Is stable manure superior to commercial fertilizer? Is it too late to sow burr clover or vetch?—B. T., Fresno.

The lady bugs, we assume you mean the Vedalia cardinalis from your second question, may be procured by writing State Horticultural Commissioner Jeffrey, Sacramento. It is possible Mr. Jeffrey will want you to send him a few branches of the tree which is infested with the white scale that he may use it for pasture for the young which are constantly being bred in the insectary. That will be the only expense connected with securing the bugs. From your description of your land we imagine stable manure is far superior to commercial fertilizer; that is, you speak of the land as being either very heavy loam or adobe. Such land needs plenty of humus to put it in workable condition. The objection to stable manure is that it is so expensive to handle and hard to secure. The cheapest thing for you on such land would be green manuring. It is now rather late to sow it, but at the same time it will probably give you enough return to cover the cost, and surely will if you have water so as to irrigate and let it stay on the ground as late as the last of March or first of April. As a rule such heavy lands are not so much in need of fertility as they are in need of being put in better condition mechanically by the addition of humus.

Poinsettias.

I sent several poinsettia plants east direct from the nursery. They arrived in good condition and grew finely for two or three weeks when the leaves turned yellow and fell off. What was the cause? Will they come up all right and bloom this year? What should be done for them? I wish you would publish how to care for poinsettias, when and how to prune them, also how best to water them.—E. B., Los Angeles.

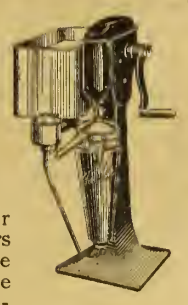
Your correspondent does not say at what time the poinsettias were sent east, nor whether they were from pots or open ground, nor whether they were planted in open ground there or in pots and kept indoors. So that it is difficult for me to say just what the trouble was. I judge the plants were chilled and thus dropped their leaves.

The poinsettia was named in honor of Joel R. Poinsette, American Minister to Mexico, who discovered the plant in Mexico in 1828. It is therefore a tropical plant, and the tropics are evergreen; but in this semi-tropical climate it will drop its foliage even in our most sheltered locations. However, in all locations that are free from severe frosts it can be grown sufficiently well to produce its gorgeous bracts of leaves—usually spoken of as flowers. I grew it in large numbers, for many years, in the east, but we either grew in pots or boxes, and took them into the greenhouse early in September. The bracts were wanted for table decorations—usually New Year's Day. Here it is almost universally grown in open ground. After it is done blooming, it should be pruned by cutting back the present year's growth to within 4 to 6 inches of the old wood. The soil should be made very rich by heavy manuring during spring and summer. A good method

For Mehring Foot-Power Milking Machines see O. J. Weber Co., 555-557 S. Los Angeles St., Los Angeles, Cal.

Cream Separators, all sizes, all prices. O. J. Weber Co., 555-557 S. Los Angeles street, Los Angeles.

Has It Ever Occurred to You



that Tubular cream separators are saving the farmers of the United States millions of dollars annually?

That sounds pretty strong, but when you consider the hundreds of thousands that are in use and then remember that those separators *save their cost every year* the statement is not extravagant.

Are you among the farmers who are letting the cream separator build your bank account?

If not investigate at once the

Tubular Separator

because it skims clean; and due to its simplicity it is easy to clean, oil and handle; furthermore being built of the best materials obtainable we guarantee it to last a lifetime.

Join the prosperous class and enlarge your bank account by buying a Tubular. Don't delay. Write at once for free catalogue 260. Do it now.

THE SHARPLES SEPARATOR CO.,
West Chester, Penna.
Toronto, Can. San Francisco, Calif. Chicago, Ill.

YELLOW MONEY AND YELLOW FRUIT

Are a pair that travel together in good shape in an orange or lemon grove. Especially is this true if you will plant only the robust and true-to-name

Citrus Trees

grown by the San Dimas Citrus Nurseries, the largest growers of choice orange and lemon nursery stock in the world. No branch of horticulture offers better inducements in the way of profits, nor is there one more alluring to the person contemplating commercial fruit culture. For the past twenty years we have supplied the leading growers with their trees, and hope to number many more among our friends and patrons. Orders now being booked, subject to future delivery. Send for book on

"The Citrus Fruits: Historically, Horticulturally, Commercially."

Beautifully illustrated, and some 20,000 words of text. Price 25 cents.

The San Dimas Citrus Nurseries
R. M. Teague, Proprietor
San Dimas, California

One grower will plant 70 acres of oranges in one tract at Ducor, Tulare county.

is to make a large basin around the plant and fill it with fresh manure, and then fill the basin with water. It is a rank feeder and will repay an abundance of water and fertilizer. By far the finest bracts I ever saw produced in California were in San Diego county, where a neighbor put all the manure from his chicken house about his plants and watered liberally. If your correspondent's eastern friends still have their plants indoors, they can be kept through the winter by placing them in a warm cellar or furnace room and withholding water—first cutting the young wood back to two or three buds. In May they may be replanted in pots or boxes and grown outdoors until September, when they must be taken inside.—Q. A. L.

Ditch Manuring.

Kindly describe method of manuring orchards by system of deep ditches into which all manure is put and covered up. I have heard of its employment at Riverside but do not know of the details—J. M., Hemet.

Other than forcing under green manure in deeply plowed orchards, we do not know of the system to which you refer, though we have seen orchardists follow the plow, putting in commercial fertilizers in the bottom of the furrow which the next round covers leaving it deep in the ground. If there is any different system followed in Riverside if our subscribers there will give us the details they will be appreciated.

Eucalypts.

I wish to plant some eucalyptus trees and would appreciate some information as to which is the best variety for this section. Soil is a sandy loam, nearly all sub-irrigated but not swampy. Depth to hardpan about three feet. There is some frost at times hard enough to form ice one-fourth inch thick.—E. B., Ceres.

The best answer to that question is to refer to our issue of last week where the different varieties were fully touched upon and their adaptability to different soil and climatic conditions. From that it will be found there are several, but from your description and from the fact you have some frost we imagine the Rostrata or ordinary red gum will be as good as any which you can plant.

A VALUABLE BOOK ON HORTICULTURE.

There has lately been published by the Fancher Creek Nurseries of Fresno, California, what must be regarded as a veritable compendium of information bearing on orchard and garden operations. Its title is suggestive of its scope and character, namely: "California Horticulture: The Fruit Growers' Guide."

The cultural directions cover the salient features essential to every fruit grower in California, commercially; the suggestions governing the planting and the treatment of home grounds are timely and to the point; the enumeration and description of economic and ornamental plants give just what the average planter should know, including the specific and common names, nativity, and habit; the text embraces 125,000 words, and is handsomely illustrated with over a hundred half-tone and two-color plates; the book as a whole making 128 pages 7¾ by 10¾ inches, bound in a beautiful colored cover showing olives and grapes.

The cost of the work was over $5000 for the edition. Copies are, however, to be had for 25 cents by sending to the Fancher Creek Nurseries, Fresno, California.

A test shipment of oranges was made from San Diego by water and by way of the Tehuantepec National Railway and steamer to the Atlantic seaboard. It is reported to have arrived in good condition, and attracts attention to future possibilities of water shipments of fresh fruit.

A Redlands packing-house has a fumigating-room where orchard boxes brought in from one orchard are fumigated before being sent to another. This is to prevent any possible transfer of scale insects.

Eggs at Spokane by the case are now quoted at $14 and $15.

Wood Soled Boots and Shoes. Boots $3.25; Shoes, $2.00 O. J. Weber Co., 565 South Los Angeles St., Los Angeles, Cal.

TREES

Of All Sorts True to Name

1500 Acres Devoted to the Business of Growing Trees

Experimental Farm Plant, No. 1, 640 acres.
Nursery and Propagating Department, No. 2, 130 acres.
General Nursery Plant, No. 3, 640 acres.
Citrus Nursery and Citrus Orchards, 100 acres.

Every Fruit Grower

Should have a copy of the following books:

The Smyrna Figs at Home and Abroad. Price 50c.

Luther Burbank's Booklet (illustrated in colors). Price 25c.

California Horticulture (The Fruit Grower's Guide) Price 25c.

General Nursery Catalogue and Price List Sent Free

PAID-UP CAPITAL $ 200,000.00

FANCHER CREEK NURSERIES
INC.
Geo. C. Roeding Pres. & Mgr.
Box 12 Fresno, California, U.S.A.

OREGON PEACH TREES

MUIRS
LOVELLS
PHILLIPS
TUSCAN
ELBERTAS

In First-Class Trees of Following Sizes:
2 to 3 feet
18 to 24 inches
12 to 18 inches
6 to 12 inches

SPECIAL RATES given when purchased in lots of 500 or more.

Oregon Nursery Co.
Salem, Oregon

EUCALYPTUS

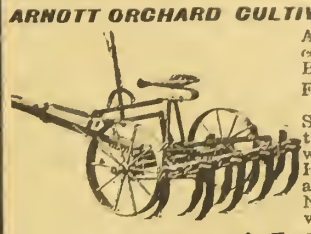
Balled in moss and leaf mold. All the roots saved. None sent out too small to plant. Sample lot of 100 in flats, tops protected, $1.60.

Henry Shaw
320 River St. Santa Cruz, Cal.

Porterville feels greatly elated over winning first place at the recent citrus fair.

EVERYTHING FOR THE FARMER

ARNOTT ORCHARD CULTIVATOR



Acknowledged the BEST. Five feet wide. Spring teeth if wanted. Horizontal lift. No neck weight.
Steel and Malleable Iron. Dust proof wheels..... ***$45.00***

SANDERS-ARNOTT DISC PLOW

SINGLE ***$60.00***
DOUBLE ***$80.00***

COLUMBUS WAGONS

Three inch Skein. Four inch Tire. Brake and Pole. ***$80.00***

PACIFIC ORCHARD TRUCK

3¼x10 Skeins. 28x30 in. wheels.. ***$32.50***

LEATHER TRIMMED

Guaranteed Twelve Months
$65.00

MONITOR WINDMILL

8 ft.....$30.00
10 ft..... $45.00
The New 8 and 10 Foot MONITOR

MONITOR ENGINE
Simple Economical
2 H. P....$130
4 H. P. $250
6 H. P. $350

Catalogue No. 9 Sent Free on Application
Address Department G.
ARNOTT & COMPANY Inc.
112-118 South Los Angeles Street
QUALITY ARNOTT GUARANTEED
Los Angeles California.

THE "BOSS" Tree Protecter

Made of Yucca Palm

Is cheap, durable and quickly put on the tree. It prevents Rabbits from destroying your trees. A sure protection against frost, sun-burn, grasshoppers or dry winds. Can be easily removed; will last for years.
Send for samples.

Prices

12 inch long,	$ 9.00	per 1000
14 inch long,	10.00	per 1000
16 inch long,	11.50	per 1000
18 inch long,	12.50	per 1000
24 inch long,	15.00	per 1000
30 inch long,	17.50	per 1000

Agents Wanted Everywhere

YUCCA MANUFACTURING COMPANY
1380 Willow Street Los Angeles, Cal.

The Oldest Savings Bank in California

FOUNDED IN 1857. CAPITAL FULLY PAID $1,000,000.00

The Savings and Loan Society

101 Montgomery St., Cor. Sutter St., San Francisco

Exclusively a Savings Bank whose policy is for ***Conservatism*** and ***Safety,*** the result of ***Fifty-One Years' Experience.***

Deposits may be made and withdrawn by mail.

San Francisco Savings Union

Founded June 18, 1862 **Northwest Cor. California and Montgomery Sts., San Francisco**

Conducts a Savings Bank Business Exclusively

Capital Paid Up, $1,000,000.00 Surplus, $1,183,632.00

Total Assets, $27,508,850.00

E. B. POND, President.

W. C. B. de FREMERY AND C. O. G. MILLER, ... Vice-Presidents

LOVELL WHITE, Cashier. . . . . R. M. WELCH, Asst. Cashier.

Directors: John F. Merrill, Wm. A. Magee, W. C. B. de Fremery, H. C. Breeden, Jacob Barth, Fred H. Beaver, Wakefield Baker, C. O. G. Miller, E. B. Pond.

Every facility afforded for opening accounts and making deposits and withdrawals by mail. Correspondence invited.

Mayer

"SPECIAL MERIT" SEAMLESS SCHOOL SHOES

SCHOOL SHOES without seams—think of it—*seamless school shoes!* They are strong and sturdy, have seamless uppers, tough soles and double leather toes. By far the most durable and lasting shoes obtainable.

"Special Merit" Seamless School Shoes *"wear like iron."* They wear just twice as long as ordinary shoes with seams.

Made in all styles and sizes, for every day and Sunday wear—for boys and girls. Your dealer will supply you; if not, write to us. Look for the Mayer Trade Mark on the sole.

FREE—If you will send us the name of a dealer who *does not* handle Special Merit School Shoes, we will send you free, postpaid, a beautiful picture of George or Martha Washington, size 15x20. State which picture you want.

We also make Leading Lady Shoes, Honorbilt Shoes, Martha Washington Comfort Shoes and Yerma Cushion Shoes.

F. Mayer Boot & Shoe Co.
MILWAUKEE, WISCONSIN

WESTERN BRANCH: Washington Shoe Mfg. Co.—Seattle.

Angle Lamp

The Light That Never Fails

Thousands in use all over the country. A good light is the greatest pleasure and the first necessity of every home.

The only lamp on the market that is sold under an absolute guarantee.

Remember, the light from Kerosene is the light science has agreed upon as being the purest and best, because it is soft and mellow and restful to the eyes.

Here are a few of The Angle Lamp Merits:

NO UNDER SHADOW. NO SMOKE, NO ODOR, LITTLE HEAT.

GREAT ECONOMY—COST LESS TO BURN than an ordinary lamp. As easy to operate as gas or electricity, and better than either. ABSOLUTELY SAFE under all conditions. Lighted and extinguished like gas. Burned HIGH or LOW like GAS without a trace of odor. And a BRILLIANT, soft, steady, shadowless light—but this you will have to see to appreciate.

The lamp as shown in cut burns 22 hours on 3 quarts of oil.

Send for Illustrated Catalogue with Prices

Boesch Lamp Co., 1135 Mission St., San Francisco

Established 1869 Incorporated 189

$16.30 buys this handsome six-hole Nickle-Trimmed Cast Range direct from the Manufacturer

without high shelf. With high shelf, just as shown in the cut, $19.97; large oven, six cooking holes, best quality of iron. Burns coal or wood. Handsome nickle trimmings. OUR TERMS are the most liberal ever made. You can pay after you receive the range. You can take it into your own home and use it 30 days. If you don't find it exactly as represented, the biggest bargain you ever saw you won't have to keep it.

Write today for our beautifully illustrated Stove Catalogue No. 101-C. A postal card will do it. Don't buy until you get it.

P. F. Ross & Co.

268 Market St. San Francisco, Cal.

When writing advertisers, mention Cultivator.

Household Department

CALIFORNIA'S YULETIDE.

The time the olive ripens
And the fields are growing green,
The time of salmon sunset hues
With glints of gold between,
When all the soft-curved distances
Stand blue-gray 'gainst the sky
And blue-gray smoke of clearing fires
Is slim and straight and high—

Such is the Christmas-tide with us,
When spring goes hand in hand
With winter and its day of peace—
The Christmas of our land.
The time of busy doings
And of merry doings, when
With all the blessed little ones
We, too, are young again,
When every face bespeaks a friend
And every friend is dear
And days are never long enough
To harbor all our cheer—

Such is the Christmas-time with us,
And, coming, it imparts
An ever richer happiness—
The Christmas of our hearts.
The time of sad-sweet memories,
Of pure and deep content,
When in all thankfulness our heads
Are reverently bent,
When peace renews her home with us,

Because we know her worth
And the halo silv'ring Bethelem
Encircles all the earth.—
Such is the Christmas-time with us,
And solemn music rolls
Its melodies to usher in
The Christmas of our souls.

—Sunset Magazine.

THE HOUSE OF CHILDREN.

THE woman left her dishpan and crossed the small, shabby kitchen with hurried steps. Her arms dripped soddenly and her slight figure sagged at each step in an unbeautiful way.

"You ain't going to stay—you'll be in kind of early tonight, Andrew?" She peered up into his rough face above her, "Just tonight?"

"I'll be in when I get ready," the man muttered.

"Oh, I know—I know— but before morning, Andrew? Say you'll be in before morning! When you stay out so late it scares me." Unvoiced dread was in her tone; she had not yet given name to the dread. But some time— She began again, freshly eager:

"Don't you want to go in and look at the Kid, Andrew? He's dreadful sweet in his sleep. And clean—I always wash him up last thing ever. You like him clean—come on in, Andy."

"No, not tonight, Tilly," but he followed her. The child who was clean and sweet in his sleep drew him like a magnet.

"Look at him!—look at him!" murmured the shabby little mother in a transport of pride. "Look at his curls, will you? And his little hands—ain't they plenty clean enough? And his little feet, Andrew—she pulled down the worn covers and displayed them, white and tiny and pitifully thin. "You never'd think to look at them—"

He caught at her arm, interrupting her. He did not want to think or look at them.

"Cover the Kid up, Tilly! What's got into you to let him get a chill?"

Out in the sharp night he strode away fiercely. He was angry, as if at the thing "you'd never think," looking at his child's little white feet. To Andrew Barry the thing was a continual prod of misery. Because of it he had come to hate all other little children with feet that carried them, shouting, across his path.

Tonight he had started out with a certain sense of elation as befitted one who was an inventor—an originator of a new scheme. Driven to desperation by repeated failures to obtain work he evolved this idea. Something must be done—he would do this. The world owed him and the Kid and Tilly a living. There were honest ways to earn it, but if they failed there was this way. He had already once or twice "practiced" in a modest manner ways distantly akin to this. He was not afraid.

As he strode along the unsavory street, he tried to recall his early evening enthusiasm. Why had Tilly dragged him in to see the Kid? Confound her, why had she pulled the quilts down? Didn't a man need a good, cool head and untroubled mind tonight if he was to make the original scheme a success?

It should be a success! He pulled himself together and swore to forget there were such things as kids in the world. Oddly it did not then occur to him that on tonight, of all nights, since tonight was Kid night, forgetting would not be easy. Or that the existence of kids was of paramount necessity to the New Scheme.

The shopping world as he slunk through it rapidly was all aflame. Lights everywhere, men and women and kids—kids—kids. He ran into them; they ran into him. Their little faces reflected the lights everywhere. They seemed to spring up at him at every step he took and to thrust their joyous faces into his notice. Why were they not at home in their beds? Then he remembered he did not want to think of them at home in their beds. That was the unpleasant part of the New Scheme. It was a thought too closely allied to the little sleeping Kid at home.

Tilly at home was bending over her sewing by now, sitting up close to the flickering lamp. Shirts—Tilly always sewed on shirts. Life to her was made up of the Kid, the unspoken dread when her "man" went out at night—and shirts. There was no gaiety and happy shopping for Tilly, like that of these other women who flitted in and out of the lights like gay-winged moths about candles. There was not even the comfort for Tilly that other women take in kissing their babies' little white feet. Poor Tilly!

The hours that struck clangingly from the city clocks grew larger, and in inverse ratio the crowds in the lighted thoroughfares grew smaller. Presently there were no kids, then fewer women, fewer men. The last Christmas shopping was over. Another year stretched ahead to the next Christmas eve.

The New Scheme was very simple. Its especial value lay in its originality. Andrew Barry had never heard of any one who had "practiced" it; he, himself, he exulted, was its inventor. He meant to make a good thing out of it. To his blunted sensibilities and dwarfed morality its baseness, its utter meanness, did not occur. He was as yet unashamed and hunched along the dark edges of the little city on his way to put it into execution with the effect of hugging himself evilly.

The street he selected was a prosperous one, set on either side with the homes of independent, well-to-do trades-people. On sunny days from end to end it bore evidences of little children—little carts and carriages, dolls and horses. Shrill little voices echoed from house to house; children laughed and cried. It was just the street for the initial trial of the New Scheme. The children on Delweather Street could be relied on to hang up their stockings.

The city clocks tolled midnight, one after the other, in the laggard way of city clocks. But still the man who evilly hugged himself lingered on the dark edge, for still lights shone out cheerfully in the houses that toed the line of the chosen street. It seemed to him that the lights winked at him, daring him to come on. He swore under his breath at the fathers and mothers who stayed up so late.

"One!" struck the clocks in turn, and the single note rang out jovially on the night silences, because it was Christmas morning. The man who waited in the dark swore again. He was getting tired.

The lights went out at length and the little street stretched away darkly, inviting dark deeds. The city being frugally inclined did not maintain all-night illumination on any but its important highways. No disturbing glimmerings interfered now with the carrying out of the New Scheme. Andrew Barry began his work. He selected a house that he had "spotted" as one running over with little children, and it was little children he

This quick-firing "three-shot" gun is the handiest and most up-to-date article ever made in the shot-gun line.

It's yours for $8.00

Sent by express, prepaid, to any address in the United States, upon receipt of price. Absolute satisfaction and safe delivery guaranteed.

The HOPKINS & ALLEN "Three-Shot" Gun

is unequalled for quick shooting. The three shots, one in the gun and two in the clip, can be fired with the rapidity of a repeater. No more missing good shots because your ammunition isn't with your gun. There are always two shells in the clip. No need of keeping a loaded gun in the house—a shell is slipped into the breech at a second's notice. Your gun is always ready for a shot at hawk or game, and you don't have to hunt for shells while the game gets away.

You were never offered a gun as good as this for the price.

Fine decarbonized steel barrels bored full choke for close shooting and deep penetration. Frame case-hardened. Stock and fore-end fine walnut. Top snap action, locks automatically, and joint takes up its own wear. Rebounding hammer, rests in safety notch after firing, eliminating danger of accidental discharge. Hard rubber butt plate. This gun is guaranteed to shoot factory-loaded nitro powder shells. 30 or 32 inch barrels. Automatic ejectors.

1908 GUN GUIDE, FREE!

Our Gun Guide and Catalog for 1908 describes in full 11 styles of double guns, 8 styles of singles, 10 styles of rifles and innumerable kinds of revolvers. Gives lowest prices and offers most complete line. No sportsman or gun lover should be without it. Write for it now.

THE HOPKINS & ALLEN ARMS CO.
Chestnut Street Norwich, Conn.

Bank by Mail at 4%

IT is an advantage to have your money in a large Institution, located in a large centre of population. We have special banking facilities for out-of-town depositors. Write for information.

German American Savings Bank

Spring & 4th Sts., Los Angeles

Save Money and get a better choice by shopping in a Large City. We will do your Shopping for you. Send for our Free Book No. A. It Tells You How. ***Los Angeles Purchasing Co.,*** Pacific Mutual Bldg., 3d and Hill Sts., Los Angeles, California

When writing advertisers, mention Cultivator.

wanted in a house, for it was in that kind stockings were likeliest to be hung up. He reckoned that here he was sure to find at least half a dozen full ones.

Back in the mean little street where he and the Kid and Tilly lived only one stocking hung. Tilly had waited until he was out of the way before she pinned it to the wall. She sat a long while looking at it, her forehead anxiously knotted. She was trying to solve the problem of making a little tin whistle and two candy suckers fill a stocking.

"I'd ought to bought a horn instead of a whistle," she mused, "Horns fill up better. He'd like to have his stocking full. But, there, he ain't ever had anything full, poor little Kid—without it's his cup o' sorrer." She sighed with the indrawn wail of breath that mothers sigh whose own cups are full.

"He'd ought to have beautiful things in his stocking to make up!" she cried fiercely, in sudden revolt against fate. "If his father—" she got no further. She did not want to think of the Kid's father tonight, because of the dread; it was a dread tonight with a capital "D." She did not want to think of the evil thing he might be doing.

"Not tonight!" she cried, "Not Christmas eve! It'd be bad enough other nights. He might a-stayed to home tonight and filled his Kid's stocking!"

Instead of emptying those of other little children—for that baldly, was the New Scheme. To go about from house to house stealing the Christmas gifts that hung in brave array from chimney-places—a grim, unholy antipode of Santa Claus! It was a thing that no one had ever done before—that Andrew Barry was proud of inventing.

He crept by devious ways—silent, slinking ways that he was not altogether unfamiliar with—into the nursery of the House of Children. By aid of a cheap little dark lantern he could discern the faint outlines of the little stockings. There seemed to be myriads of them. They began with long ones and tapered down to a tiny pair, dangling finely. They were all bulging and knobby and over-running. In some of them there would be sure to be shining gold pieces and valuable jewels. The man crossed the room noiselessly.

A sound of soft breathing disturbed the utter stillness. He turned sharply to find himself passing a row of narrow beds, three of them, set against the wall like the white cots in a hospital ward. The small outlines under the covers did not stir. He flashed his light upon the small faces; they were all sleep-heavy, sleep-sweet. No harm had been done. A moment's quick work and he would be safe. But he had not expected little beds; he could hardly have told why he had not. They disturbed him. The New Scheme seemed threatened by them.

Then he saw the small crutches beside the middle bed. For the space of half a dozen breaths Andrew Barry stood and thought unusual thoughts. They came upon him with a certain stunning effect, as if a blow had descended upon him. Out of the chaos of the thoughts one thing alone was perfectly distinct. He could not rob a room with little crutches in it.

In the Kid's room there were little crutches. They were not polished and cushion-topped like these, but at night they were tilted like these against a narrow bed. He had seen them there so many times when he went home. Tonight they had been there when Tilly made him go in to look at the Kid.

A few moments later he stood outside again, driven out by the crutches with cushion-tops. The blow they had struck his hardening soul still smarted. He found himself battling with new sensations, the predominant one of which filled him with stinging pain. He did not know it was shame. The unaccustomed lash of it turned him dizzy—sent him cursing home. It did not occur to him to go on with the New Scheme.

His wife, Tilly, was sitting up for him. She held the little flaring lamp above her head and waited in the door.

"That you, Andy?" calling softly. He did not answer, but came on stumbling.

"Oh, Andy, you aint—"

No, I aint!"

Then there was that to be thankful for. But there was still the dread.

"You're—you're pretty late, Andy," she hesitated. "Andy, if I thought tonight you'd—you'd—"

"I ain't," he almost shouted, and suddenly he was wildly glad he had not. He looked his wife straight in the face. "I aint, honest, Tilly—honest I aint done it tonight." But the awful nearness appalled him now. When before had he been appalled like this at the proximity of evil?

"Andy! Then I'm going right in and kiss the Kid!—oh, Andy, you come along too! He looks so sweet in his sleep, and I've hung his stocking up, and—and it's merry Christmas, Andy. Come—you come, too."

Strange—strange—the thoughts the little cushioned crutches had set him thinking! He could not get away from them. He followed Tilly, his wife. The Kid looked sweet in his sleep.

"Kiss him—Andy, you just go ahead and kiss him! Stoop over like I do—on his little cheek, Andy. The other one, too—the other one, Andy! Don't it give you a clean feeling to kiss him? Like as if you'd kissed his little clean soul—" She had never been a poet before. She began softly to sob.

Andrew Barry's very being revolted now at the hideousness of the New Scheme. Evil itself—other tempting forms, no less wicked if less hideous—appeared in a glaring new light. He looked down again at the Kid's unconscious little face; the kiss was warm on his own lips. He was the Kid's father; the Kid was his. If for the sake of one's clean-souled little child a man could live clean——

"Andy, see, you'd never think to look at his feet— but he caught her hands away and himself drew the covers back into place. He put out his hands and touched the rough little crutches that had saved him from a hideous sin. For once he was thankful for them.—Country Gentleman.

CHRISTMAS DAINTIES.

MY prejudice against "store" candy dates back to my girlhood when, after eating some candies given me from a church Christmas tree, only the prompt services of a physician saved my life. "Arsenic in the candy colorings," he pronounced the cause of my almost fatal illness. Now that I have five children to supply with Christmas goodies, the making of the annual box of candies merits, I think, considerable attention. To that end, I had clipped from newspapers and cook books a large number of candy recipes before the Cultivator's "Candy Book" appeared for such as I.

By following these carefully, I find it easy to make attractive, wholesome candies at home, at the trifling cost of sugar and flavorings. The secret of the successful candy box lies in its attractiveness and the variety of flavors. One must begin early to save the little tin and pasteboard boxes that accumulate in the house. A few sheets of colored tissue paper and scraps of ribbon transform these boxes into fit receptacles for our goodies.

Weeks before Christmas I begin stowing away the toothsome bites. Suppose we have a fruit cake for the Thanksgiving dinner. I take a slice, cut it into inch cubes, ice the cubes, and there is a handful of delectable rainties for the Christmas box, and no trouble at all! Another day when I am making cookies, I cut some tiny cookies with a thimble, or a fancy shaped cutter, and put them away till another day when I am icing a cake. Out come the little cookies to get a dip in the white, or yellow, or chocolate frosting.

Another day I am looking over some raisins. I select a handful of plump raisins, stick whole cloves in them for head and legs, and behold the perkey looking turtles that make the little boys laugh when they open their Christmas candies.

Another day there are to be prunes cooked for dinner. From these I select large, firm prunes that have been soaked over night, and without cooking them, I press out the seeds, and fill the cavities with blanched almonds, or a ball of fondant, sprinkle heavily with sugar and set away in a warm place to dry. These stuffed prunes improve with age.

During the month of December I keep a lump of fondant on hand to work up with nuts, or chocolate, or cocoanut, into the delicious French creams. A few every day while the children are at school, and the goodies pile up amazingly! That is, provided they are successfully secreted from the children and adults.

This is my quick method of making fondant: Into a granite milkpan I put two cups of sugar with half a cup of water. Set over fire and do not stir, or shake, while boiling briskly. Remove crystals around edge of pan as they accumulate. Test in cold water, by dropping in a small spoonful. When the candy makes a "soft ball" between the fingers, it is ready to remove from fire. Remove promptly, without shaking, and do not pour the candy from the pan in which it is cooked, but let it cool undisturbed till it can be dented with the thumb in the center. Then with a pancake turner for a spatula, I stir and beat the candy into a white, fine-grained mass. Set aside a day, at least.

When ready to mould the fondant, I put a lump into a pint saucepan that fits over the top of a boiling tea kettle. By this means, the fondant melts without danger of scorching. As it melts, I add the desired flavoring, chocolate, nuts, or what not, and shape with the fingers. Set in dry place to harden.

All the caramels, taffies and other sticky candies must be wrapped in paraffine paper—ordinary butter paper does quite well.

No candy box is complete without crystallized fruits and glaces. My easy method is this: Select firm preserves, such as citron, quince or pear, drain from the sirup, spread on tins and sprinkle generously with powdered sugar. Set in dry place for several days to dry thoroughly.

An Oriental sweetmeat worth making is the plump kernals of pumpkin seeds boiled a few minutes in thick sirup, drained, sprinkled with powdered sugar and dried. Look over while drying and separate any that may adhere.—Mrs. King, Gridley.

Oldest and Largest in the Southwest

SECURITY SAVINGS BANK

Los Angeles, California

CAPITAL AND RESERVE $1,200,000.00
TOTAL RESOURCES OVER $20,000,000.00

We Pay Interest

4% on Term Savings and on Six Months Certificates of Deposit

3% on Ordinary Deposits

By special arrangement 'Ordinary' accounts may be checked against without presentation of a pass book, and 3 per cent. interest will be paid on the minimum monthly balances.

Light and Cook WITH COLT TRADE MARK **Acetylene**

Favor us with an inquiry concerning Colt Acetylene. We shall take pleasure in sending you free of charge our excellently compiled 44-Page Catalogue containing complete and instructive matter regarding piping, fixtures, stoves and burner pertaining to this wonderful and inexpensive lighting system.

Fowler Shankland, Pacific Coast Distributor
204 Severance Building
Cor. 6th and Main, Los Angeles
Phones: F7514; Main 4830

Make Yourself and Family the finest Christmas Present on Earth. My Portable Billiard Table means worlds of undiluted enjoyment for all. A postal will bring catalog showing many styles and sizes, at prices easily within your reach.

C. Ridderhof, Laughlin Bldg., Los Angeles

JAMES R. TOWNSEND
Solicitor of American and Foreign **Patents** Copyrights, Trademarks and Labels Registered. Rooms 426-433 Bradbury Blk. Los Angeles, Cal. Phones: Home, A4619; Sunset, Main 347

The Produce Markets

Los Angeles Markets

LOS ANGELES, Dec. 22, 1908.

Butter.

To the surprise of all the Butter Exchange lowered the price of butter on Monday. The report that San Francisco and other points were marking up on account of the cold weather was ignored and it was cut from 72½ to 67½.

Produce Exchange wholesale quotations are:

Creamery ex per roll 67½
Firsts 52½
Dairy per lb 25
Eastern extra per roll 65
Ladles 24
Cooking 24
"Butterine" ....16@20

Cheese.

Southern California Anchor ....17@19
Northern fresh ....16½@17
Longhorn ....18@19
Eastern singles ....16@16½
Cheddars ....17@18
Swiss ....17@18
Imported Swiss ....27@28
Daisy ....17@18
Oregon 16½
Limburger ....17½@18

Eggs and Poultry.

Eggs advanced slightly during the last of the week owing to the cold weather shortening the supply somewhat. Price is now stationary and predicted it will go no higher.

Eggs local candled ....40@41
Eggs case count buying price 38
Storage selected ....32@34
Eastern storage short time ....34@36

Dealers pay for live stock.

Hens per pound ....12@14
Young roosters per pound....16
Fryers 16
Broilers per lb 21
Roasters ....15@16
Old rooster 7
Turkeys ....16@20
Geese ....12@13
Ducks ....12@13
Squabs ....1.25@1.75

Live Stock.

The following quotations are f.o. b., Los Angeles, on all stock.

Hogs from 175 to 200 pounds 6¼
Prime steers 4¾
Heifers ....3¾@4
Calves per pound ....4½@5
Sheep ewes per head ....3.25@3.75
Lambs per head ....2.50@3.00
Wethers ....4.00@4.50

Potatoes.

Wholesale prices are:

Sweets per ctl ....1.25@1.35
Early Rose fy ....1.75@2.00
Northern Burbanks fy ....1.10@1.30
Local Burbanks 1.50
Highland fancy .... .1.10@1.30
Coast 1.60
Salinas 1.65
Oregons 1.50

Onions.

Wholesale quotations:

Australian Browns ....1.10@1.25
Danvers ....1.10@1.25
Lompocs ....1.10@1.25
Garlic 12

Vegetables.

Asparagus per doz 1.25
Artichokes per doz Northern..1.00@1.10
Beets per doz ....35@40
Bell peppers per lb ....10@15
Beans string ....8@10
Beans Limas per lb ....6@8
Brussels sprouts per lb....8
Cabbage sack ....1.00@1.25
Cabbage red per lb 3
Celery per crate ....3.00@3.50
Chili per lb ....3@5
Chili dried ....9@10
Chicory per doz 40
Cucumbers per doz hot house ..40@75
Cauliflower per crate ....2.00@2.50
Carrots per doz 35
Egg plant per lb 5½
Green onions per doz bunches....20
Horseradish per lb 12
Lettuce per crate ....1.00@1.25
Lettuce choice 75
Mushrooms per lb 35
Peas sugar per lb ....8@10
Parsley ....20@30
Parsnips ....35@40
Rutabaga per doz 40
Rhubarb ....1.00@1.25
Radishes per doz ....15@20
Salsify 40
Summer squash per box 60
Spinach per doz 20
Turnips doz bunches ....20@30
Tomatoes lug box ....25@75

Citrus Fruits.

Navels fy ....2.00@2.50
Tangerines ....2.00@2.25
Grapefruit seedless ....3.50@4.50
Grapefruit seedlings ....3.00@3.50
Lemons fy 2.50
Lemons choice ....1.50@1.75
Limes per basket 50

Fresh Fruits.

Wholesale prices on the market are:

Baldwins 4 tier ....1.75@2.00
Bellflowers ....1.10@1.25
Newton Pippins 1.10
Fall Pippins 1.10
Alexandria 4-tier ....1.00@1.10
Colorado Jonathans ....2.00@2.75
Red Pearmains 1.25
Spitzenberg ....1.50@2.25
Casaba doz ....75@1.25
Christmas melons per crate ..2.00@2.50
Figs per fig box 1.25
Figs black per fig box 1.25
Guavas per basket ....3@4
Muscats per lug box 90
Grapes Tokay 1.50
Grapes Red Emperors 1.50
Cornichons 1.25
Pears lb 6
Pears Winter Nellis per box 1.00@1.75
Persimmons per crate ....1.50@1.75
Pomegranates per box 1.75
Quinces 75
Raspberries per box ....10@12
Strawberries per box ....7@8

Dried Fruits.

Wholesale prices are:

Apricots 9
Evap. apples fy per lb ....6½@7
Figs loose white 5
Figs blk 5
Peaches in boxes 7½
Peaches sacks 5½
Pears ....8@9
Nectarines ....9@10
Prunes ....3@8

Beans Dried.

Wholesale prices:

Limas per ctl ....4.50@4.75
Pink No 1 ....3.00
Lady Washington ....4.60@4.70
Small white 5.00
Black eyes ....3.50@3.65
Garvanzas 4.00
Lentils ....7.00@8.00
Bayou 3.50

Nuts.

Almonds IXL per lb 13½14
Almonds choice 13
Pecans polished ....16@17
Peanuts Virginia ....6½@7
Peanuts California ....5@6

Honey.

Wholesale quotations:

Extracted Water White 8
Extracted Light Amber ....6@6½
Comb W W 16
Comb white 15
Beeswax 30

Hay.

Prices paid to producers f. o. b. Los Angeles are as follows:

Barley No 1 ....17.00@19.00
Barley No 2 ....15.00@17.00
Alfalfa northern per ton ....14.00@15.00
Alfalfa local ....15.00@17.00
Tame oat No 1 ....18.00@20.00
Wheat No 1 ....16.00@18.00
Wheat No 2 ....14.00@16.00

Grains.

Wholesale selling price f. o. b., Los Angeles.

Wheat new per ctl....1.90
Kaffr corn 1.80
Corn Eastern sacked 1.80
White oats 1.85
Seed Rye 1.25

Feed Stuff.

Wholesale selling price F. O. B. Los Angeles as follows:

Cracked corn 1.85
Shorts 1.80
Bran 1.65
Oil cake meal 2.50
Feed meal 1.90
Rolled barley 1.65

The richer the food is in protein the more water fowls will drink, because it is required in digestion. The warmer the weather the more they require, because more is thrown off by the body. The more eggs that are laid the more water is consumed, because it is needed in their manufacture.

It is claimed that it is much easier to dress a gosling in warm weather than in cold weather, as the feathers do not set so tight, and in picking them the flesh is not so apt to be torn.—The Industrious Hen.

Two employees of the Oxnard Sugar Company have secured responsible positions in a sugar mill at Los Mochis, Mexico.

San Francisco Markets

SAN FRANCISCO, Dec. 21, 1908.

Butter.

Owing to the cold weather butter has showed an upward tendency during the past few days. It is now very firm. Extras now two and a half cents higher than last week.

The official quotations of the San Francisco Wholesale Dairy Produce Exchange for yesterday are as follows:

California extras per lb....33½
California firsts 30
California seconds 25
California thirds....20
Eastern extras....27
Ladles extra 23
Firsts 21
Storage Cal ex 29

Cheese.

California young American fy ..16½
Firsts....16
California flats fy 15
Firsts 14
Young American Oregon fy....16½
Eastern N. Y. Cheddars fy 17
Eastern fy....16½
Oregon flat fy 14

Eggs and Poultry.

Eggs have advanced heavily during the week. The week shows, in fact, the sharpest advance of any week in the season.

Official quotations of the S. F. Wholesale Dairy & Produce Ex. are:

Fresh ranch extras 57
Eggs first per doz 53
Eggs second 37
Cal Storage 35
Firsts 32½
Eastern Storage ex....30
Eastern firsts 28
Eastern seconds 26
Hens per doz ....4.00@6.00
Hens extra ....7.00@9.00
Young roosters ....6.00@7.00
Old roosters ....4.00@4.50
Fryers per doz ....5.00@6.00
Broilers per doz ....4.00@5.00
Geese per pair ....2.00@2.25
Goslings per pair....1.75@@2.00
Ducks young ....6.00@8.00
Live Turkeys ....18@21
Dressed Turkeys ....20@24
Pigeons young ....2.00@2.25

Live Stock.

San Francisco prices gross weight:

Steers No. 1 ....4¼
Do second quality ....3½@3¾
No 1 cows and heifers 3¼
Second quality 3
Hogs 100 to 150 ....5¾
Hogs 150 to 250....6¼
Rough heavy ....4½@5
Calves per lb ....4¾@5
Lambs spring ....4½@4¾
Wethers No 1 ....4¼
Ewes No 1 ....3¾

Potatoes.

Wholesale market quotations:

River whites fy ....75@90
River whites poor ....50@75
Salinas Burbanks ....1.25@1.50
Sweets per crate ....1.25@1.50
Sweets sacks ....1.00@1.25
Oregon Burbank ....1.10@1.25
Early Rose, seed ....1.25@1.30

Vegetables.

Wholesale quotations:

Bell peppers per lb ....12½@15
Brussels Sprouts 46
Celery per doz ....40@60
Celery per crate ....75@1.25
Cucumbers per doz ....1.00@1.25
Chili peppers per lb ....5@6
Corn per sack....1.50@1.75
Egg plant per lb ....9@10
Green peas per lb ....7@10
Lima beans ....6@8
Mushrooms ....12½@25
Marrowfat squash per ton ..10.00@15.00
Squash per box Southern ....50@1.00
Onions green per box....70@75
Okra per box ....1.25@1.50
Rhubarb per lb ....5@6
Tomatoes River box ....60@1.00
String beans ....10@12½
Wax beans ....7@10
Garlic new ....6½@8

Onions.

Onions per sack ....80@90

Citrus Fruits.

Navels ch ....2.00@2.50
New Navels fy and large sizes 3.00@4.00
Tangerines crates ....75@1.00
Grapefruit seedless ....3.00@4.00
Grapefruit seedlings ....1.50@2.00
Lemons ch ....2.00@2.50
Lemons fy ....2.50@3.25
Limes....4.00@5.00

Fresh Fruits.

Bellflowers ....75@90
Bellflowers No 2 ....60@65
Spitzenberg ....1.25@2.00
Newton Pippins ....85@1.15
Crabapples....50@60
Figs per crate one layer....50@1.00
Grapes per crate ....1.00@1.25
Huckleberries per lb....12@15
Nectarines white....50@60
Winter Nellis ....75@1.25
Persimmons ....50@75
Pomegranates per box ....1.25@1.75
Quinces per box ....50@65

Dried Fruits.

Prunes 4-size basis ....3@3¼
Santa Clara ....3¾@4
Apricots per lb: Choice 7½@8; fancy 9@10.

PEACHES—Choice 5@5½; fancy 6@7.

Apples Evap ....6@7¼
Pears ....5@8

RAISINS—1907 crop f. o. b.; Clusters and layers. 30-lb bxs—Imperial Clusters, 6-crown, $2; Dehesa Clusters, 5-crown, $1.75; Fancy Clusters, 4-crown, $1.40; London Layers, 3-crown, $1.10, do, 2-crown, $1.05. Seeded, 25-lb bxs—Fancy bulk per lb, 6½@7c; Choice bulk, 6½@7c. Loose Muscatels, 50-lb bxs— Standard, 4-crown, 5½c; do, 3-crown. 4¾c; do, 2-crown, 3¾c; Seedless, 4¾c. Seedless Sultanas— Unbleached, 4¾@5c. Thompson Seedless—Unbleached, 5½@6¼c. Dried Grapes, 4c.

New Crop Raisins—Preliminary prices are named as follows: Cluster—Imperial 6-crown, $2@3; Dehesa, 5-crown $2.50; London Layers, 2-crown, $1.25; 3-crown, $1.35; 4-crown, $2. Thompson's Seedless, 5¾c. Loose Muscatels, 5¾c. for 4-crown, 5c for 3-crown, 4½c for 2-crown and 4¾c for seedless.

Nuts.

Walnuts S S No 1 new crop 13½
Walnuts No 2 9
Almonds nonp 11½
Almonds IXL ....10½@11
Ne Plus Ultra 9½
Chestnuts, Cal ....9½@14

Beans Dried.

Limas ....4.15@4.25
Pink ....2.50@2.55
Small white ....4.50@4.70
Large white ....3.75@3.85
Black eyes 3.25
Red Kidneys 3.50
Garvanzas ....2.90@3.10
Bayo ....3.00@3.10
Horse beans ....1.75@2.25

Hops.

Hops new crop ....7@9

Honey.

White comb ....15½@16
Amber ....12@14
Extracted W W ....7@8
Extracted light amber ....5½@6
Beeswax No 1 per lb ....25@27
Beeswax No 2 per lb ....24@25

Hay.

The principal activity in hay seems to be in the interior of the State for there are many districts to which hay is being shipped where usually they raise sufficient for their own needs. It is anticipated that this demand will continue until new hay grows again.

The alfalfa market perhaps shows more strength than does the grain hay market for not only is grass backward but furthermore the high price of feed stuff compels dairymen to feed considerably more alfalfa than under normal conditions. The future of the alfalfa market will depend of course upon the grass supply and this as yet cannot be determined. The late rain will undoubtedly give the grass a good start, although later weather conditions will determine whether it will be plentiful or not.

Choice wheat hay ....20.00@22.00
Good wheat hay ....18.00@19.50
Other grades same ....16.00@17.50
Wheat & oat ....15.00@20.00
Tame oat ....15.50@19.00
Wild oat ....14.00@18.00
Stock hay ....11.00@13.00
Alfalfa ....12.00@17.50
Straw per bale ....60@95

Grains.

Wheat No 1....1.67½@1.70
Barley new ....1.42½@1.45
Corn large yellow ....1.80@1.85
Oats white ....1.67½@1.75
Oats gray ....1.65@1.72½
Rye new crop ....1.45@1.50

Feed Stuff.

Bran per ton ....29.00@31.00
Feed cornmeal per ton ....37.00@38.00
Cracked corn per ton ....38.00@39.00
Rolled barley per ton ....30.00@31.00
Oil cake meal per ton....38.00@39.50
Cocoanut cake per ton ....25.50@26.50
Middlings ....33.50@36.00

Citrus Market

LOS ANGELES, Dec. 22, 1908.

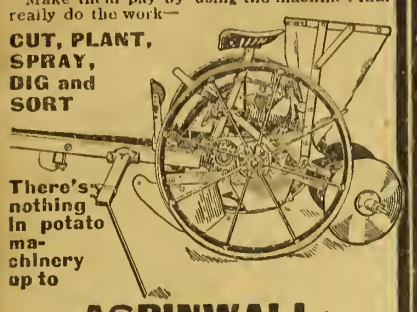
The orange market for the holiday season closed with a fairly successful return to the grower. No extreme prices have been secured but on the whole the good pack and attractive appearance have won favorable comment.

Lemons are still low with slight demand and little interest.

POTATOES PAY

Make them pay by using the machines that really do the work—

CUT, PLANT, SPRAY, DIG and SORT



There's nothing in potato machinery up to

ASPINWALL EQUIPMENT

Write for copy of our **free book** telling how to make money, growing potatoes.

ASPINWALL MFG. CO.
405 Sabin St., Jackson, Mich., U.S.A.
Pioneer Makers of Potato Machinery

Seed

75 varieties of ***Sweet Peas*** Separate Colors, 5c per Pkt. 15 Leading Varieties, post paid, 50c. 4 Varieties, that bloom in 45 days, 25c. This is the best time to plant.

Get Seed Where Seeds Grow

We are headquarters for ***Lettuce, Onion, Melon, Radish, Turnips,*** Etc. Make up a list of your wants and submit to us for prices also ask for catalogue.

Eucalyptus All the Leading Varieties in seed @ 15c per package. (Six of the leading varieties, E. Rostrata, E. Leucoxylon, E. Rudis, E. Globulus, E. Corynocalyx, and E. Tereticornis for 50c, with cultural directions). 500,000 Plants, all varieties, State your wants and get prices.

Send 10c for large packet each of our new ***Cabbage Head Lettuce, King of May*** and ***Brown Dutch***, earliest and finest flavor.

Cannon Ball Cabbage is finest grown. 5c packet, oz. 25c

Morris & Snow Seed Co.
425 So. Main, Los Angeles, Cal.

Pacific Seed Co.

C. Bagnall, Prop.
GROWERS AND IMPORTERS OF
Grass, Vegetable and Flower Seeds
All Kinds of Bulbs and Onion Sets
609 J St., Sacramento, Cal.
Send for Catalogue. Please mention Cultivator.

Shipments.

Total shipments to date this season: Oranges, 911 cars; lemons, 546 cars; total, 1457 cars. Total to same date last season: Oranges, 1298 cars; lemons; 503 cars; total, 1801 cars.

NEW YORK, Dec. 21.—Nine cars navels, three cars lemons sold. Also one car Arizona and one car Louisiana navels sold. The market is easier and lower on all sizes navels. The market is doing better on good quality lemons. Weather cool and cloudy.

NAVELS—	Avge.
Gobbler fy Stewart Ft Co	$2.70
Gobbler fy Stewart Ft Co	3.00
Solano fy or Stewart Ft Co	2.30
Rescue ch Stewart Ft Co	2.20
Mariposa fy Cal Cit Union	2.95

CINCINNATI, Dec. 21.—Weather cool. The market is weak on lemons. Steady on oranges. One car lemons and eight cars oranges sold. There are three cars on track. Florida Brights sold at $1.85 to $2.20. Russets, $1.65 to $2.40.

LEMONS—	Avge.
Arab San Atonio Ft Ex San Dimas	2.50
Duck SA Ft Ex San Dimas	1.85

ST. LOUIS, Dec. 21.—Weather cool. Market is steady on navels. Weak on lemons. Eight cars sold. Thirteen cars Floridas sold, average, $1.90. Seven cars on track .

NAVELS—	
Pointer AC Ft Ex Glendora	2.85
Blue Globe Riv Ft Ex	2.75
Red Globe Riv Ft Ex	2.70
California Orange Riv Ft Ex	2.50

CLEVELAND, Dec. 21.—Weather cool. Market is strong on large sizes navels. Prices low on lemons on account of quality. Seven cars sold. Six cars Floridas sold, average about $2.25. Prices generally higher. Nine cars on track. Ten cars California citrus fruit on track.

NAVELS—	
La Mesa Riv Ft Ex	3.15
Golden Rule Riv Ft Ex	3.05
Golden Riv Ft Ex	2.90
Bronco ex fy West American	3.00

NEW YORK, Dec. 18.—Five cars navels and one car lemons sold. Also one car Arizona navels. The market is unchanged on oranges, easier on lemons. Weather cold, cloudy; snow last night.

NAVELS—	
Niagara fy Stewart Ft Co	3.15
Solano fy or Stewart Ft Co	2.90
Vista De Robles small offs	2.15
Niagara small offs	2.20
Solano fy or Stewart Ft Co	3.05
Mariposa fy Cal Cit Union	3.30
LEMONS—	
Infantry ch Cal Cit Union	1.85
Arizona Desert brand boxes	5.20
Desert half boxes	2.95
Cactus halves	2.30

ST. LOUIS, Dec. 18.—Weather cold. The market is strong on large sizes navels. Overstocked with lemons. Twelve cars of Floridas sold; average $2.15. Five cars Californias and ten cars Floridas on track.

NAVELS—	
Planet SS Ft Ex Orange	2.65
Goddess SA Ft Ex Pomona	2.80
Carlo SA Ft Ex Pomona	2.80
LEMONS—	
Troubador AH Ft Ex Prenda	2.20
Commercial AH Ft Ex Prenda	1.60
Selected fy N W Blanchard	2.00
Bridal Veil or Limoneria Co	1.80
White Cross or Limoneria Co	1.50
Canon ST Ft Ex	1.75

CLEVELAND, Dec. 18.—Weather cold. Prospects are that the market will be higher on navels. Firm on good lemons. Five cars sold. Twelve cars on track. Five cars Floridas sold; about $2.15 average. The market is higher on Floridas. There are ten cars on track.

NAVELS—	
Winter Haven	3.15
Gobbler fy or Stewart Ft Co	2.70
Niagara fy or Stewart Ft Co	2.90
Conqueror Ind Ft Co	3.00
Golden Orchard Ind Ft Co	2.95
Golden State TCC Ft Ex	3.50
Sunset TCC Ft Ex	3.25
LEMONS—	
Excellent CP C F As Santa Paula	2.70
Sunside CP C F As Santa Paula	2.05

PHILADELPHIA, Dec. 18.—One car lemons sold. It is raining. The market is firm. There are two cars on track. Fifteen cars of Florida oranges sold from $1.25 to $2.20; average $1.75 per box. The market is steady on Floridas.

LEMONS—	
Coyote OK Ft Ex	2.39

PITTSBURG, Dec. 18.—One car sold, three cars on track. The market is weak on small sizes lemons. Six cars Floridas sold; $1.95 average. The market is advancing on Floridas. Weather warm.

LEMONS—	
Las Fuentes C Sperry Summerld	1.70
Montecito C Sperrp Summerld	1.20

CINCINNATI, Dec. 18.—Weather cool. The market is weak. Eight cars Florida oranges sold. Brights, $1.65 to $2.00; Russets, $1.75 to $2.20. There are four cars of California citrus fruit on track.

NAVELS—	
Sunnyslope fy Randolph Ft Co	2.85
LEMONS—	
Silence ex ch Flagler Ft Co	2.65
Cry Baby std Flagler Ft Co	2.45
Romeo	1.60

Under the head of "Pointers for the Farmer," the Aspinwall Manufacturin Company, whose advertisement appears in this paper is issuing a leaflet showing the profits to be made from potato production and they, of course, incidentally refer to their splendid line of machinery for helping such production. They make quite a showing and unquestionably prove that the demand for potatoes exceeds the production. It does seem unreasonable that we should import in 1906 1,948,160 bushels of potatoes when they could be reasonably grown in the United States.

Anthrax Cure, Milk Fever Outfits. See O. J. Weber Co., 555-557 S. Los Angeles street, Los Angeles.

Classified Liner Columns

FARM LANDS FOR SALE.

FOR SALE—AN 80 ACRE FARM, WELL stocked with vegetables, berries, grain, chickens, houses, corrals, etc. Lots of good water, piped to different parts of place. Plenty nice timber. Well supplied with farming and garden implements, vehicles and all kinds of tools. Two horses and cow, good gasoline engine which operates pump, grain mill, green bone cutter, washing machine, wringer, vegetable cutter, grindstone. Good 6000 gallon tank. Large brooder house and runs; also 4 large Jubilee Brooders. Good roads, and best of all, good markets. Six room house with all furniture. Telephone. As I have the "Imperial Valley" craze, $5500 takes everything. $2000 cash, balance 6 per cent. See the crops on this place. You'll find it's a sure enough bargain. WM. MANTZ, Santa Maria, Cal.

FOR SALE—10 ACRE RANCH, NICELY IMproved. Close to growing town and railroad; 200 bearing fruit trees; 1000 vines; small poultry-plant; house, etc. Only $2500. Address, H. F. BLUHER, Novato, Marin Co., Cal.

FIFTEEN ACRES IN KINGS COUNTY, sandy loam, good house, water, trees and vines; ¼ mile from town. Drop me a card. G. C. O. Box 175, Lemoore, Cal.

I make a specialty of orange and alfalfa ranches, and exchanges. 826 MAIN St., ROOM 9, Riverside, Cal., N. R. BELL.

POULTRY

BLUE ANDALUSIANS—MRS. GRIFFITH'S Blue Andalusians are still in the lead; noted for their utility and show records, layers of large white eggs weighing from 26 to 28 ounces per dozen. Eggs for hatching $2.50 per 15 guaranteed; also few trios $7.50 to $10. MRS. GRIFFITH, 3957 HALLDALE AVE., Los Angeles, Cal. TEL WEST 841.

BLACK BEAUTY POULTRY YARDS—Black Minorcas exclusively, bred for eggs and size, unsurpassed as layers or table birds. Eggs $6.00 per 100, single settings $1.50. Incub. chicks $12.00 per 100. cockerels $2.50 each. Mrs. A. F. Frese, Box 19, Dixon, Cal.

CAMPINES, GREAT LAYERS, BEAUTIFUL fowls, splendid foragers. Recently imported from Belgium. Eggs for hatching $3.50 and $5.00 per doz. E. SMITH, 3610 East First St., Los Angeles, Cal.

CHAS. E. SMITH—BREEDER OF BARRED Rocks exclusively. Winners of the blue wherever shown. Eggs $3.00 per 15, stock for sale. GARDENA, Cal.

FOR SALE—SOME FINE PENS OF THORObred Rhode Island Reds, also a 3 acre blue gum grove for rent to a chicken man on easy terms. B. Y. YOUNG, Huntington Beach, Cal.

DAY-OLD CHICKS, LEADING BREEDS. Send for circular. San Jose Hatchery, 395 EAST ST. JAMES St., San Jose, Cal.

O. L. CRANE, BREEDER OF PIT AND Cornish Indian Games. Rural No. 3, Santa Rosa, Cal.

SITUATION WANTED.

MARRIED MAN, EXPERIENCED IN MOST branches of farming, desires to take charge of ranch. W. T. B. WILCOX, Cupertino, Cal.

TREES WANTED.

WANTED—10,000 TO 25,000 SEED-BED ORange trees, spring delivery. BOX 50 Glendora, Cal.

GRAPE CUTTINGS.

FOR SALE—TABLE GRAPE CUTTINGS, 20,000 Muscat, $3.50 per 1,000; 10,000 Flaming Tokay, $3.50 per 1,000; 10,00 Cornichon, $4.00 per 1,000; 10,000 Malaga, $4.00 per 1,000; 5,000 Golden Chasselas, 7,000 Red Emperor. Also rooted vines, 200 Tokay, $4.00 per 100; 400 Cornichon, $4.50 per 100; 350 Malaga, $4.50 per 100. E. Dondanville, SAN GABRIEL, Cal.

FOR SALE—CAREFULLY SELECTED grape cuttings from all the standard varieties. 50 cents per hundred, $4.00 per thousand. J. L. WININGER, Central Ave. Grapery, Compton, Cal. Home Phone 192 Compton Ex.

I HAVE ABOUT 25,000 ZINFANDEL VINES left. Must sell before February 15th. Address HUGO ZENTNER, Capay, Cal.

HOGS.

REGISERED BERKSHIRE AND POLAND China hogs, both sexes. C. A. STOWE. Stockton, Calif.

ASPARAGUS.

FOR SALE—ASPARAGUS EARLY GIANT Argentien, 40 thousand strong yearling roots. Ship from nursery at Chino. Address J. B. MERRITT, Chula Vista, Cal.

MACHINERY.

FOR SALE—30 H. P. WHITE & MIDDLEton gasoline engine in good running order, at a snap. Worth looking up. N. W. Cor. Main and Bruno Sts., Los Angeles, Cal.

FOR SALE—MOTORS AND GENERATORS both A. C. and D. C. special bargains in slightly used motors. BAILIE & BRANDT CO., 943 N. Main St., Los Angeles, Cal.

FOR SALE—MEHRING MILKING MAchine with extra parts and covered pail, all in good order. WM H BIRD Box 6. Compton. Cal

FOR SALE—WOOD WORKING MACHINery, band saw and other saws, sander, screen maker etc. 117 BRUNO St., Los Angeles.

FOR SALE—RENT OR EXCHANGE, BOILers and engines, gas engines, pipe and oil well casing, pumps, all sizes and makes; get our prices before you buy. A. CANNADY & CO., 691 N. Main st., Los Angeles, Cal.

FERTILIZERS.

PROFIT IN FERTILIZING depends as much on judicious purchasing of fertilizers as on the intelligent study of the requirements of the crop. You may get the analysis you want, but from cheap materials of slow availability. When you buy ARMOUR'S ANIMAL FERTILIZERS you are assured of the highest grade of materials. They can be depended upon for results. Send for copy of Fertilizer Facts" THE ARMOUR FERTILIZER WORKS Los Angeles, Cal

TREES.

TREES AND PALMS—TEXAS UMBRELLA, Pittosporum, Laguinara, Brazilian Pepper, Eucalyptus Ficifolia, Divicia, Pinus Maritima, Pinus Sylvestris, Italian Cypress, Catalina Cherry, Arbor Vitae, Acacia Melanoxylon Balled or Potted, Acacia Armata, Dracaena Draco, Dracaera Indivisa, Washingtonia Robusta, Erythea Edulis, Chamaerops Excelsa and Phoenix Canariensis Palms. All kinds of fruit trees. Ask for catalogue and special prices on large orders. Golden State Plant and Floral Co., 21st and OREGON AVE., SANTA MONICA, Cal.

FOR SALE—VALENCIA LATE ORANGE trees. Write for our prices. ADOLPH RIMPAU. Anaheim, Cal.

A LARGE STOCK SEEDLINGS AND GRAFTed Walnuts, Elberta, Muir, Lovell, Phillips cling and all other peach, Apple, Pear, Plum, Apricot trees. All varieties trees, grapes and roses. A thrifty well rooted stock and will please you.—A. R. MARSHALL, BOX 64. Santa Ana, Cal.

WALNUT TREES—5000 LARGE, STOCKY seedlings. Seed from grafted trees of Placentia Perfection variety. Will sell very cheap if taken before Jan. 1st, as land must be cleared. G. W. SHERWOOD, Fullerton, Cal.

LEMONS, VALENCIAS, NAVELS, SANTIAgo. Frostless Nursery. L. F. Thurston, proprietor. Cleanest, largest and thriftest stock in Orange Co. Frostless, 1½ miles east of Villa Park. Address Santa Ana, R. D. 1; Sunset Telephone 354 Orange.

FOR SALE—AT RIGHT PRICES, FRUIT trees, Ornamental Trees and Shrubbery, Field grown roses, finest assortment. Write for catalogue. H. L. BAUER & SONS, 737 S. Spring St., Los Angeles, Cal.

FOR SALE—A FINE LOT OF GRAFTED walnut trees, Placentia Perfection variety, on black or English roots. W. A. LETTIN, Whittier, Cal., Home Phone, 1734.

CO-OPERATIVE LANDS.

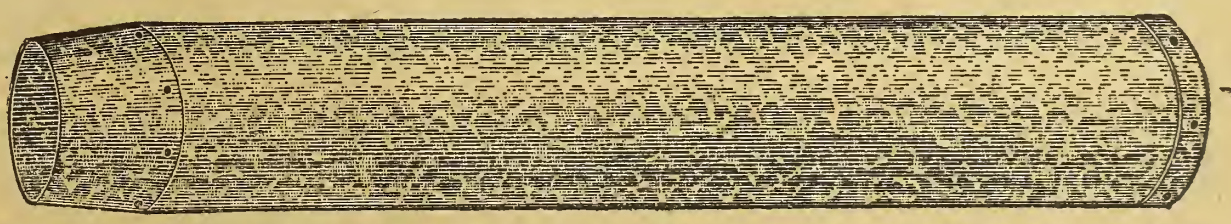
CO-OPERATIVE COLONY NOW IN ACtual possession and operating 10,000 acres land with stock and improvements. Only 400 memberships. Each colonist gets house and lot and equal share in industries, factories and 8,000 acres land. $350 secures permanent residence and employment. If your application is accepted, you can come now or later. Write for booklet. Room 304, 45 KEARNY St., San Francisco, Cal.

BERRY PLANTS.

WANTED—NO. 1 STOCK OF THE FOLLOWing: Loganberry plants, Mammoth and Grandale blackberries, Euthbert, Himalayas and Black Cap raspberries, Horse-radish and rhuhbarb roots, asparagus (Palmetta) roots. Arizona, Klondike and A 1 strawberry plants. State amount you have, size and prices. Write for catalogue. H. L. BAUER & SONS, 737 S. Spring St., Los Angeles, Cal.

FOR SALE—STRAWBERRY; PLANTS Brandywine, Excelsior and Arizona, $3.00 per thousand. Mammoth and Himalaya Giant Blackberry, $3.00 per hundred. FRED L. WING, Upland, Cal.

FOR SALE—LOGAN, MAMMOTH PHEnomenal and Himalaya berry plants, etc. Send for prices. R. J. Hunter, Oak View Berry Farm, GRIDLEY Cal.



AMERICAN SURFACE IRRIGATION PIPE

SAVES WATER, GRADING AND TIME

The **only** way to **Irrigate Alfalfa. Cheaper** than **Flumes.** This is only **one** of our **specialties. We make Riveted Water Pipe** in lengths of **ten feet** from **single sheets.** Let us **prove** to you that we make **Pipe** and **Tanks right.** WRITE FOR CATALOGUE.

AMERICAN STEEL PIPE & TANK COMPANY
FORMERLY TALLERDAY MANUFACTURING COMPANY
636-7 Pacific Electric Building **Los Angeles, Cal**

The Popular

Western

Built In the West **Best** For the West

FACTORY AT YOUR DOOR

LONGEST LIFE LEAST FUEL FEWEST PARTS ALWAYS GOES

Largest Well Testing Outfit In Southern California

Irrigation Plants

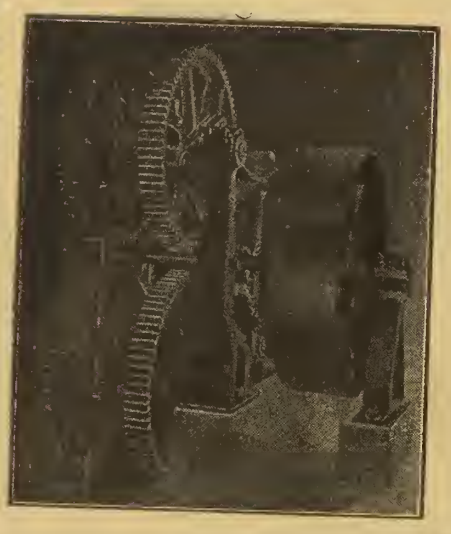
Designed Constructed Installed

We Test Our Customers' Wells

WESTERN GAS ENGINE CO.

WORKS AND OFFICE:
908-932 No. Main St.
Los Angeles, Cal.

New Pomona Double Plunger Deep Well Pump Head



Most Efficient Deep Well Pump in the State

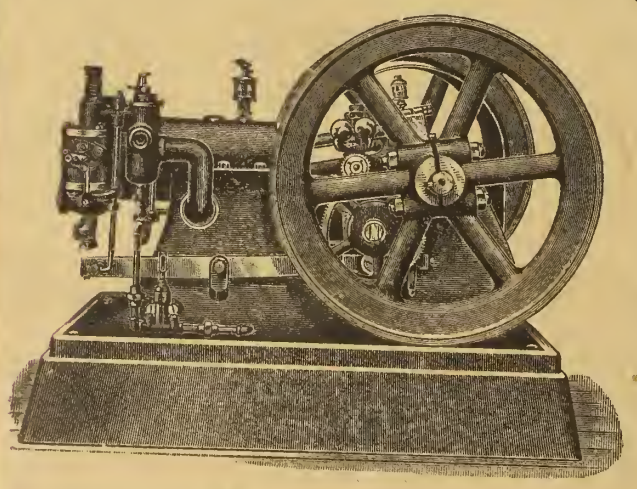
It Is Made in California

Built in Three Sizes—from Ten to Forty Horse Power

It is the smoothest running deep well pump because there are no dead centers, no jerk or jar, and no danger of breaking the pump rods. Be sure and write for our big catalogue. Watch this space for further information.

Pomona Manufacturing Co.
Pomona, Cal.

Alamo Gas and Oil Hoisting and Stationary Engines



Best in price, appearance and quality. Self-starting and small operating cost. A complete line of repair parts and accessories always on hand.

Complete pumping plants installed and we are prepared to construct all kinds of mining machinery on contract.

Write for catalog and prices

Harrison Machine Works 719-721 N. Main St. Los Angeles, Cal.

THE **Latest Deep Well Turbine Pump**

Guaranteed to deliver from 100 gallons per minute upwards, depending on the diameter and capacity of well, from a depth of 50 to 300 feet below the surface. Can be either belt driven or direct connected to electric motor as occasion requires.

Write for Catalogue 46B.

Byron Jackson Iron Works

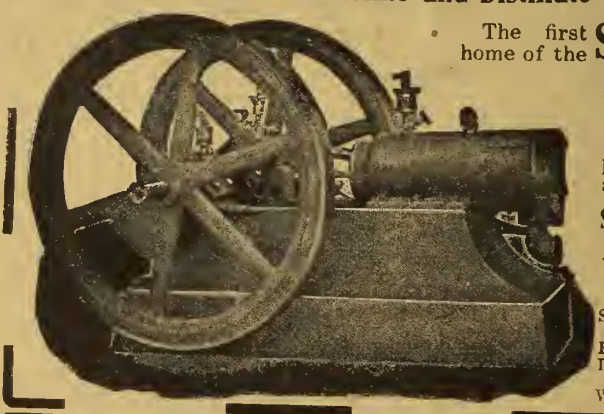
A deep well pump that has no valves or plungers to wear or get out of order, no gears, consequently no noise or breaking of teeth.

Compact, durable, always primed and ready to operate, constant flow, hence increased capacity of well.

This type of pump is fast taking the place of Vertical Steam, Deep well Plunger and Propeller Pumps.

Main Office and Works:
Carlton Station
West Berkeley, Cal.

Samson Gasoline and Distillate Engines

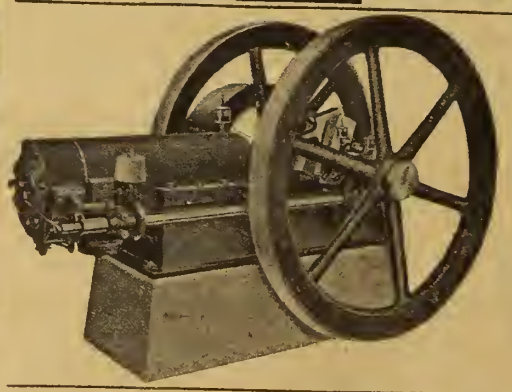


The first home of the **SAMSON** engine is a large one. Its second home, which is everlasting, is a happy one.

They may be compared with the sea—always ready to roll.

Samson Iron Works
Office and Factory:
1100 to 1198 Aurora St.
Stockton, Cal.

BRANCHES:
San Francisco,
Cor. Market and First Sts.
Fresno, 920 J St.
Los Angeles,
204 N. Los Angeles St.
W. L. Cleveland Co., Agent



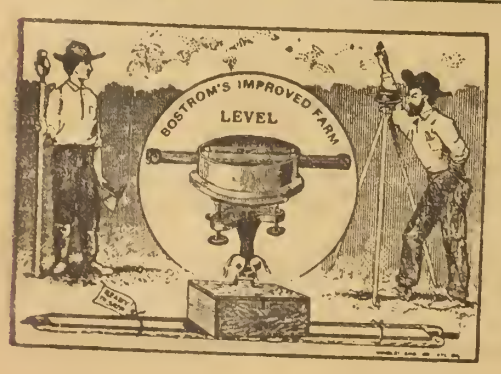
HERCULES DISTILLATE ENGINE

Heavy, Strong and Simple in Construction

The Right Engine at the Right Price

Horizontal and Vertical; All Sizes. Buy direct from the manufacturer and save agent's commission. Send for our new Catalogue C.

The Hercules Gas Engine Works
351 Market St., San Francisco
Telephone Douglas 3630

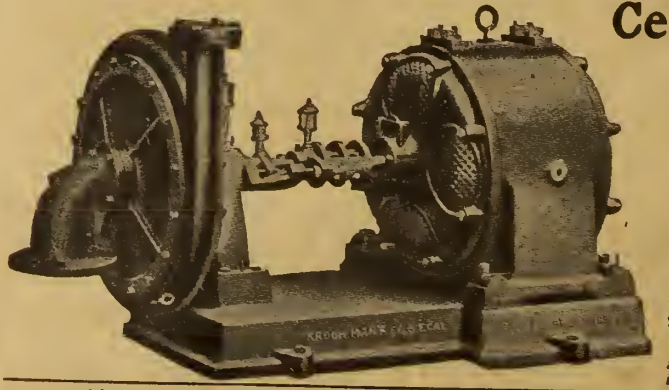


BOSTROM'S IMPROVED FARM LEVEL

Used for irrigation and drainage work. Cheapest and best level yet invented for farm use. Has the latest patented improvements in simplicity and usefulness. Can be operated by any one. Price including telescope tripod and target rod $15.00.

PALACE HARDWARE COMPANY
581 Market Street, San Francisco

Coast Agents. Send for Circular



Centrifugal Pumps

For high or low heads

Direct Connected or Belt Driven

Highest obtainable efficiency

Krogh Man'f'g. Co.

127 to 133 Beal Street
SAN FRANCISCO, CAL.

Send for New Catalogue No. 50 just issued.

When writing advertisers, mention Cultivator.

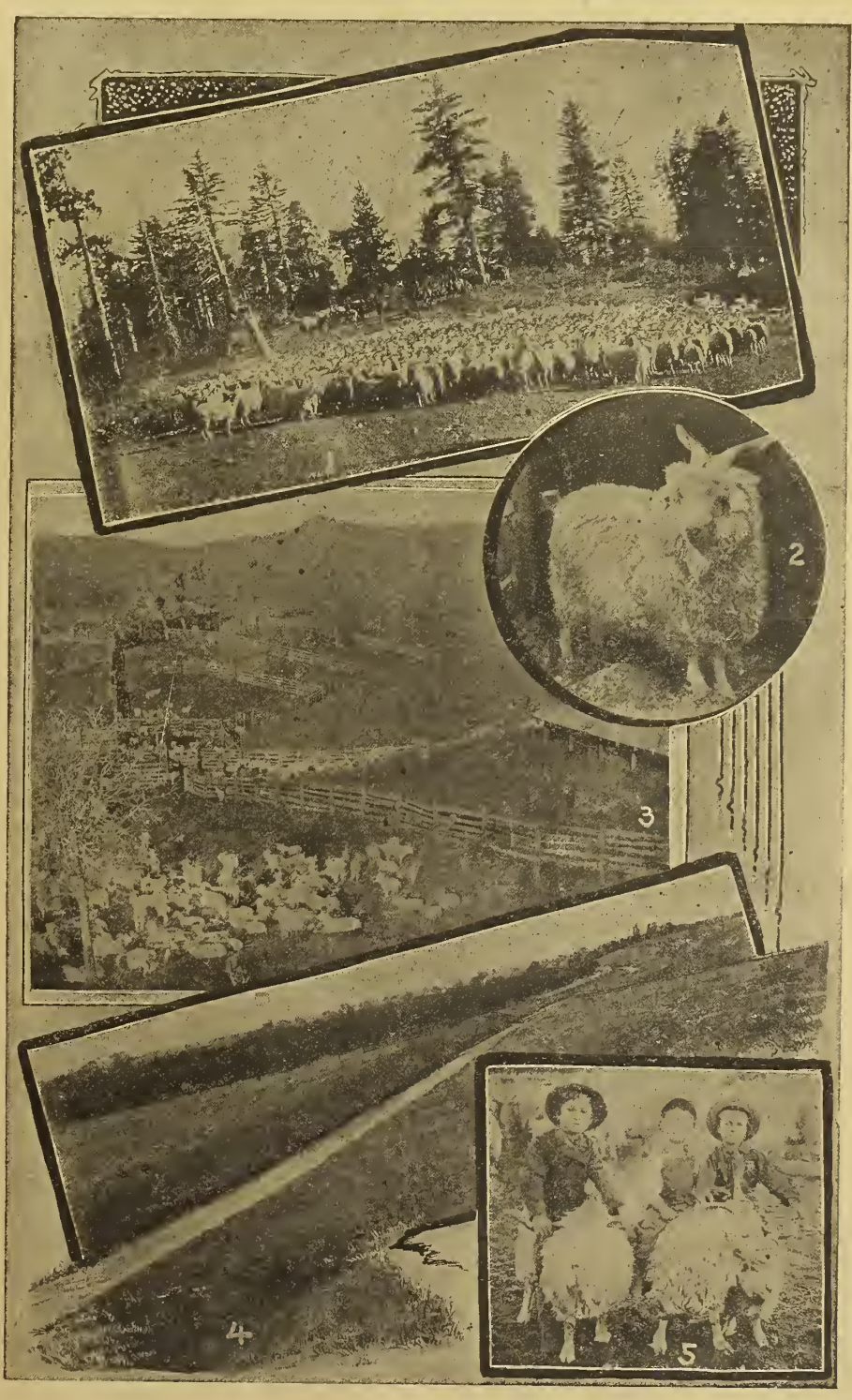
30
CA

California Cultivator

Published Weekly — One Dollar a Year

Los Angeles — December 31, 1908 — San Francisco

Farming Scenes in Glenn County



Courtesy Sacramento Chamber of Commerce.

1.—A Band of Angora Goats. 2.—Two Angora Goats. 3.—Goat Ranch Near Orland.
4.—Irrigation Ditch Near Orland. 5.—The Start in a Glenn County Race.

TREES

The New Fruits

Santa Rosa Plum
The Rutland Plumcot
The Opulent Peach

And the usual full and complete assortment of citrus, deciduous and small fruits, all of which are graphically described in our new

Twentieth Anniversary Catalogue

a copy of which we want every one to have who is interested in planting trees; it is free.

ARMSTRONG NURSERIES
ONTARIO, CAL.

More Eggs
for
Less Money

Lee's Egg Maker is composed of Deodorized Blood, Salts, Spices, Roots and Herbs, which, if fed in the morning mash, is guaranteed to double the egg production.

100-lb. Sack, $7.50 — 5 1-2 lb. Pkg., 50c
25-lb. Pail, $2.00 — 2 1-2 lb. Pkg., 25c

534 S. Main St. **Henry Albers Co.** Los Angeles, Cal.

Do you want to make money?

If so, write us for prices on our nursery stock. We have a fine stock of peaches in such varieties as—

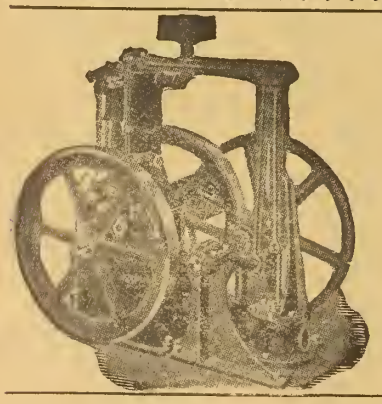
Muirs, Lovells, Phillips, Tuscans, Elbertas

These are the varieties for California and our trees have proven themselves superior to irrigated stock. We are making SPECIAL rates on the smaller grades, subject to withdrawal when stock becomes exhausted.

Get your trees from **"The Old Reliable"**

ALBANY NURSERY COMPANY
ALBANY, OREGON

And they'll be right.



A Handy Little Engine

Just the thing to run the feed cutter, the pump, the churn, the grinder, or anything on the ranch. It's well named

The Little Wonder

Write or call on

Wm. Gregory
602 No. Main St. Los Angeles, Cal.

201 Killed
in one day with one bottle
Bille's Gopher Poison

Circular with affidavit and many testimonials. Not a common Poison—in a class by itself. Endorsed by Agricultural Experiment Stations. $1.25 for large bottle. Money refunded if not as represented. If not sold by your dealer, we will prepay express on two bottles on receipt of $2.50. Or $1.75 for one bottle Poison and one bottle Poultry Remedy (best made) express prepaid. Send for free Booklet. Send us 10 names of persons having poultry and we will mail you an Egg Separator. Very handy and useful.

West Coast Mill
Los Angeles, Cal.

Crimson Winter Rhubarb

$1.50 Per Dozen. $6.00 Per Hundred. $10.00 Per Thousand.
Superlative and other berry plants. Pedigreed stock only.
J. B. WAGNER - ***The Rhubarb and Berry Specialist***
Pasadena, California

TREE TANGLEFOOT

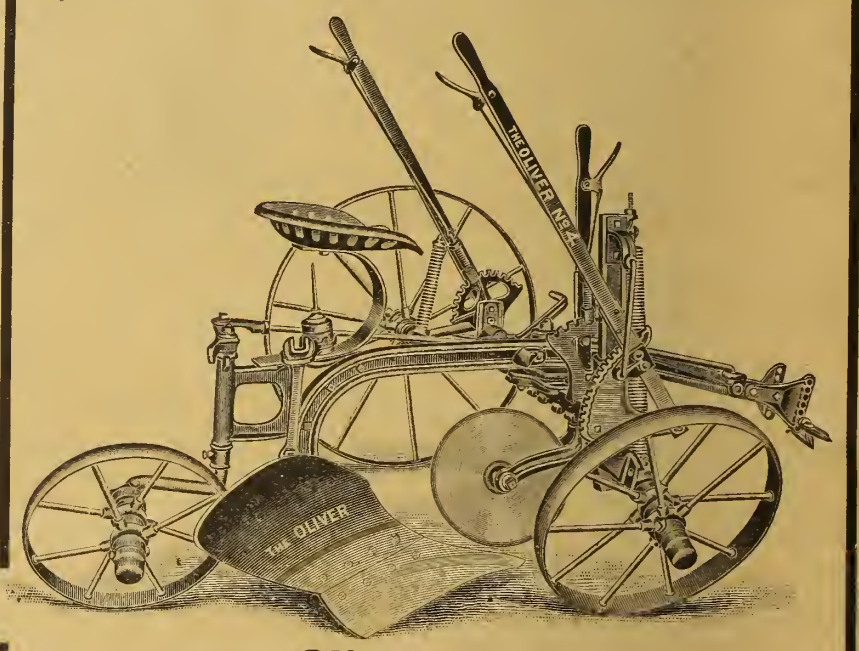
A Sticky Preparation Applied Directly to the Bark of the Trees

Will not injure trees. A band 5 inches wide and 1-16-inch thick cannot be crossed by any climbing insect pest. Remains sticky five to ten times as long as any other known substance. You can test it at slight expense, as no apparatus is required. Used by the carload in New England against the Gypsy and Brown-Tail Moths. In California it preserves prune orchards from the Canker Worm. Wherever the Gypsy or Brown-tail Moths, Tussock Moths, Fall or Spring Canker Worm or Web Worm appear TREE TANGLEFOOT is of great value, and should be used when the caterpillars begin to crawl while they are very young.

Price 25c per lb. Liberal discount on quantities. The only safe and effective banding preparation. Send for testimonials.

THE O. & W. THUM COMPANY
Manufacturers of Tanglefoot Fly Paper — Grand Rapids, Michigan

The Newest and Best
Sulky Plow



Oliver No. 4

A new and thoroughly practical Sulky Plow.

Best suited to the needs of Beet and Bean Raisers because of its strength and because it does more perfect deep plowing than any other plow.

Write for detailed information about this Sulky Plow and about the full line of Oliver Steel and Chilled Walking and Gang Plows.

Newell Mathews Co.
Southwestern General Agents 200 N. Los Angeles St., Los Angeles, Cal.

Red Cross Wind Mill
Is built right, Works right. Runs in light wind. Has ball bearing turntable and outer thrust. Easy mill to set up and take care of. Built upon honor.

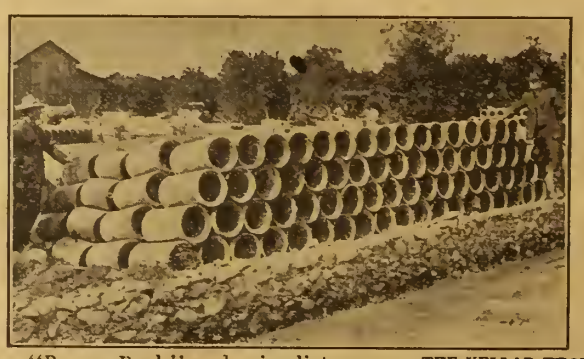
Woodin & Little Pump House
33-41 Fremont Street, San Francisco

PUMPS FOR EVERY SERVICE AND USE

Pumps for Irrigation, Road Sprinkling, Electric Motors, Gasoline Engines, Spraying, Whitewashing, Wine Pumping, Wind Mills, Hand and Power Use, Steam, etc.

Gasoline Engines Wind Mills
Tanks Pipe Pipe Fittings

SEND FOR CATALOGUE



From photograph showing amount of

Ten-Inch Pipe

made by four men from 10 bbls. of cement in 9 hours — 280 two-foot joints, or 560 feet. This pipe was made with the

"K T" Moulds

An equal amount can not be made with any other tools in the same period of time. Write for "Brown Book" and price list.

THE KELLAR-THOMASON MFG. CO., Covina, Cal.

When writing advertisers, mention Cultivator.

California Cultivator

Vol. XXXI—No. 27 Los Angeles, California, Thursday, December 31, 1908 Subscription $1 a Year

University Cereal Improvement Work

Written by Prof. G. W. Shaw and Read at the State Farmers' Institute at the State Farm

CEREAL Improvements is a large topic and because of its various aspects it may be treated of in a number of different ways.

The farmer desires to know and men only generally interested ask the same questions:

(1) How can I get more sacks per acre?

(2) What is the best wheat or barley, as the case may be?

(3) What are you doing here?

Proper culture for cereals on a great deal of our soil is even a greater need than heretofore. The need of better culture is due not only to an impoverished condition brought about by constant cropping and foul fields, but also to a lack of sufficient vegetable matter in the soil. Cereal crops, especially grain crops, show this need of vegetable matter more than root or cultivated crops, because in the case of cultivated crops the culture necessarily given to keep back weeds and conserve the moisture compensates in a measure for the insufficiency of organic material, while in the grain crops where the cultivation can be given only before and at seeding time, the soil soon is packed down and the soil moisture rapidly lost in warmer days. Both are money losing processes for the farmer and both are augmented by a decrease in organic substances in the soil.

Soils must be kept in good physical condition for cereals. Soils that are heavy and pack readily need vegetable matter to make them porous so the air may circulate and incidentally so tillage may be easier, while a light or shallow soil needs vegetable matter to hold moisture; both need vegetable matter as an immediate source of easily available plant food while at the same time its presence is an invaluable factor in aiding the processes of decay and transformation of crude soil materials into forms in which it can become available for succeeding crops. Summer fallowing is practiced for the same reason.

Summer fallowing provides no means of replenishing the store of food, but only makes available a larger amount of the elements already present. On the whole, it is a wasting process and should not be practiced generally. Not only is one season's cropping lost and extra work done without immediate returns, but an actual loss of plant food ensues in spite of the larger crop produced on the fallow ground. Summer fallowing should be practiced principally for storing moisture.

Rotate.

The best way of returning the vegetable matter to the soil is by the frequent growing of alfalfa on a portion of the ranch, and where possible feeding the hay on the ranch, using the manure as a fertilizer. Where this is not possible, green manure crops may be tried, some leguminous crop either alone or with a grass crop. This necessitates the loss of one harvest crop, but it prevents an absolute waste which would follow bare fallow and adds organic matter. Whatever way a rancher manages to keep up his profits in grain growing, whether by changing varieties, by rotation of crops, green manuring, artificially fertilizing, or any other way, he ought to feel it his duty to future soil tillers to so manage that the soil will not become less productive. The time has already come when land owners are heard saying, "that man can't rent any of my land because he robs my farm." Soil management is of first importance, for it is only after men are able to get above average yields through proper soil management and crop rotation that they are ready to grow improved varieties of cereals.

Know the Conditions.

The grain grower must know his surrounding conditions first—and he will find that there are good, medium and poor methods of farm management and good, medium and poor varieties of grain.

There is more difference in profit between poor ranching with common cereals and good ranching with the same cereals than there is between the profits of good ranching with common cereals and good ranching with first class cereals. There are experiments on record which show readily that while a produced variety may increase the profits $1.50 per acre, rotation and culture with a standard variety grown on the same farm show increased net profits of over $3 per acre. This increased profit cannot only be figured, but can actually be obtained by any farmer.

It is manifestly evident that methods of farm management should be of immediate concern to those engaged in cereal production, rather than the consideration of best adapted varieties.

When I am asked what is the best variety of wheat, I frankly answer I do not know. I believe there is no best variety of wheat or oats or barley any more than there is a best kind of stock. When a professor of animal industry recommends a kind of stock he considers the location and purpose for which he is recommending a class of stock and even the humanity in connection, and then recommends a type of cow or horse.

Variety.

In selecting the variety most suitable for any locality it is necessary to find one adapted to climate and soil. For example, in the Sacramento Valley considerable Little Club is grown; in the southern end of the state Sonora, this being a wheat that will do well on less moisture than Club; Club in turn withstands wind, and under this condition, yields more than Sonora. Along the coast region where the atmosphere is damp and where there is less sunshine and little wind, Defiance is a better variety, for it withstands the attack from rusts. In this locality Australian yields better than Club.

Objects of Investigations.

When the Cereal Investigations were established, it had its objects prescribed as follows:

(1) To improve the wheat industry of the Pacific Coast region.

(2) To conduct similar experiments with other cereals.

(3) To determine the effect of change in environment upon the growth of cereals, especially the wheat kernel.

Some of these questions can be studied in any place, but for others it is very necessary to have an even soil and have it for many years. Until last year the Department had no permanent fields. Now we have about forty acres for our exclusive use. This was so laid out that a portion of the tract could be devoted to such experiments as require a long series of years. An example is a fertilizer experiment. We have taken standard fertilizers and have compounded them in various ways and proportions so that they are to answer for us ten questions with regard to the relation of the amount of each element in the soil to thecomposition of the wheat. Aside from this we also get information as to what the soil needs in the way of fertilizer and what combination of fertilizers gives us the larger yield of grain.

Another experiment requiring a series of years is rotation study. We have a series of plats, one constantly sown to wheat, another bare fallowed every year, and others which are green-manured, every other year, using in each case a different kind of pea, bean or vetch with ryes, etc. Along with this experiment we are carrying on a variety test of over sixty varieties of legumes to determine which are the better adapted for use as green manure plants, and also for a forage or a seed crop. The varieties best adapted for green manuring are those that can do well in the early winter and produce the larger mass of water-free substance so early that it may be plowed under, say in February, and allow for a crop of corn or flax or some other crop that can be spring-sown.

According to a common notion it is necessary to change seed occasionally. An average for a series of years at other stations shows that it is not advisable to practice exchanging where home-grown seed is properly cared for.

Experiments to determine the amount of seed to sow of different varieties in order to get the best yield, and to show the effect of drilling against broadcasting seed, of deep against shallow plowing and others to show effect on yield of the time of sowing are included in this list.

The experiment showing the yields of grain from drilled plats as against plats seeded broadcast with a like weight of the same variety of seed seems to be a fairly conclusive one.

Yield.

The average yield in bushels for twelve varieties of wheat was 15.2 bushels in drilled plats, and 11.2 bushels in the plats sown broadcast; in the average yield of four varieties of barley, the difference was 4.9 bushels per acre.

We have heard some pretty good ranchers say that it does not pay to drill grain, but the cost of drilling will not exceed 40 cents per acre while the increased value of the crop is the value of four bushels of wheat or five bushels of barley per acre. At that rate is it worth while to consider a change in methods of sowing? Is a $7 net profit per acre on wheat or $5.50 net profit per acre on barley any inducement to change methods?

Before taking up variety testing, the so-called triangular experiment must be mentioned. It is a coöperation experiment between three widely-separated stations. This is an effort to determine the effect of change of climate on the composition of the harvested wheat.

Variety Tests.

We have about sixty varieties of wheat, about fifty of barley and fourteen varieties of oats in our test plats. Among wheat those varieties that are showing up well are Black Don and Velvet Don among the durums; Japhet, Propo, Club, Minnesota 163, Fretes, Early Baart, California Gem, Club, Galgalos and Kings Early, among the spring wheats; Crimean, Ghirka Winter, and Turkey among the winter varieties. On the whole, the spring wheats yielded better than the durums and the durums better than the winter varieties.

Our best barleys are Common barley, Beldi, White Smyrna, Priceness and Kitzing.

Appler's Rust Proof oats, Texas Red Rust Proof and Red Algerian out-yielded our common oats so far that it seems hardly fair to compare them.

Other Work.

Another division of our work is the hybridizing and subsequent testing of the new types which follow or the testing of selected strains of common varieties. This is the highest type of work connected with the whole subject of wheat improvement.

WILLIAMS' GOOSE-NECK CULTIVATOR

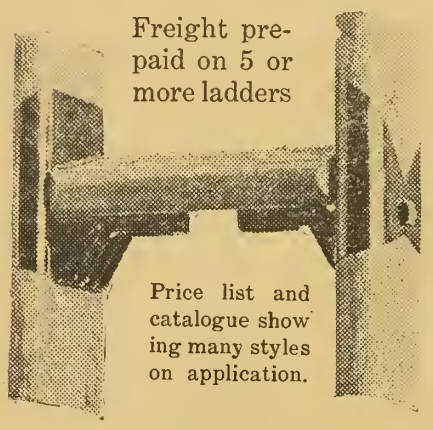
Patent applied for

Especially adapted for citrus orchards. Sizes 7 to 14 ft. Lightest draft. Write today

WILLIAMS & SON, Mfrs., Orange, California

ARNOTT & CO. General Distributors, 115 So. Los Angeles St., Los Angeles, Cal

Security Ladders



Freight prepaid on 5 or more ladders

Price list and catalogue showing many styles on application.

A profit to you on every hour's use. Long lived. Acknowledged to be the

Lightest Strongest and Best

Our bid for your patronage is this. For cash with order,

Straight Ladders 25c per Ft.

E. A. Meacham - Riverside, Cal.

Disc Harrows Cultivators
Spike Harrows Plows

From the manufacturer to the consumer direct. Does this not interest you? We can give you better goods at lower prices than any company in Southern California. No dealer's commission. No rent. No high priced salesmen to pay. The saving is for you. Give us a chance to "show you."

Southwest Supply Co.

No. 127 South Los Angeles Street, Los Angeles, Cal.

Exclusive Agents for the celebrated Racine-Sattley lines of ***Implements, Vehicles, Wagons***

Air Dried Spruce Boxes

FRUIT, EGG, BUTTER
AND ALL OTHER KIND

C. A. Smith Lumber Company

Correspondence Solicited **BAY POINT, CAL.**

Save Time—With the Brewster Picking Sack—Save Fruit

A new method sack—invented and perfected by lifelong growers. Eminent orchardists pronounce it perfect. Those who have tried it say they would not be without it. Actual tests show that a man can pick twenty-five per cent more fruit with it and with greater ease.

Sack forms semi-circle about picker's body—is supported by straps over both shoulders and held tight by belt around body. The picker can thus work with ease either on ground or ladder. When full, it does not extend below the hips.

A great feature of the Brewster Sack is the patent gate (see illustration) WHICH PRACTICALLY ELIMINATES BRUISING. Simply unfasten a hook—the gate drops—and the fruit can be quickly but very gently poured out.

The sack holds as much fruit as the old style sack.

Made in two grades.

Regular picking sack grade, sent express prepaid for $1.50.

Special extra quality—that will outlast two ordinary picking sacks—express prepaid $1.75.

Sierra Madre Sack Co., Sierra Madre, Cal.

We want reliable men in every locality to demonstrate this sack and act as our agents.

TENTS

Fumigating and Lemon Curing Tents our Specialties

Irrigating Hose, all sizes. Prices and Samples quoted upon application. Write your wants Wagon Covers, Hay Covers, and Canvas Covers of Every Description.

Mellus Bros. & Co Phones—Home, F 4871; S. S., Main 3500 250 East Fifth St., Los Angeles, Cal.

With the Citrus Growers

CITRUS CONDITIONS IN THE SALT RIVER VALLEY.

FOR some weeks past as the fruit has been packed and marketed the orange groves have been the center of attraction. The fruit has already acquired a good reputation in the eastern markets for its sweetness and fineness of texture, its most prominent claim to salability being the fact that it can easily get into the holiday market in the best possible salable condition. The prices which have been paid for the fruit this year, and which have already been noted in the Cultivator, even in the face of the reported "slump" in the market gives assurance to the growers here that they have not been mistaken in choosing this as a desirable place to enter into the citrus industry and that this early market is practically assured for the future in spite of the competition of Central and Northern California and the Imperial Valley.

The result of this is that there is a great activity in the marketing of those lands which are now classed as being the citrus belt. It appears from the sales of the past few weeks that this craze for land is as great as in Central California or the Imperial Valley, and the average price of such lands is even higher than in either of those places. A prominent real estate man has aptly said that when the big dam was begun, land sales increased enormously, the sales, however, being chiefly to local parties who realized the value of the land in the light of its possibilities and wished to share in its development. Now the tendency is to a subdivision of the larger holdings into lots suitable for the average orange grove, and the man of moderate means, and those who are buying are largely new comers, not only from the East and North and South, but from California itself. Uncertainty has practically given way to certainty in the possibility of producing both the trees and the fruit of a fixed and very desirable type. No advertising scheme is complete, even during the present excitement over sugar beets due to the starting of the big factory and the signing of thousands of acres to the industry, without it contains an attractive item concerning the present and future of the citrus industry here. It must not be supposed that this boom, if it can be called by that term, is without its false prophets and gold-brick dealers both in the sale of land and the development and propagation of trees. Some have appeared and established themselves at considerable expense to prey upon the unsuspecting public. But the dear public is not so gullible in the matter of the selection of lands as it would have been, was indeed, in the earlier development of the industry in California before there was any past experience to draw from. The boundaries of safety in the matter of lands of desirable composition and texture, and the area safely within the limits of frost are so well established by those of experience and so well defended by the reliable real estate dealers who have the future of the business at heart that there is little liability of the greenest buyer being swindled. In the matter of propagation there are certain barriers, fortunately for the growers, perhaps, which tend to make this work more difficult than in the average nurseries of California, and this has already driven several speculators, lacking in both reliability and experience, out of the business. Yet the difficulties in the way of successful propagation have been overcome and the nursery business is well established and on the way to supply in the near future the demands of the whole Territory. Differences from California exist in the care of the seed beds and young trees, their protection from heat and from the salt of the water and in the time of planting and budding. The cost of learning these primary points has been borne by local firms who have the capital to suffer some loss, and the indications are that their efforts will be rewarded by the propagation of a bountiful supply of trees of known quality, acclimated and free from injurious pests.

One of the most striking features of the citrus trees and fruit here is this freedom from pests of all kinds. The fruit without washing is as clean and bright as the best anywhere, and the orchardists are not put to the expense of fighting for this cleanliness of fruit and trees. Through the medium of consistent agitation they have recognized the immense importance of this, and there is a movement on foot to have all importations inspected at the depots. A bill will soon be presented to the Legislature establishing regular officers for this work. In the meantime, it is being done by other means, and every effort is being made to tide the thing over until the law is enacted and comes into force. Growers and shippers generally have come to recognize who are the reliable nurserymen to ship from in both California and Florida, and their stuff is being secured, even though a higher price must be paid for their product.

There is considerable talk among the trade journals concerning the probability of the holiday market being overstocked, and many predict eventual "flabbiness" of this market when the great Imperial Valley and other sections come into their own. It does not appear to persons familiar with conditions that there is any more danger of overstocking this market than that which comes later and is filled by the much greater shipments of the larger citrus belt of California. Those who are in a position to get into this market have no fear of its future or of their ability to produce stuff that will maintain prices during that season.—B. J. Jones, Phoenix.

IRRIGATE FOR GOOD LEMONS.

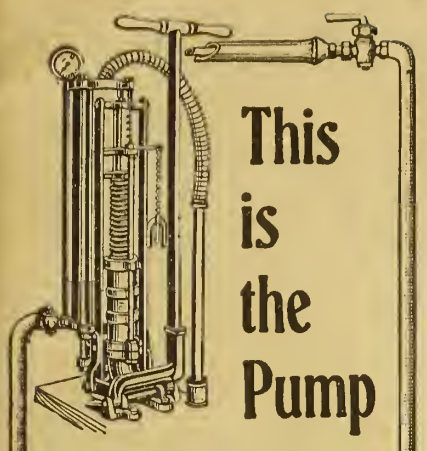
"Lemon growers in this valley will not be permanently prosperous and reap the profiit from the fruit that they ought to till they stop depending on the rainy season and irrigate," says Manager Bell of the Cahuenga Valley Lemon Exchange.

"It costs more in the long run to wait for the rainy season than it does to pay for the water. I think all farming in this part of the state would be much more profitable in the end if irrigation were employed.

"As it is, the lemon growers are not getting nearly as much out of their fruit as they could with more water."

Most Southern California packing-houses are quiet places after the busy holiday shipping, and will be until the January shipments begin a few weeks later.

Fires were a common sight during the cool nights of last week in many orange groves.



This is the Pump

that can be operated continuously at high pressure without the muscle-racking, exhausting, "man killing" exertion required for ordinary pumps. High pressure spraying means more and better fruit—and consequently more money for the grower.

Bean Magic Spray Pumps

are different from other pumps. They run smoothly and easily without clogging, and one man keeps up high pressure for two lines of hose. And they **save one-third the labor.** The Bean patent spring does it. The operator does half the work at each stroke of the handle, and works against but half the pressure indicated on the gauge. A trial quickly removes all doubt.

Our illustrated catalog No. 21 describes ten sizes of handpumps, and contains much valuable spray information, and formulas. Catalog No. 18 describes Power Sprayers. Both books sent free. Write for our special offer; state number of acres and kind of fruit.

BEAN SPRAY PUMP CO.
212 West Julian Street
San Jose, Cal.

Aermotor Gasoline Engine

Complete with Gearing ready to Attach to Your Pump

$45.00

Will pump all the time, wind or no wind, and deliver as much water as an 8 ft. Aermotor in a good wind.

From 225 to 1600 gallons per hour, depending on height water is to be raised.

Air cooled, uses Gasoline or Distillate.

A reliable, durable engine at a very low price. Can You Afford to be without one.

Send for Special Circular.

Tanks Towers Pumps Distillate Engines

Smith-Booth-Usher Co
Machinery and Supplies
Successors to
S. J. Smith Machinery Co. and L. Booth & Sons
212-214 S. Los Angeles St., Los Angeles
Home, Ex. 1090—Sunset, Main 1090

Orange Seed Bed Stock

20,000 Orange Seedlings, 1 year old, 14 to 18 inches tall. Good healthy stock. Write for prices.

Barbour Ranch San Gabriel, Cal.

The state will have a most creditable exhibit at the Alaska-Yukon exhibition. It will consist mainly of fruits.

INVASION BY EXPRESS COMPANIES.

Mr. Edward Berwick of Pacific Grove writes as follows:

"Doubts have been expressed in many places as to whether the carrying of parcels is a legitimate function of our postoffice. Machine-made Congressmen, working in the interests of transportation companies rather than in the interests of the people, have done their best by decrying the parcels post, as something that the people's postoffice had no right to institute. The address of Mr. Nathan B. Williams of Fayetteville, Ark., that I send you herewith, will, I think, prove both pleasant and instructive reading to your many readers who are interested in having our postoffice carry out fully the work for which it was established. It will be seen that the express companies, and not the postoffice authorities, are the interlopers; and that the former are liable for penalties for infringing on the privileges of the latter."

We regret that the address of Mr. Williams is so long that it is impossible to reprint. But from it we quote:

"The one great department of the government which affects the daily life of all its citizens and contributes most largely to their comfort and enlightenment is the postal service. The record of its growth embraces the history of the subjection of this mighty continent to the support and development of a great people. Its service extends to the most inaccessible places. The mails stop at no obstacles; they halt, neither for summer's heat nor winter's cold. By all the resources of a great nation, is mail matter hastened to all the people. Such has been the beneficent effects of the widest extension of this service, that the Congress, so far, has never hesitated to make apppropriations from other sources to meet the postal deficit.

"It is not certain, however, as we shall see later, that any such deficit in postal revenues would have occurred, at least for many years, but for the fact that the government, in our opinion, has permitted the express companies of the country to invade the province of the government in the carriage of mail matter and to violate the plain statute law of the nation without hindrance or molestation.

"The framers of the constitution in enumerating the powers of Congress, provided: 'The Congress shall have power—To establish postoffices and post roads,' and the development of the postal service of the United States has grown from these few simple words, found in Section 8 of the Constitution of the United States.

"In the development of the power contained in the quoted provision of the Constitution, Congress has determined what are post roads, and its last expression on the subject is: that all the waters of the United States, all railroads or parts of railroads, all canals, all plank roads, all letter-carrier routes and all public roads and highways are post roads. As such, they are subject to the jurisdiction of the Congress in all matters affecting the carrying of mail matter thereon.

"In the early days Congress appropriated money for opening and keeping in repair stage roads to the interior, in order that the mails might follow the sturdy pioneer and his family and afford them the means of communication by keeping in touch with the activities of the government. As communities became more populous and better able to open and maintain their own roads, over which the government stage coach and post rider were accustomed to pass, the use of government money for this purpose declined, but a little later it was determined expedient to subsidize railways, owing to the superior facilities which such means afforded in the carriage of mail matter."

Then follows a definition of mail matter, which is divided into four classes, the fourth being "merchandise," to which the remainder of the address gives the greater attention.

Any one who feels that the government is "usurping" the field of the parcels post should secure a copy of this address, for it treats the subject most fully and legaly.

TREES
Of All Sorts True to Name

1500 Acres Devoted to the Business of Growing Trees

Experimental Farm Plant, No. 1, 640 acres.
Nursery and Propagating Department, No. 2, 130 acres.
General Nursery Plant, No. 3, 640 acres.
Citrus Nursery and Citrus Orchards, 100 acres.

Every Fruit Grower

Should have a copy of the following books:

The Smyrna Figs at Home and Abroad. Price 50c.

Luther Burbank's Booklet (illustrated in colors). Price 25c.

California Horticulture (The Fruit Grower's Guide) Price 25c.

General Nursery Catalogue and Price List Sent Free

PAID-UP CAPITAL $200,000.00
FANCHER CREEK NURSERIES
INC.
Geo. C. Roeding Pres. & Mgr.
Box 12 Fresno, California, USA

YELLOW MONEY AND YELLOW FRUIT

Are a pair that travel together in good shape in an orange or lemon grove. Especially is this true if you will plant only the robust and true-to-name

Citrus Trees

grown by the San Dimas Citrus Nurseries, the largest growers of choice orange and lemon nursery stock in the world. No branch of horticulture offers better inducements in the way of profits, nor is there one more alluring to the person contemplating commercial fruit culture. For the past twenty years we have supplied the leading growers with their trees, and hope to number many more among our friends and patrons. Orders now being booked, subject to future delivery. Send for book on

"The Citrus Fruits: Historically, Horticulturally, Commercially."

Beautifully illustrated, and some 20,000 words of text. Price 25 cents.

The San Dimas Citrus Nurseries
R. M. Teague, Proprietor
San Dimas, California

When writing advertisers, mention Cultivator.

The Roessler & Hasslacher Chemical Co.

100 William Street, New York
Works: Perth Amboy, N. J.

THE ROESSLER & HASSLACHER CHEMICAL COMPANY NEW YORK CHEMISTS TRADE MARK

CYANIDE guaranteed 98-99% for generating HYDROCYANIC ACID GAS

The only positive eradicator of the SAN JOSE SCALE, RED and BLACK SCALE and other insect pests

FOR SALE BY

F. W. BRAUN - Los Angeles and San Francisco
HAAS BARUCH & CO., " "

George B. Warner's Orange County Nurseries

Established 1889

Grower and Dealer in Citrus and Deciduous Trees of all Standard Varieties

Soft Shell Walnut Trees, 1, 2, and 3 years old. Grafted Placentia on Native Black Walnut Root and Soft Shell Root. Street and Ornamental Trees, Palms, Dracænas, Blue, Red and Sugar Gums (large stock.) Write for prices.

Sales Yard—Corner Sixth and Main
Residence—Tenth and Bush Sts
Santa Ana, California
Phone—S. S. Red 92

Citrus Trees Navels Valencias Lemons Pomelos

Sweet and Sour Orange **Seed-Bed Trees,** strictly first-class stock, free from scale. We also have several hundred Phoenix Canariensis and Washingtonia Robusta Palms for sale cheap. Write for prices in large or small quantities.

Southland Nurseries, F. H. Disbrow, Prop.
Phones: Main 949; Home 2520 R. D. No. 1, PASADENA, CAL.

TREES TRUE TO NAME

AND

Propagated From the Best Specimens of Their Kind

TWO IMPORTANT FACTORS

Placer Nurseries

(Established 1878)

OUR ASSORTMENT

Comprises all the Best Commercial Varieties of

Peaches
Plums
Pears
Apricots
Almonds
Cherries
Apples
Persimmons
Grapes, Etc.

Order Now
Write Us

and our stock is the best that years of experience, care in selection, and care in growing can produce. That is what you want.

Catalogue and Price List Mailed on Application

The Silva-Bergtholdt Co.

Newcastle, California

Agents Wanted

Trees Grape Vines

Full Line of Commercial Sorts

Grown on Virgin Soil, True to Name, and Healthy. Nineteen years of fair and square dealing makes us the most popular nursery in the West. ***Wilson's Trees and Grape Vines*** long noted as the very best. Catalog and Price List for the asking. Address

The Fresno Nursery
F. H. Wilson, Proprietor
Box 615a - - Fresno, California

Citrus, Deciduous and Ornamental
Trees Plants Roots Vines

All the Leading Varieties

Burbank's Spineless Cactus by the Pound or Ton

Our Potted Plants and Shrubbery are free from frost and insect pests. Reliable Agents wanted to work on commission. Send for Catalogue.

San Fernando Nursery Co.
San Fernando, California

1-2 Million Eucalyptus Trees In Variety

Transplanted in flats of 100 each. We prefer orders of 1000 rather than 10,000; outside limit 20,000. Our trees are of the highest standard in quality. Correspondence invited. Our Booklet telling when, how, and what to plant free to our patrons only. Address

W. A. T. STRATTON, Nurseryman, Petaluma, Cal.

Deciduous Fruit Culture

By J. W. Mills

PUTTING HUMUS INTO VINEYARDS.

IT does not seem to be an easy matter to grow stuff in the vineyard for green manuring crops; still it should not be a difficult problem. When growers get used to the difficulties in following the practice, half of the battle is won. For many years, one of the standing topics for discussion in the numerous farmers' clubs of Southern California, was the best methods of handling green manuring crops in the orchard. Its pros and cons were thrashed out year after year till the almost universal conclusion was, that to get them in early when provision for irrigating could be made, plant the whole area between trees in the direction of irrigation furrows, grow as much as possible and turn it under early enough in the spring to allow the late rains to settle the ground and rot the green stuff, was the best practice.

One of the objections that was most difficult to overcome was that of planting every space between the rows. Most growers were quite positive that it would not do to have all the spaces filled with growing green stuff during the time of picking and hauling out the fruit. The grass would be too wet after rains and heavy dews and the teams would injure the green crops. Now in the case of the vineyardist, this period of the green crop would interfere more or less with pruning and clearing the vineyard of brush. The fire-sled would solve that phase of the subject and for those who do not practice burning the prunings in the vineyard, every-other space could be left unplanted. Prunings could be thrown into this and dragged out.

In the case of long rows and heavy prunings it would be necessary to prune one row and drag the brush out before pruning the next row. No doubt, after a trial has been made of planting the vineyard solid, the grape growers will conclude that it is the better way, just as the Southern California orange grower did. It is the better way theoretically and practically. It would seem that enough of the green crop would be left to make it worth while even if some of it is killed and besides the protection afforded by the green stuff prevents the soil from becoming slicked over.

The brush can be dragged out, hauled on a sled or burned on a sled sooner after a rain than it would be possible with the ground bare. In the handling of oranges, this has been proven to be the case. Where alternate spaces are planted to green manuring crops, the whole vineyard can be sown once in two years by shifting the planting one space each year.

What to Plant.

There are two great divisions of plant life, both of which supply humus to the soil during their process of decomposition. The plants of one of these great divisions supply humus poor or totally devoid of nitrogen, the other furnishing a high percentage of nitrogen. As nitrogen is the most expensive fertilizer that we have to buy, it requires no second thought for us to select the class of plants that furnishes this. All plants belonging to the pea and bean family do this and it is quite conclusively shown that it is due to a certain growth on the roots. When a crop of this sort is grown, considerable fertility is added to the soil even where the tops are removed as in the case of a hay crop.

After many years of experimenting in Southern California, it was found that the Canada field pea and winter vetch gave the best results. The first named is losing in popularity because it must be plowed in or disked before it nears maturity or it becomes very fibrous and tough and requires a long time in which to rot. It will often appear to be in a good succulent condition and a few days north wind will toughen it so as to make it almost impossible to handle. With vetch it is different. It will remain tender and succulent through all kinds of weather and up to the time the pods begin to mature.

How to Plant.

The seed may be sown with a drill, 40 pounds per acre, or broadcast, 60 pounds per acre. As the price of seed is quite high, ranging from 3 cents to 5 cents per pound, it is most economical to plant with a drill. Any grain or fertilizer drill will do the the work. The seed should be put in early so that the first rain will start it. Where irrigation is convenient, a heavy crop could be secured by wetting the soil and planting immediately after picking the grapes. It often happens that it is to advantage to irrigate during the winter or in the spring shortly before plowing time. In vineyards where this is feasible, the irrigation furrows should be made at the time of planting the seed. When the seed is sown broadcast, two bull-tongue furrowing shovels like those on a lister should be run about four feet apart. Where a seed drill is used these can be attached so as to follow between two drills—dividing the space so that the two furrows will soak up the space alike, clear across.—J. W. Mills.

PLANTING THE APPLE TREE.

IT is not every one who can properly plant a tree. From the time trees leave the nursery until they are permanently planted they should be exposed just as little as possible. They should never be left open to sun or wind or air when it can at all be avoided. Trees waiting for planting should be heeled in with moist earth about the roots and only taken out of the ground when actually needed for setting. The hole dug for a tree should be large enough so that the roots may be spread out naturally in all directions. Yet it is not necessary to dig wide holes if the trees are heavy-rooted, for the roots of a tree always need trimming back at transplanting time. Cut back all roots, leaving a clean-cut surface. Remove all broken or torn roots and those that have become dried or dead. The cut surfaces should always show fresh living wood. When these clean-cut surfaces come in contact with moist soil the cambium grows out over the end and forms a callus, from which new roots start very readily.

The filling-in of the holes is the most important step in the work of tree planting. To get the best results moist soil must be placed closely about the roots, so that there are no air holes or crevices. The best instrument for accomplishing this work

is the human hand. When the tree is placed in position the roots are spread out and a shovelful or two of the finest and best earth thrown in upon them. This should be carefully worked into the crevices with the fingers, and when the hole is about a third full the dirt about the roots of the trees should be tramped down solid. Moving the tree up and down while the earth is being thrown in will assist materially in avoiding air holes and in bringing the soil into close contact with all the roots. There is little danger of packing the earth too much, but trees often die for lack of tramping. After the roots are well covered and packed in tightly the hole may be filled with the remainder of the earth. Trees should be set in the orchard no deeper than they stood in the nursery. Deep setting is almost as injurious as too shallow setting. The collar of the tree is the natural indicator of the proper depth of planting. The surface should be left loose; tramping it would pack the soil so that it would lose moisture and dry out the tree. In planting trees do not pour water into the holes, for a slightly moist soil is much better than a very wet one. The proper distance for setting standard apple trees is not less than 35 feet.

Since the root surface has been reduced in transplanting the tree, it is necessary to cut back the top in similar proportion to maintain a balance between top and root. If this is not done, when the tree comes into leaf the foliage will give off moisture faster than the reduced roots can supply it, and so the tree is dried out and killed. From Bulletin of North Carolina Dept. of Agr.

NEW RICE INDUSTRY.

The National Department of Agriculture benefits all sections. A comparatively few years ago practically all of our home crop of rice was grown on the Atlantic Coast; the methods of handling it were more or less primitive, the production small, and the country was a large importer of rice. Twenty or twenty-five years ago the costal plains lands of Louisiana and Texas were pointed out as a region for successful rice culture. They were used largely as cattle ranges and were selling at from $1 to $2 per acre. With the introduction and successful production of rice, the cost of land rapidly increased, and the farmers of this region saw the need for improved methods of handling this crop. Many were pioneers from the great wheat-growing states due north—Iowa, Kansas, Minnesota, Wisconsin, Illinois and Indiana. They brought south with them the implements they had used in growing wheat—the gang-plough, drill, self-binder, header and other modern implements—and methods and ideas never before applied to rice culture, making it possible to produce a much larger quantity of rice per man than ever was oefore.

A question arose as to the competition of Oriental countries in the production of rice, and one of the department's most capable men demonstrated that one American, with modern equipment, can produce as much rice as three hundred Orientals.—National Magazine for October.

Imperial Valley Lands have a greater earning capacity per acre than any land on earth. For price list and information address, James S. White Jr., and R. A. Holt, Holtville, Cal.

Wood Soled Boots and Shoes. Boots $3.25; Shoes, $2.00 O. J. Weber Co., 565 South Los Angeles St., Los Angeles, Cal.

IT'S PENNY WISE

Policy to set out a good tree, costing good money, and then let the sun burn the bark or the rabbits gnaw it, when for $1 an acre you can get Yucca Tree Protectors that are practically indestructible. Write for free sample of the wrap. Yucca Manufacturing Company, 1380 Willow street, Los Angeles.

OREGON PEACH TREES

MUIRS
LOVELLS
PHILLIPS
TUSCAN
ELBERTAS

In First-Class Trees of Following Sizes:
2 to 3 feet
18 to 24 inches
12 to 18 inches
6 to 12 inches

SPECIAL RATES given when purchased in lots of 500 or more.

Oregon Nursery Co.
Salem, Oregon

Marshall's Nurseries..
Growers of
Fruit Trees, Grape Vines, Shade and Ornamental Trees and Plants.
Catalog sent on application
S. W. MARSHALL & SON
Fresno, California.

300,000 Eucalyptus

Fruit Trees
Shade Trees
Roses Shrubs
Palms Ferns

And everything that you need for your ranch or garden. Send for free catalogue
Sycamore Grove Nurseries
SAINT & WARNER
4584 Pasadena Ave. Los Angeles

Improved Berry Plants
Strawberry, Blackberry, Raspberry, Loganberry, Himalaya, Phenomenal Berry and Dewberry Plants in variety. You will save money by getting our catalog before ordering.
G. H. HOPKINS & SON
Burbank, Cal.

Six of the Most Valuable New Fruits
Ever Introduced in California

"Improved French" Prune
Originated by Luther Burbank
"Concord" Walnut French Variety
Grafted trees only. Better than Franquette or Mayette
"Paul" Cherry Finest Black Cherry
"Philippi" Grape Handsomer than Tokay; a month earlier. Disinfected cuttings only, to comply with quarantine laws.
All these, like Muir, Lovell, and Phillips Cling Peach, are of California origin.
"Comet" Red Currant Much larger, earlier and sweeter than any other.
"May Duke" Gooseberry
Earliest of all; large; smooth skin.
Write for Further Particulars.
EUCALYPTUS TREES by the 1000 or 100,000. No stronger stock; grown in the open, without lath shade or screen, therefore hardened to all weather.
GENERAL NURSERY STOCK
Leonard Coates Nursery Co., Inc.
EST. 1878. INC. 1905.
Morganhill, Santa Clara County, Cal.

The recent rainfall in many sections of the coast counties was in the neighborhood of one inch of rain.

The Schmeiser
Portable Automatic Derrick

Comes nearer stacking hay without assistance than any other derrick on the market

Write for Descriptive Circular today and we will tell you how it can be done.
Schmeiser Mfg. Co
Davis, California

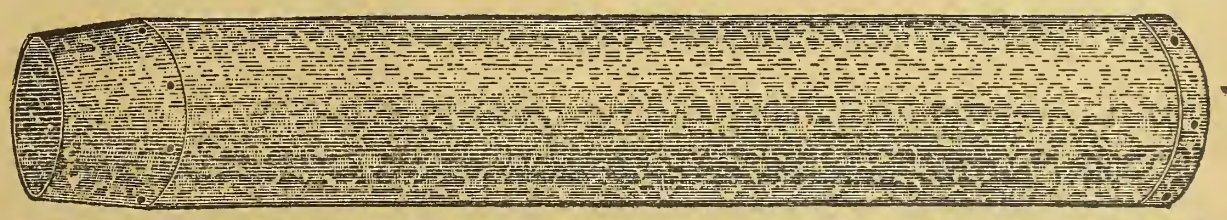
Crimson Winter RHUBARB
$1.50 a dozen, $6.00 per 100, $40.00 per 1000. Now is a good time to plant. Pedigreed Stock. Fruit Trees and Berry Plants of all kinds.
J. B. Wagner, Pasadena, Cal., Barb Specialist.

The farmers at Salinas are busy plowing

Grafted Walnuts a Specialty
15,000 Trees, Grafted and Seedlings
Grafted trees grafted on Northern black and California soft-shell roots. Seedling grown from selected nuts from grafted trees selected by myself. Place your orders early to avoid the rush and get the best trees. Price 15c and up. Took first premium on nuts and trees this year. Some orange and lemon trees still unsold. Fine lot of Kadota Fig trees.
Whittier Nursery
Est. 1887 by Present Owner
Home Phone 288
Chas. H. Hamburg
Whittier, Cal.

Trees! Trees!
25,000 Grafted and Seedling Walnuts from best selected seed and grafts. 25 kinds of Peaches, clean and well rooted; 20 varieties Apples; a choice stock of Royal 'Cots; 4000 Satsuma and all other leading Plums; Oranges, Lemons, Grapes, Palms, Roses and Ornamentals. Anything in the nursery line. A fine, well assorted, clean and thrifty stock. My personal attention is given to selecting best buds, grafts, seeds and cuttings to propagate from.
A. R. Marshall's Nurseries
Box 64 Sales Yard Cor. 3rd and Main Sts., Santa Ana, Cal.

ALL KINDS OF
STREET AND ORNAMENTAL TREES
MONTEREY CYPRESS and GUAVAS.
We can furnish palm and other ornamental trees eight feet high, which add greatly to the value of a place as soon as planted. We also have a large stock of Eucalyptus Globulus, Corynocalyx, Rudis, Rostrata, Terticornis, Diversicolor, Robusta and Ficifolia. Our special eucalyptus circular, telling how we grow and handle our eucalyptus by the Carroll method, mailed free.
Wholesale and Retail
The Anaheim Evergreen Nurseries, Tim Carroll, Proprietor
Anaheim, Orange Caunty, California
The oldest nurseries in Southern California, established in 1868 by present owner. Nurseries located 200 yards west of West Anaheim station (S. P. R. R.) Sunset Phone Main 413.



AMERICAN SURFACE IRRIGATION PIPE
SAVES WATER, GRADING AND TIME
The only way to Irrigate Alfalfa. Cheaper than Flumes. This is only one of our specialties. We make Riveted Water Pipe in lengths of ten feet from single sheets. Let us prove to you that we make Pipe and Tanks right. WRITE FOR CATALOGUE.
AMERICAN STEEL PIPE & TANK COMPANY
FORMERLY TALLERDAY MANUFACTURING COMPANY
636-7 Pacific Electric Building Los Angeles, Cal

"THE MAN WITH THE HOE"
SHOULD SOW

MORSE SEEDS
ALWAYS RELIABLE

Our new general Catalogue is now ready for mailing and will be found of great value to the planters of

SEEDS, PLANTS AND TREES

This Catalogue is the finest we have ever issued and will be mailed free to all who write to us.

C. C. Morse & Co.

If in the city call at
Retail Store
125-127 MARKET ST.
Opp. junction with California

When writing address us at
41 Jackson Street
SAN FRANCISCO

The Seed House
OF THE
Great Southwest

1909 Seed Catalogue We are now mailing 45,000 copies of the most complete Manual of Garden, Field, Flower and Tree Seeds, Nursery Stock, Eucalyptus, Incubators and Poultry Supplies.

If you have not received yours, write for it and get your name on the list.

Aggeler & Musser Seed Co.
Successors to Johnson & Musser Seed Co.
113-115 No. Main St. Los Angeles, Cal.

SEEDS
TREES PLANTS BULBS

If you are interested in the Best Seeds, Etc., write for our 1909 Seed and Plant Annual, which we will mail to you free. Please mention this paper.

Trumbull Seed Company
Successors to Trumhull & Beebe
61 California St., San Francisco

TREES We have a full line of Nursery Stock, including citrus and deciduous fruit and nut trees: Also eucalyptus trees, 15 varieties.

ROSE BUSHES, ORNAMENTAL, SHADE AND STREET TREES.

We publish a price list, a descriptive catalogue. and a special Eucalyptus pamphlet.

Orange County Nursery & Land Co.
Main office and Nursery
Riverside Branch, Cor. Market and 7th, Sts.
Corcoran Branch, Whitely Ave.
Fullerton, Cal.

Use the Famous Rex Lime and Sulphur Solution

For spraying your trees and vines. Hundreds of carloads of these goods have been used on the Pacific Coast, giving the best of satisfaction for Scale, Scab, Red Spider, Red Scale, Apple Mildew, Grape Mildew, in fact, all kinds of insects and fungi that prey upon California Citrus and Deciduous Fruits.

Manufactured and Sold by the
California Rex Spray Company, Benecia, Cal.

Fruit Growers and Vineyardists
We Would Advise You to Use Our P. N. K.

This is a Fertilizer well adapted to produce a good, vigorous growth to your trees and vines, and the best quality of fruit in quantities that you desire, consequently paying you large interest on the money expended. Make a trial of this brand and you will use no other. Write for our pamphlet, *"The Farmers' Friend,"* for 1909.

The Pacific Guano and Fertilizer Company
268 S. Market Street - - San Francisco, California

The Ornamental Garden

HANGING BASKETS.

There is no class of plants so neglected as those in hanging baskets. In their exposed position they dry out very rapidly, and are often given only a little water on top. The roots that need moisture so much seldom receive any, and these baskets are anything but ornaments. They should be taken down at least once a week, placed in a tub of water and left there for half an hour. All of the plants should be submerged. In very dry weather this should be done twice a week, then they will be things of living green, instead of withered, sickly plants. A little liquid fertilizer given while they are wet will cause them to make more rapid growth, and if of blooming kinds will cause more buds to appear. Ammonia is the cleanest fertilizer to use. One teaspoonful to one gallon of water can be given once or twice a week.

One of the most popular plants for baskets is the Asparagus Sprengeri. This is one of the most easily grown and prettiest plants for this purpose. The fronds are of a rich shade of green, and often four feet in length, and will retain their dainty green in a dry atmosphere, but will not make much growth without moisture.

The Vinca Minor variegata, a trailing plant, is admirably adapted for a hanging basket; the Tradescantia multicolor or Wandering Jew, and the Ice Plant, make beautiful trailing plants for this purpose, but are flowerless. There are some trailers that bloom and make exceedingly showy basket plants. The Weeping Lantana is very graceful, grows rapidly, and blooms continually, producing large clusters of flowers of the most delicate lilac, or rosy pink, and the foliage is very attractive. The Kenilworth Ivy is a most delicate trailer, has dainty blooms and is easily grown. The Trailing Queen Fuchsia, Russelia elegantissima and the Ivy Geraniums, all make excellent basket plants, and can be kept from year to year, increasing in beauty each year. —Park's Magazine.

REPAIRS.

Slovenly indeed is the place which is not kept in good repair. A tottering fence, a sagging gate, a hingeless door, a paneless sash, a roof lacking shingles here and there, a side of a building showing cracks every now and then, are all evidence of shiftlessness or of absence of foresight or of lack of proper energy. Prompt repairs are necessary not only for economy and convenience, but for attractiveness. When one hinge has become broken it takes but a short time for the other to go in the same way. It takes only a little while for the tottering fence to fall on its side, for the hole in the roof to become larger, for the crack in the side of the building to become extended. In making your repairs do not go at your task in a half-hearted manner, doing a temporary job and putting off the final mending. Do not attempt to prop up the tottering fence with sticks as weak as the fence itself in a vain effort to make the infirm support the infirm. Do not mend the broken hinge with a piece of baled-hay wire, thereby doing a clumsy and inefficient job. Do not stop up the openings in the sash with pieces of old shingles or of tin. Be a man! Go at your task of repairs with courage. See to it that when your work is completed the thing is as serviceable and as attractive in appearance as ever it was.

Now shall we not read what William Morris writes in regard to neatness: "Still more is this necessary, cleanliness and decency everywhere, in the cottage as well as in the palace; the lack of that is a serious piece of manners for us to correct; that lack and all the inequalities of life, and the heaped-up thoughtlessness and disorder of so many centuries that cause it; and as yet it is only a very few men who have begun to think about a remedy for it in its widest range." —Green's Fruit Grower.

THE BLACKWOOD BEAUTIFUL IN AGE.

Acacia melanoxylon is one of our most popular street trees and is no doubt more extensively planted in Southern California than any other at present. A literal translation of its specific name, melanoxylon, is blackwood and it is under this name best known locally. It belongs to the entire leaved group of acacias as distinguished from the fern-leaved section of the family.

In its native Australia it is an inhabitant of the rich river bottom lands and is not considered among the drought-resistant acacias. In fact, it has often perished here in Southern California along our foothills where soil was well drained and no soil moisture available except at a great depth. It has been slowly killed in a number of cases where it struck hardpan, even at a considerable depth, and a row is known to have died slowly where the hardpan was close to the surface at the first tree and many feet below at the last of the row. Twenty years elapsed before the last tree succumbed. In youth the tree is not handsome, for it assumes a spire-like growth, which becomes more accentuated with advancing years until it attains its ultimate height or nearly so, and then begins to spread. In some sections it attains a considerable height, but in general it begins to grow umbrageous when 30 to 40 feet high. When of age it becomes a handsome, spreading tree of great shade-giving capacity.—Los Angeles Times.

"TREE OF HEAVEN."

Among the common trees yet almost totally unknown in this western country is the much despised, ill-smelling ailanthus or heaven tree of China. A million dollars could not buy a board in any lumber yard. No dealer or manufacturer of lumber ever saw it on sale and would not recognize it if seen. Yet it is a magnificent wood, resembling white ash, and capable of receiving a high polish. The tree is a native of the Molucca islands, just south of the equator and not far from Borneo. There it forms a large forest tree. It was brought from China during the first decade of the nineteenth century and has gradually spread over the United States. It is planted for shade only. The male trees are very offensive while in blossom but the female trees have no such odor. They have a tropical appearance, spread by underground roots, suckering like the black locust so as to make them a nuisance on the lawn. The ailanthus has run wild in some places. Groups of the trees are quite frequently found where apparently birds have taken the clusters of winged seeds for lining their nests, some of the seeds thus escaping them.—Denver Field and Farm.

CRIMSON WINTER RHUBARB

$1.50 a Dozen, $6.00 per 100, $40.00 per 1000

Now is a good time to plant. Pedigreed Stock.

Fruit Trees and Berry Plants of All Kinds.

J. B. Wagner
Pasadena, Cal.
Rhubarb and berry specialist

5000 Grafted Walnuts

1 and 2 year old grafts

On California black and English walnut roots. The stock of the California black are all from northern grown seed from large trees.

Prices very reasonable.
Eucalyptus in variety.

GEO. S. WEINSHANK
505 Magnolia, Ave. Whittier, Cal.

Peach Trees
and
Grape Vines
True to Name

We can supply any kind of peach trees and grape vines. Write us what variety and quantity you want and we will quote prices on same.

Fowler Nursery Co.
Fowler, California

Bargain in Alfalfa Land

Near Porterville. Must be taken quick. Eighty acres, 15 planted, ditch water and pumping plant, 65 acres planted to grain, all fenced.
Several good buys in Orange and Dairy Propositions. Write for Booklet.

Phillips & Lockyear, Porterville, Cal.

Walnut Trees

Grafted or grown from carefully selected seed. Postal gets prices.

A. A. Mills, Anaheim, Cal.

AGENTS WANTED
GOPHER DOPE to exterminate gophers, ground squirrels, rats, mice.
KILLS A BUG Moths, Mosquitoes Bed Bugs Ants, Roaches, Fleas, Lice and Mites on Fowls. Disinfectant and Germicide.
PUROLINE A Powerful Antiseptic and Deodorizer. Odorless, non-poisonous. For use in hospitals, homes, public institutions, boards of health and ranches. ***B. & G. Disinfecting Co.,*** 417 Laughlin Building, Los Angeles, Calif.

EUCALYPTUS

Balled in moss and leaf mold. All the roots saved. None sent out too small to plant. Sample lot of 100 in flats, tops protected, $1.60.

Henry Shaw
320 River St. Santa Cruz, Cal.

E. H. Learned Tropico, Cal.
GROWER OF STRAWBERRY PLANTS ONLY

and only the **best.** Price $2.50 per thousand. Write for **my** price on lots of ten thousand or over.

Address mail R. F. D. No. 5, Los Angeles

6% Interest Paid -

ASSETS $2,002,111.
No Admission or Withdrawal Fee, Only 30 Days Withdrawal Notice.
Send For Booklet and Statement
STATE MUTUAL BUILDING & LOAN ASS'N.
223 S. SPRING ST. LOS ANGELES CAL.

Fruit men of Butte county are complaining of shortage of official horticultural inspectors.

The Poultry Shows

KINGS COUNTY POULTRY SHOW.

THE members of the Kings' County Poultry and Pet Stock Association are congratulating themselves over the successful show recently held at Hanford. The attendance was larger than at any former show held by this association and as to quality of the stock exhibited, a higher standard was maintained and much favorable comment won by all exhibits. Nearly all classes were well filled and the winners were high grade birds.

The best display for exhibit outside of Kings county was one by J. F. Forney of Kingsburg, Fresno county. The prize cup for the best display of all varieties was won by Henry Starr. The best pair, E. E. Ford. The best pen, M. Bassett. Best pullet, C. L. Newport. The best male bird, J. J. Verkouteren. Best display by one exhibitor in Kings county, M. Bassett. The best six birds in the show was won by C. L. Newport. Best display of barred rocks, one exhibitor, M. Bassett. Best display of White Rocks, C. L. Newport. Best display of Golden Wyandottes, C. L. Newport. Best display of White Wyandottes, E. E. Ford. Display of Buff Wyandottes, W. F. Huesel. Silver Wyandottes, W. F. Huesel. Best display of Dark Brahmas, Henry Starr. Best display of White Legnorns, J. F. Forney. Best display of S. C. Buff Orpingtons, G. L. Meadows. Blue Andalusians, G. L. Meadows, Black Minorcas, M. Bassett. White Minorcas, J. Cecil. Silver Hamburgs, B. P. Shirk, Black Orpingtons, J. J. Verkouteren. Games, M. A. Hill. Best display of pigeons, E. F. Bradley. Turkeys, M. Bassett. Ducks, B. P. Shirk.

The above were special winners. In the regular classes, the winners were as follows: White Leghorns, J. F. Forney, J. Cecil and C. V. Webb. Buff Leghorns, Meadows and M. Bassett. Brown Leghorns, J. J. Verkouteren. Black Minorcas, M. Bassett. White Minorcas, J. Cecil and M. A. Hill. Blue Andalusians, G. L. Meadows. Silver Hamburgs, C. P. Shirk.

Americans.

Rhode Island Reds, E. F. Bradley. Columbian Wyandottes, G. J. F. Fourney, Buff Wyandottes, W. F. Huesel. Silver Wyandottes, W. F. Huesel. White Wyandottes E. C. Ford, C. L. Elmore and E. F. Bradley. Golden Wyandottes, E. E. Ford, G. L. Meadows.

White Plymouth Rocks, E. L. Newport, B. P. Shirk. Barred Plymouth Rocks, M. Bassett, C. L. Newport.

English.

Cornish Fowls, M. A. Hill and G. L. Meadows. Buff Orpingtons, E. F. Bradley, G. L. Meadows, J. Cecil, J. R. High. White Orpingtons, J. J. Verkouteren. Black Orpingtons, J. J. Verkouteren and G. L. Meadows.

Asiatics.

Dark Brahmas, Henry Starr.

Ducks and Turkeys.

In ducks, J. R. High won all prizes on the Buff Orpingtons, B. P. Shirk on the Pekins.

In Bronze Turkeys, Geo. A. Smith, M. Bassett and R. M. Dodge were the winners.

The contest for the President's Cup was spirited, M. Bassett's birds scoring 119 points, J. Cecil 107 and G. L. Meadows 97.

Judge R. J. Venn of Fresno was the judge of the show.

PETALUMA SHOW.

RECENT four day exhibition of some of the choicest poultry in the state of California at Dreamland Rink, Petaluma, closed with so much success that the members of the Petaluma association feel great satisfaction.

The judges of the show were Mr. Henry Berrar of San Jose, and R. J. Venn of Fresno. Most of the classes were full and the judges pronounced the quality very satisfactory.

H. R. Gray kindly sends us a full list of the awards which we regret we cannot publish entire, but from it we note that in the special prizes the cup for the best bird in the show was won by R. J. Mott. Largest number of entries, V. G. Huntley. Best display, V. G. Huntley. Best collection of White Leghorns, F. E. Baldwin. Best collection in Mediterranean class, not including White Leghorns, V. G. Huntley. Best collection in American class, not including Plymouth Rocks, J. Stansfield. Best collection in French class, J. Sayles. English class, Mrs. S. Swaysgood. Buff Orpingtons, W. S. Sullivan. Asiatics, C. E. Ross, Polish and Dutch class, Mrs. D. A. Robertson. Ornamental Bantams, Moore & Mann. Ducks, Turkeys and Geese, V. G. Huntley. Novice class, A. B. Smith. Best display from Sonoma county, V. G. Huntley. Best cockerel, hen and pullet, in novice class, H. D. Anderson. Barred Plymouth Rocks, Moore & Mann. Plymouth Rocks other than barred, D. A. Robertson. Best pair Houdans, R. J. Mott. Best pen of White Leghorns in novice class, John Paul Sayles. Best collection of pigeons, L. C. Byce and Sons.

The $50 challenge cup for best S. C. White Leghorn cockerel, hen and pullet, won by Lippitt & Lippitt.

Americans.

The winners of the regular American class were as follows. Barred Rocks, Moore & Mann, H. R. Campbell. White Rocks, P. D. Culver, Mrs. D. A. Robertson, A. J. Welch.

White Wyandottes, J. L. Dinwiddie, F. J. Hellen, J. Stansfield. Silver Penciled Wyandottes, Mrs. G. E. Gindell. Silver Laced Wyandottes, J. Stansfield. Black Wyandottes, J. Stansfield. Columbian Wyandottes, George Leaman.

S. C. Rhode Island Reds, R. J. Mott.

Asiatic.

Buff Cochins, G. E. Ross and C. E. Camm. Partridge Cochins, Mrs. F. A. Burton.

Mediterranean Class.

Brown Leghorns, A. B. Smith. Buff Leghorns, B. G. Huntley. White Leghorns, Carl Gregory, F. E. Baldwin, C. B. Carrington, Model Poultry Farm. S. C. Black Minorcas, V. G. Huntley. S. C. White Minorcas, C. H. Vaughn. Blue Andalusians, G. L. Meadows, H. P. Lichau, Jr.

English.

S. C. Buff Orpington, H. D. Anderson, W. S. Sullivan. Black Orpingtons, V. G. Huntley, A. J. Welsh. White Orpingtons, Mrs. S. Swaysgood, Dr. N. Wallis, G. A. Pool. Cornish Fowls, V. G. Huntley.

French.

Houdans, W. L. Sayles, R. J. Mott, C. F. Cartwright, Carl Gregory, E. W. Green, Dr. Wallis.

Turkeys

Bronze, A. J. Snow, V. G. Huntley. White Holland, Denny & Irons.

Ducks.

Aylesbury, V. G. Huntley.
Pekins, John A. Evans, Rancho Los Encinas.

POMONA SHOW.

THE second annual show of the Pomona Valley Association was held at Pomona December 14 to 19. The show was under the management of C. C. McKey and was staged in the skating rink building which made one of the best rooms for this purpose in Southern California. The judging was done and ribbons up before the exhibition was opened to the public.

The association offered handsome ribbons on all Standard varieties of poultry and water fowl. There was also a number of handsome cups, which were donated by the generous merchants of Pomona which brought out a good number of birds, many of which were of high quality.

In the American class the white rocks took the lead with some extra quality birds which were shown by Ed Gutting of Los Angeles. The White Wyandottes was also a strong class; although not so large as the rocks yet had quality.

Mrs. C. H. Vary of Pomona made a fine showing of brown Leghorns, winning all first and second prizes. Mrs. Vary's brown leghorns are extra good birds, in fact we believe she has as good a flock as can be found in Southern California.

The white and buff leghorn classes brought out some good birds.

The Corn. fowl class contained some of the best birds to be found in America, among them were birds that had won prizes in England's largest shows. This breed is rapidly coming to the front as a fancy and utility breed.

Pomona is coming to be a winner in breeding fancy poultry; her fanciers are eager to learn the fancy points of their respective birds, and are hard workers and careful breeders. We confidently believe in a short time Pomona shows and Pomona birds will be known all over the southwest for hard work and honest dealing is bound to win.

Frank H. Thomas of Los Angeles judged.

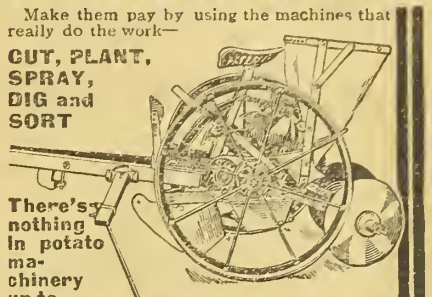
For Mehring Foot-Power Milking Machines see O. J. Weber Co., 555-557 S. Los Angeles St., Los Angeles, Cal.

Cream Separators, all sizes, all prices. O. J. Weber Co., 555-557 S. Los Angeles street, Los Angeles.

POTATOES PAY

Make them pay by using the machines that really do the work—

CUT, PLANT, SPRAY, DIG and SORT



There's nothing in potato machinery up to

ASPINWALL EQUIPMENT

Write for copy of our **free book** telling how to make money, growing potatoes.

ASPINWALL MFG. CO.
405 Sabin St., Jackson, Mich., U.S.A.
Pioneer Makers of Potato Machinery

FERRY'S SEEDS

There is scarcely any limit to the possible improvement in seeds, but it takes time and money. We have been improving flower and vegetable seeds for over 50 years. More than 2000 people are working to make Ferry's Seeds suit you. Buy the best—Ferry's. For sale everywhere.

FERRY'S 1909 SEED ANNUAL FREE ON REQUEST.
D. M. FERRY & CO., Detroit, Mich.

Seed 75 varieties of ***Sweet Peas*** Separate Colors, 5c per Pkt. 15 Leading Varieties, post paid, 50c. 4 Varieties, that bloom in 45 days, 25c. This is the best time to plant.

Get Seed Where Seeds Grow

We are headquarters for ***Lettuce, Onion, Melon, Radish, Turnips,*** Etc. Make up a list of your wants and submit to us for prices also ask for catalogue.

Eucalyptus All the Leading Varieties in seed @ 15c per package. (Six of the leading varieties, E. Rostrata, E. Leucoxylon, E. Rudis, E. Globulus, E. Corynocalyx, and E. Tereticornis for 50c, with cultural directions). 500,000 Plants, all varieties. State your wants and get prices.

Send 10c for large packet each of our new ***Cabbage Head Lettuce, King of May*** and ***Brown Dutch***, earliest and finest flavor.

Cannon Ball Cabbage is finest grown. 5c packet, oz. 25c

Morris & Snow Seed Co.
425 So. Main, Los Angeles, Cal.

Pacific Seed Co.
C. Bagnall, Prop.
GROWERS AND IMPORTERS OF
Grass, Vegetable and Flower Seeds
All Kinds of Bulbs and Onion Sets
609 J St., Sacramento, Cal.
Send for Catalogue. Please mention Cultivator.

Harris Seed Co.
San Diego, Cal.
Seeds, Plants and Poultry Supplies
High Grade Seeds at Reasonable Prices.
WRITE FOR CATALOGUE.

Live Stock and Dairy

By Mrs. Minna E. Sherman

RAMBLINGS.

THERE ARE many things that come up day by day on the farm that seem worth writing about that do not fail into line with any one subject. Dad, the engineer, is always interested in telling me to put in this or that; as he somewhat graphically puts it: "Why don't you swap that with t'other fellow." If we would only all tell each other some other things we have found out, the sum of human knowledge would increase more rapidly. Other people's farm or fruit problems are not those of Fresno County, yet the experiences may be no less acceptable of the way we try to make the best of things. This year raisins were largely left on our hands, and the growers who have not large barns or a packing house plant are badly up against it. The tule fogs of the past ten days have penetrated the stacks of raisins on the trays out in the fields. The moisture absorbed is making them soften and mould. While the possibility of having only a few raisins to sell, instead of the large tonnage that has gone into the new combine, is not admitted in the raisin circles, still it is more than a possibility. The demand for pigs for feeding with the raisins is growing, and every one that has shoats of forty or fifty pounds weight is reaping a harvest.

Pigs.

To have a goodly band of pigs on a ranch pays well. The demand comes every year about this time, and it pays better to sell them off at this age than to make hogs of them. The pigs are the natural consumers of the skim milk from the dairy, and can be raised at little cost. Alfalfa forms the basis of their food, and then in the fall the wastes of the packing house, cull grapes, principally, follow as food. Then the pumpkins are ripe and the pigs revel on them. Pumpkins and alfalfa hay, with a good run on Bermuda pasture, will keep the pigs growing thriftily. Dry places or rather those not fouled with dropping into filth, help the pigs to be thrifty. While pigs like a mud wallow in the summer time, in the winter they try to keep as far from water as possible. Exercise they find for themselves in rooting up the Bermuda. They seem to find grubs as well as liking the underground stems of the Bermuda. The Bermuda seems to be the better next season for the thorough overhauling the pigs have given it.

Corrals.

The prices of lumber make board fences and posts for yards rather too expensive. Two large pig yards, however, should be established with suitable styes. The willow trees for post and wire fencing, put a good 10 inches under the ground, will make a suitable fence. The willow posts usually grow, and in time will furnish wood enough to pay for the ground they occupy. We are cutting, for sale, about two hundred cords of wood at present, from willow posts that have grown along the ditches and field fences. The same trees will put on new tops large enough to make worth cutting again in four years.

There should be two distinct places for the pigs, and each place should be used alternately six months at a time. The young male cattle from six to fifteen months old may run in the pig yard and eat of the same foods. In the winter time the pigs will enjoy the silage the calves leave. When the pigs are removed to the other corral the one left vacant is plowed up and sown to grain. The lot the pigs were taken off last spring was put into Indian corn and pumpkins; the pigs harvested this on the ground. The present empty corral will be sown to barley, and in the summer the pigs will be turned in to harvest off. This way gives little trouble to any one, as it is only in the spring months that the pigs require to have a load of green alfalfa thrown to them.

Alfalfa.

After all, the feeding in California's great valley must center around alfalfa. Do you realize how short a time we have recognized its actual value? The dairy people twenty years ago thought it useless to try to feed a milk cow on alfalfa, as the milk was not usable. We have learned differently, and now the East is discovering the value of this plant food. The scientific work of the bacteriologist has made the growing of alfalfa a success wherever there is any plant food available in the soil. It is possible that soil can be too poor to support vegetable life at all. In the growing of alfalfa there were a few farmers that followed the old rules of bringing soil from a good alfalfa field to put on the new land. They had found out by a thousand years of experiments that it was good to do so for clovers, and that alfalfa responded kindly to the same treatment. Why? No one knew! I sometimes wonder if there is not a like scientific reason behind the water witch, and also behind the belief in the sign of the moon for planting of crops.

Scoffers.

Careful gardeners amongst Chinese always plant by the moon. Now, I doubt whether these theories are proven, yet as the moon is their standard of time, naturally they blamed her with all failures. While there is probably nothing in the idea that the fence posts will be pulled out of the ground by the rising moon, or that they will be driven in more securely by the decline of the moon. Yet it would not surprise me to have some Experiment Station send out a bulletin explaining the why and wherefore of this matter. In the days of youthful sureness, I would have laughed at the idea of such a thing. Now as I grow older the respect grows for the stored wisdom of old beliefs and experiences.

Too Slow.

That the farming public is slow to accept new ideas sometimes takes an amusing form. The leading paper of the east, along stock lines, has been gravely assuring its readers that barley may be fed to horses and cows. One man gravely gives as his experience that it may be ground, and when fed with corn and some roughage the calves grow finely on it.—M. E. Sherman.

HAND SEPARATORS.

The farmer or dairyman who handles the milk from five or more cows for profit in butter making or cream selling should own a hand separator.

The hand separator, working under favorable conditions, leaves from 1-50 to 1-20 of a pound of butter fat in 100 pounds of skim milk. The

Creamery Supplies

Cream Separators Milk Cans
Combined Churns Milk Bottles
Babcock Testers Brushes
Butter Moulds Wrappers
Engines and Boilers Milk Coolers
PASTEURIZERS
MILKING MACHINES
Creamery and Dairy Supplies and Machinery of all Styles and Sizes
Send List of Goods Wanted and we will Quote Prices
O. J. WEBER CO.
555-57 S. Los Angeles St.
LOS ANGELES, . CALIFORNIA

300,000 Feet Water Pipe Cheap

ALL SIZES

150,000 feet of this shipment is second-hand pipe, practically as good as new, and is now on sale at a big discount by the Adams Pipe Works, 2025 Bay street. Sizes and prices: ¼-inch 2 cents per foot; ⅜-inch, 2 cents per foot; ½-inch, 2¼ cents per foot; ¾-inch, 3 cents per foot, 1-inch, 4¾ cents per foot; 1¼-inch, 6 cents per foot; 1½-inch, 7 cents per foot; 2-inch, 9¾ cents per foot; 2½-inch, 15 cents per foot; 3-inch, 19 cents per foot; 3½-inch, 24½ cents per foot; 4-inch, 30 cents per foot. Oil well casing prices and sizes: 2-inch. O. D. 7 cents per foot; 2-inch, I. D. 9 cents per foot; 3-inch, 13½ cents per foot; 3¼-inch, 16 cents per foot; 3½-inch, 17 cents per foot; 4-inch, 20 cents per foot. All pipe is carefully inspected, new couplings and new thread are put on every piece, every joint is guaranteed to be first class, serviceable pipe. Mail orders promptly filled. To reach the Adams Pipe Works in Los Angeles, take car marked Pacific Boulevard, starting east on Seventh street from Broadway. Ask conductor to let you off at Bay street and go east half a block. Phones, F1917, Broadway 1264.

PASPALUM DILATATUM

King of dairying and fattening grasses. The great Australian drouth resister. Primest heavy seed direct from the grower, 4 lbs. (ample for trial) post free, $2.00. Full information.

C. F. JULIUS
Central Bucca, Coffs Harbor, New South Wales

HOLSTEINS

We Have For Sale a Number of Registered Young Bulls and Heifers $100
All our stock comes from the celebrated herd formerly owned by the Pierce Land and Stock Co., the premium herd of Holstein Friesians in California. Oakwoods Stock Farm Co., Lathrop, Cal

John Lynch Breeder of Registered **Shorthorns**
MILK STRAIN
Box 321 Petaluma, Cal.

Berkshires--Shorthorns
My Berkshires took 9 First, 6 Second and 4 Third Prizes and both Gold Medals. 50 Head For Sale.
G. A. MURPHY, PERKINS, CAL.

The Whiting Jersey Stock Farm Company
Is making the very best strains of blood fresh from the island of Jersey a specialty.
Whiting Jersey Stock Farm Co. Heber, Imperial Co., Cal

Hay For Sale. Buy your hay in car lots. Special attention given to supplying alfalfa to dairies.
E. R. LONG
Bakersfield, California

Geo. C. Roeding, Fresno, Cal., breeder of
Thoroughbred Holstein Bulls and Heifers
Thoroughbred Berkshire Boars and Sows

Thoroughbred Poland China Swine
Black Minorca and Barred Rock Poultry
High Grade Stock of Best Strains.
Young Stock For Sale
W Bassett Hanford, Cal

PURE BRED BERKSHIRES
Young Stock For Sale
Wm. H. Bird Box 6, Compton Cal.

EDISON PHONOGRAPHS, VICTORS, ZONOPHONES
Records and Supplies, delivered at your nearest railroad station upon receipt of full retail price. Write for particulars and ask for catalogue. Peter Bacigalupi & Sons, 1113-15 Fillmore St. San Francisco

Be Just As Particular

about your dairy as you are about other things, and then you may expect profitable returns and a large production of cream.

Many farmers who are up-to-date in every other way still cling to primitive methods; either because they don't care, or else because they don't realize that they are losing from 9 to 40 pounds of butter per cow per year.

The best dairy results are obtained by the

Tubular Separator

because it skims to a trace, and delivers a rich, velvety, frothless cream; furthermore, it will last a lifetime, necessitating but few repairs.

The simplicity of the Tubular alone is worthy of your consideration, notwithstanding its many other features.

For full particulars write for catalog 260. Sent free upon request. Send now.

THE SHARPLES SEPARATOR CO.,
West Chester, Penna.
Toronto, Can. San Francisco, Calif. Chicago, Ill.

***The Monarch* Stump Puller**

The Monarch is a Puller constructed on the most correct and scientific principles, and is made of the strongest and best materials obtainable.

The Monarch

Is the most successful and most popular Stump Grubber on the market today.

Write Us for Catalogue of Stump Pullers, Farm Implements, Wagons and Vehicles.

Pacific Implement Co.
133-153 Kansas St. San Francisco

CUTTER'S Anthrax and Blackleg VACCINES

Are given the preference by 80% of California stockmen because they give better results than others do.
Write for prices, testimonials and our NEW booklet on Anthrax and Blackleg
The Cutter Laboratory.
Berkeley, California

Live Oaks Farm

Frank A. Meacham, Proprietor.
Importer and breeder of RED POLLED CATTLE, SHROPSHIRE SHEEP, RAMBOUILLET SHEEP, HORNLESS AMERICAN MERINO SHEEP. Both sexes for sale. Take electric car at Petaluma or Santa Rosa for LIVE OAKS STATION. Address all mail to Petaluma, Sonoma Co., Cal.

VENADERA HERD OF REGISTERED JERSEYS

I have for sale a number of richly bred young bulls, some of them from cows that have high official yearly records.

GUY H. MILLER,
Route 3, Modesto, Cal.

When writing advertisers, mention Cultivator.

US CREAM SEPARATOR

The simplest, most durable, most economical of all Cream Separators. every requirement of the most modern dairy methods. Holds World's Record for clean skimming.

THE 1909 MODEL has solid, low frame, enclosed gearing, ball bearings, and is the easiest running separator made. Don't buy a separator without first seeing our FREE Catalogue No. 20

VERMONT FARM MACHINE CO., Bellows Falls, Vt.

A 16 Distributing Warehouses in U. S. and Canada.

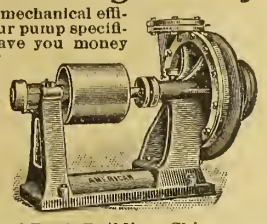
Prompt Delivery Assured

California Customers from San Francisco warehouse. No delays. Address all letters to Bellows Falls, Vt.

25% More Water than is produced by any other pump using the same power or a given amount of water can be raised with 25% less power by the

American Centrifugal Pump

Guaranteed highest mechanical efficiency. Give us your pump specifications. We can save you money and labor. Catalog for the asking.



The American Well Works

General Offices and Works

Aurora, - Ill.

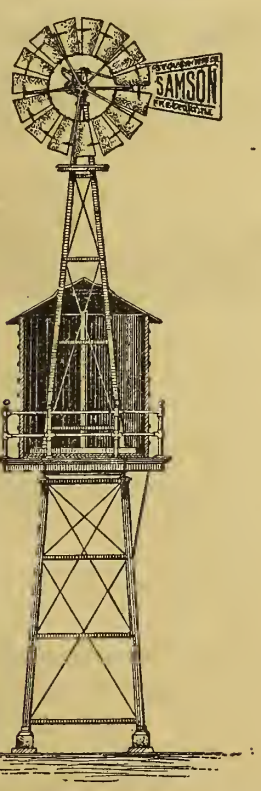
U. S. A.

First National Bank Building, Chicago

Henshaw, Bulkley & Co., 335 E. 3rd St., Los Angeles

SAMSON WIND MILLS

Have double gears, removable bearings and center lift, which double the life of the mill. They will last longer, pump more water and give better satisfaction than any other WIND MILL.



This is an up-to-date Sub-structure, Tank and Wind Mill outfit complete; substantial, economical and attractive. We build all kinds. Write us or our general agents for full information and prices, description &c., before purchasing.

The STOVER MFG. CO.

FREEPORT - ILLINOIS

California Avenue

CRANE CO., LOS ANGELES and SAN FRANCISCO

General Agents for California

Rhoades & Rhoades

Expert Live Stock AUCTIONEERS

Sales conducted in all parts of California and adjoining States. Write for dates and terms. Twenty-five Years' experience.

830-32 South Main St., Los Angeles

SEED GRAIN

Black and Red Oats, Wheat, Barley, Bean Screenings, Etc.

constantly on hand and for sale at lowest market rates

Bray Brothers Buyers of grain and beans Members Merchants Exc.

220 Clay St. San Francisco, Cal.

Established in 1855. Correspondence Invited.

Woodland is shipping car load lots of holly berries to the San Francisco markets.

gravity and the dilution (water separator) systems of securing the butter fat, will leave, under the most favorable conditions, from 1-3 to 1-4 of a pound of butter fat to each 100 pounds of skim milk.

The farmer who handles the milk from 10 cows which produce 80,000 pounds of milk per year, should not lose over 40 pounds of butter fat in the separator skim-milk. By the water separator (dilution) or gravity methods there would be a loss of 275 to 600 pounds of butter fat per year. Figuring butter fat at 20 cents a pound, there would be a loss between the hand separator and the other methods of from $45 to $110 a year. Thus the saving in one year would pay for the separator, and it would be good for many more years of service.

Advantages of the Hand Separator.

1. The machine not only secures practically all butter fat, but it delivers the skim milk in a sweet, warm, and undiluted condition ready for the calves or pigs.

2. Less labor and dairy utensils are necessary than with the other systems.

3. The cream is of uniform richness. It has removed much of the fibrous and foreign matter.

4. The milk has had no chance to absorb bad flavors and odors from standing around and the cream is produced in excellent condition.

5. There is a gain in the quality as well as the quantity of the butter obtained.

6. City dairies can improve the quality of their milk very much by running it through the separator and afterwards mix the skim-milk and cream before bottling it. The milk is not only aerated, but many of the impurities are removed, thus making it sweeter and giving it better keeping qualities.

Size of Separator to Buy.

Hand separators may be procured in sizes varying in capacity from 150 pounds of milk (18 gallons) an hour to 1200 pounds (144 gallons) an hour. The prices vary from about $40 for the smaller size, to $175 for the larger size.

The capacity of the machine per hour should not be less than 50 pounds for each cow milked. A 10-cow herd would then require a 500-pound capacity separator, and an 18-cow herd, a 900-pound capacity.

Make of Separators to Buy.

There are many makes of good separators now found on the market which are sold as cheaply as many of the poorer ones:

1. Buy a Standard machine—one that has a good recommendation and is known to be durable and reliable.

2. Don't buy the average "Catalogue house" machines. They often do good work, but as a rule do not last long enough. Many of them are cheap in construction as well as in price.

3. Buy a well known machine—one that is guaranteed in construction, material and clean skimming.

4. Secure the machine from a "near by" reliable agency.—H. M. Bainer, Professor of Farm Mechanics, Colorado Agricultural College.

Tehama Live Stock Association met at Red Bluff recently and urged that a strong position be taken to prevent ranging of stock in public highways.

Nearly four inches of rain have fallen in many parts of Sacramento valley during the season.

THE "ELECTION" RESULT THAT CONCERNED SEPARATOR MAKERS

It wasn't the "dire calamity" of the possible election of Bryan which caused the Pennsylvania manufacturer of "jobbing" cream separators to "warn" his employes to parade and vote for Taft—in a State with nearly half a million Republican majority.

It wasn't the hope of Bryan's election which caused the "Iowa" manufacturer of "mail order" cream separators to offer to take on all the employes the other man might let go—because he was already laying off and cutting down the working hours of his own men.

The ELECTION which actually concerned them both and which had ALREADY taken place and had ALREADY worked "dire calamity" to their separator ambitions—"mail order" and "jobbing" alike—was the overwhelming tidal wave ELECTION on the part of 1908 cream separator buyers to choose the IMPROVED DE LAVAL CREAM SEPARATORS, regardless of the claimed "cheapness" of one and the red paint and "talking points" of the other.

And now the makers of both "mail order" and "jobbing" cream separators are assured that it's a case of at least "FOUR YEARS MORE" for the old DE LAVAL in its newer-and-better-than-ever form, on top of its previous THIRTY YEARS of originality and leadership.

DE LAVAL DAIRY SUPPLY CO.

108 So. Los Angeles St. LOS ANGELES
42 E. Madison Street CHICAGO
165-167 Broadway NEW YORK

General Offices: 101 DRUMM STREET, SAN FRANCISCO.

107 First Street PORTLAND, OREG.
1016 Western Ave. SEATTLE
Box 1052 VANCOUVER, B. C.

When writing advertisers, mention Cultivator.

California Short-Horn Sale

Get of the Noted Sires **King Edward** and **Straight Archer**

From the Herds of

Mrs. J. H. Glide and **Howard Cattle Co.**

40 Bulls

Sale to Be Held at

Chase's Pavilion
478 Valencia St.
San Francisco, California

20 Heifers

January 5th, 1909

Write for Catalogue
Mrs. J. H. Glide Sacramento, Cal.

Write for Catalogue
Howard Cattle Co. 641 Mission St., San Francisco

Fred H. Chase & Co.
Geo. P. Bellows
Auctioneers

The Lafayette Stock Farm Lafayette Indiana

J. Crouch & Son, Props.

Percheron Belgian German Coach Stallions and Mares

Our last importation of Percheron, Belgian and German Coach stallions and mares arrived in our barns August 1st, among them the prize winners of France, Belgium and Germany, and we can show buyers over 200 head of high class stallions, which we will price as low as any reliable importer can, and give liberal guarantee and terms. If your locality needs a stallion write us.

J. Crouch & Son
1309 J St. Sacramento, Cal.

Tanks Tanks

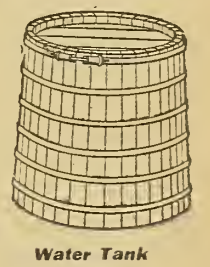
WINDELER'S PLANING MILL AND COOPERAGE

GEO. WINDELER, Prop

Water Tanks, Wine Tanks made from carefully selected stock by careful and experienced workmen. "Tanks that are well made last a long time." It will pay you to get my prices before buying.

Geo. Windeler

144-154 Berry St. San Francisco, Cal.



Wine Tank *Water Tank*

When writing advertisers, mention Cultivator.

California Cultivator

ESTABLISHED 1889

Subscription Price One Dollar per year, payable in advance. Dates of expiration of subscription accounts appear each week on the address label. John Jones 7-08 means July 1, 1908. Notify us by mail if you desire to discontinue.

Thursday, December 31, 1908

Address All Communications to

CULTIVATOR PUBLISHING CO.
115½ No. Broadway, Los Angeles.
733 Merchants Ex. Bldg., San Francisco.

Copy for Change of advertisement must be in office on Saturday preceeding date of issue. New advertising copy should reach the office not later than Tuesday to insure insertion.

CULTIVATOR PUBLISHING COMPANY
H. A. PERKINS, EDITOR AND GEN. MGR.

C. B. MESSENGER - - - - Associate Editor
FRANK H. THOMAS - - Advertising Manager
H G. HUTCHINS - - Subscription Manager

EDITORIAL CONTRIBUTORS:

J. W. MILLS - - Deciduous and Citrus
JOHN ISAAC - - - Horticuiture
J. B. NEFF - Walnut Culture and Irrigation.
Mrs. M. E. SHERMAN - Live Stock and Dairy
Q. A. LOBINGIER - - Vegetable Garden
RALPH E. SMITH - - Plant Pathology
S A. PEASE - Plant Diseases and Injurious Insects
MRS. FRANK METCALF - - - Poultry

Entered at the Post Office at Los Angeles, California, as Second-class matter.

Contents

FARMING SCENES IN GLENN COUNTY, Cover.

UNIVERSITY CEREAL IMPROVEMENT WORK, 627.

CITRUS.—Citrus Conditions in the Salt River Valley; Irrigate for Good Lemons; Invasion by Express Companies, 628, 629.

DECIDUOUS.—Putting Humus Into Vineyards; Planting the Apple Tree; The Rice Industry, 630, 631.

ORNAMENTAL.—Hanging Baskets; Repairs; Blackwood Beautiful in Age; Tree of Heaven, 632.

POULTRY SHOWS.—Kings County; Petaluma; Pomona, 633.

LIVE STOCK AND DAIRY.—Ramblings; Hand Separators, 634, 635.

EDITORIAL.—Index; Co-operative Effort Difficult; Dry Farming Congress; Render Unto Caesar; Pass the Davis Bill; Increase of Farm Products, 636.

AGRICULTURAL NOTES OF THE PACIFIC COAST.—Northern, Central, Southern, the Coast, 637.

POULTRY.—Poultry Profits; Blindness Among Chickens, 638, 639.

QUERIES.—Antlers Each Year; Belgian Hares; Chrysanthemums; Plants from Florida; Budding; Varieties of Fruit; Removing Warts; Pecans; Alfalfa in Walnut Orchard; Vines for Hot Location; Potatoes at Rialto, 640.

LEGAL QUERIES.—Statute of Limitations, 641.

VETERINARY.—Heaves; Thrush; Barley Beards; Lumpy Jaw; Quarter Crack; Open Joint, 641.

PRODUCE MARKETS.—Los Angeles Market; San Francisco Market; Citrus Markets, 642, 643.

HOUSEHOLD.—In the Country; An Encounter; Farmer's Fruit Cake; Homely Hints, 644, 645.

INDEX, 646.

INDEX TO VOLUME THIRTY-ONE.

By turning to the last pages of this issue of the Cultivator, the index to the present volume may be found. For some time the Cultivator was published without having this value of an index at the end of each volume. Because of this, the greatest good of the paper was lost. For the past few years we have found subscribers showing an increased interest in filing and preserving copies of the paper. This is because of the added value given by the index. Those who have not formed the habit of filing away the Cultivator will find it an excellent habit to form.

By the way, have our subscribers ever thought of the fund of information which is contained in the fifty-two numbers of the Cultivator which make up the two volumes of each year? In fact, we might right here add that this year's volume contains fifty-three numbers, a feature which will probably not occur again in a great many years. These fifty-three numbers containing between thirteen and fourteen hundred pages are largely made up of good live matter written by practical workers in California conditions. No book containing that number of pages of reading matter could be bought without paying many times the subscription price of the Cultivator.

We are trying to make each volume better than its predecessor and to that end if subscribers will send in their experiences and aid us in making known the worth of the Cultivator it may attain a greater circulation, and strength may be added and a greater fund of information given to every one of our increasing family of subscribers.

CO-OPERATIVE EFFORT DIFFICULT.

In an account of a meeting called by the farmers of Gridley, the Herald of that place recently closed the account with the words: "On account of the fact that not enough of the farmers of the region were represented, it was thought best not to proceed at once to organize." There is nothing at all strange in such a statement. In fact, that it is not, is to be regretted. Too often just such a condition prevails. Not enough farmers come out to consider matters of vital interest to them to make the effort win success. Conventions or meetings held to discuss cultural methods, usually meet with the same treatment on the part of the farmers, but that is not a matter of such vital importance, at least we feel that it is not at this time, as the question of marketing, or disposal of that which our ranches will produce. That thought was expressed in the recent state convention held in Sacramento. "Perhaps we need more information as to cultural matters, but our greatest need now is to dispose of what we are already growing."

The only step left open for the meeting recently held in Gridley was to appoint a committee to act as a promoter of the enterprise, which concerned only the farmers. We do not personally know a single farmer in Gridley, but we think we may safely say that many of the farmers approached by the committee which was appointed, treated the proposal of the committee with skepticism and put up the claim that any effort to cooperate would result in failure, and the manager would secure the greatest benefits, and other excuses of like nature. Our farmers should realize the necessity of such movements and aid instead of hindering the committee who in a public spirited way take up the matter of public benefit. We trust the next meeting called by our Gridley friends will be much more successful.

DRY FARMING CONGRESS.

The Third Trans-Missouri Dry Farming Congress will be held in Cheyenne, Wyoming, February 23-24-25. The Congress convenes to discuss and compare methods by which the great area of arid land can profitably be utilized under thorough tillage by which natural rainfall can be conserved. Also to encourage better methods in all districts where rainfall is slight or irrigation water limited. Plans for carrying on educational propaganda by which the arid districts of the world may be populated will also be discussed. Legislation and increased Federal appropriation to aid in this work will also be a feature of the meeting.

One feature of the Congress will be an exhibit of dry farming implements, also of photographs showing methods of work in all parts of the country.

The first Congress held by this body was in Denver in January 1906.

RENDER UNTO CAESAR.

The discussion of the tariff question before the committee at Washington has been the occasion of some little warmth between importers and growers and manufacturers of this country. This has been especially true in regard to fruits in which California is interested. The importer has used every possible argument and it is plainly charged that his statements have not all been perfectly true. This is shown by the manner in which the article, written by G. Harold Powell, Pomologist in charge of fruit transportation and storage investigations, and reprinted in the last year book of the department, has been misinterpreted. This article makes no statement whatever that should be used to the disadvantage of the California citrus industry. Yet the wrong interpretation which has been placed upon it by the importers and accepted by some papers even in California as statements by the Department may possibly have caused prejudice against this particular bureau of the department of agriculture.

It is unfortunate that the attitude which Dr. Wiley has taken regarding our fruit industry is such that fruit growers are quick to believe aught that is charged against the department and its work. But those who watched the results of the magnificent work done by Mr. Powell and his corps of assistants in California, which could not be repaid by millions of dollars, know that Mr. Powell and his co-workers have only good will for the industry. The report which he made in the year book was written in co-operation with the most distinguished growers and shippers in California and was only to attract attention to this magnificent industry.

Further proof of the interest in the lemon is shown in the fact that the department is now contemplating extensive work along the line of lemons similar to that done with oranges. This work should not be hampered and we do not believe it will be, for we believe the citrus growers are too intelligent a class of people to be influenced against this strong arm which is extended to help the industry. When Mr. Powell returns to take up his work, we trust he will find warmest greetings from the citrus industry which has not been influenced against him by false claims of importers who would take any steps to injure California.

PASS THE DAVIS BILL.

The Davis Bill which failed to secure sufficient number of votes to pass at the last session of the National Congress has secured new friends and will reach its passage it is hoped in the present Congress. This bill provides for instruction to be given in home and agricultural economics in agricultural high schools and provides an appropriation which shall begin July 1, 1911 to aid in the work. The Secretary of Agriculture is instructed to estimate to Congress the allotments to be made to each state and territory and to designate to the Secretary of the Treasury the sum appropriated.

The great argument which has been made against this bill is that it smacks of paternalism and that our national government should be engaged in government and not in education. But when it is considered that for every dollar now spent to encourage agriculture and to increase our agricultural output $20 goes into the army and navy, we think the agricultural class is justified in being very insistent on recognition for this measure. There seems no hesitancy in educating the young of the country in the arts of war. That does not seem to smack of paternalism.

INCREASE OF FARM PRODUCTS.

Considering the agricultural productions of the United States for the year 1899, as being represented by 100, the year 1908 shows a production of 165, a very satisfactory gain for the nine years. To give an idea of the gradual increase, we may say that the year 1903 is represented by 125, 1904 by 131; '05, 134; '06, 143; '07, 159; and '08 by 165. At this rate of increase it will be but a short time until our agricultural products will show an increase of over 100 per cent. In the same number of years the mineral products claim an increase of 100 per cent but yet the difference is vastly in favor of the farm for the reason that its productiveness is increased while the increased production of the minerals is not permanent but only a step toward the industry ultimately being extinguished.

Shop Talk

DATES OF EXPIRATION.

This is the last issue of the Cultivator in the good old year 1908. Many subscriptions expire with this issue, and just as a reminder we suggest that subscriptions for the coming new year be forwarded promptly. This is the most convenient time of year to attend to renewals and it is most satisfactory to make payment in advance. If the figures on your address label are 1-09 the best way to start the new year will be to send in your dollar.

And let us ask, where could it be placed to bring such valuable return as in fifty-two issues of the Cultivator? Also owing to the fact that so many readers keep files of every issue we do not discontinue mailing unless we get orders to that effect, so please bear in mind that it is necessary to drop us a card if the paper is not wanted.

We would also suggest our recent clubbing offer by which the leading periodicals can be obtained with the Cultivator at greatly reduced rates. If interested in this drop us a card for clubbing price list.

Agricultural Notes of the Pacific Coast

Northern California

Mushroom hunters have been busy on the hillsides of Newcastle, Placer county, since the recent rains.

Farmers at various institutes have endorsed and encouraged the work of the State High School at Davis.

Progressive Grange at Healdsburg, Sonoma county, will install new officers for the coming year January 9.

The Encalyptus Timber Company of California was recently organized at Petaluma with a capital stock of $100,000.

Eastern capital is aiding in the reclamation of lands along the American river by building levees to keep out spring floods.

The Northern California Bee Keepers' Association held its third annual convention at Pioneer Hall, Sacramento, Dec. 21-22.

Sutter county farmers are appealing for "a white man's country for the white man," owing to the influx of Japs in that section.

Wild horses in the mountains of Trinity county are becoming so plentiful that their depredations are causing much loss to some stockmen.

The Sacramento Valley Eucalyptus Company is the latest enthusiastic move for eucalyptus planting. It is organized by business men of Sacramento.

A force of men and teams at work on Reclamation District Number 730 in Yolo county has completed repair work on some of the levees for that district.

A couple of large gun clubs will be ousted from possession of a vast quantity of waste land in Sutter county by the large reclamation scheme now under way.

At the recent annual meeting of the directors of the Dixon Creamery the report of the secretary showed an increase in business over previous years of about $10,000.

A meeting of the Sacramento Valley Development Association was held in Sacramento recently and discussed the drainage problems of the lower part of the valley.

A recent meeting of the farmers at Yuba City has urged that a much higher grade of fruit and better method of packing should prevail during the coming season.

A shipment of prune trees from Oregon to Chico was condemned by Horticultural Commissioner Stiles because of root borers, and later the trees were returned to point of shipment.

Gridley has formed a vegetable and fruit growers' association, the purpose of which is to buy, sell and deal in vegetables. As a matter of fact, however, the real mission is co-operative marketing of products of the members.

Petaluma Grange Patrons of Husbandry elected officers for the coming year as follows: Master, D. M. Winans; overseer, George Meissner; lecturer, Mrs. Alma Walls; steward, Mrs. Mary E. Hall; assistant steward, M. D. Hopkins; chaplain, Mrs. Eliza Grover; treasurer, Mrs. E. G. Bennett; gate keeper, Wm. Dent; ceres, Mrs. J. Skiffington; secretary, Miss Cassie McGlynn.

Central California

Lodi recently sent eight cars of wine to New York in one day.

There are 625 acres of strawberries and other small fruits bearing in Santa Cruz county.

Apple buyers are engaged in picking up the small, straggling lots of apples still remaining in the Pajaro Valley.

A Fresno fig packer maintains that fig growers do not prune their trees sufficiently to get a satisfactory crop.

Over 20 car loads of fruit are already guaranteed for another apple show to be held at Spokane next year.

The recent poultry show at Hanford was one of the largest ever held by that association, and a showing of excellent birds was made.

Practically all the oranges of Lindsay have been shipped and the packing houses are closed. There will be smaller fruit shipped later in January.

The recent cold snap extended all through Central California, ranging from as low as 18 degrees in some very cold sections up to the freezing point.

The beet acreage of the Pajaro Valley will be greatly increased the coming season. It is predicted that the acreage of last year will be more than doubled.

The manager of the Modesto cannery has issued a circular urging the immediate spraying of fruit trees for curl leaf, shot hole fungus, scab, worms and moth.

Many fruit growers are greatly concerned over the work of the little pests of thrips. It seems to be almost impossible to find any effective treatment for this mite of an insect.

The orange growers of Lindsay in a recent mass meeting protested against the proposed tariff reduction on citrus fruit. The action was sent to Congresman Needham in a telegram.

As an indication of the development which has followed irrigation in Stanislaus county, it is reported that in 1899 the fees of the county recorder's office were under $2,000, while for the 12 months of the current year they have already aggregated $5,520.

The apiarists of Fresno county held an institute in Fresno recently, which was in charge of Prof. Ralph Benton of the University of California. Mr. Benton reported the honey industry of California to represent a capital of $2,100,000.

The raisin committee is continuing its work, and hopes to be in full control of the situation in a short time. The plan of organization of this body of fruit growers is more nearly on the line of the California Fruit Growers' Exchange than any the raisin growers have ever tried.

A co-operative fruit marketing organization has been organized for the purpose of handling dried fruit, especially raisins, of the members of the organization. The officers are: H. V. Rudy, president; B. E. Hutchinson, vice-president; Frank Frisbee, secretary. Directors, Frank Giannini, John McBriar of Reedley, Ed Thompson of Sultana, William Swall of Visalia, A. R. Nicholson of Oleander, and Dr. G. A. Hare of Fresno. Every stockholder must be a bona fide fruit grower.

Southern California

The Hughes Packing House at Orange is running full force on lemons.

The Riverside marmalade factory is already started on the coming year's pack.

Several sales of citrus land have been made to newcomers at San Fernando.

California Vegetable Union has advanced the price on celery in New York to 35 cents per bunch.

The first Imperial county fair is reported to have made good, and to have greatly pleased all those concerned in it.

Nearly all orange sections report that as time passes it is apparent that the damage from frost will be very slight.

Manager Hille of the San Fernando Fruit Growers' Association reports oranges and lemons in fine condition and a good crop for this year.

A movement is on foot to purchase the land now used in the Citrus Experiment Station at Riverside. This at present is controlled under lease.

The recent opening of the Imperial Valley Collegiate Institute at Heber was very successful, and is regarded with favor by all residents of the valley.

Celery men who shipped their celery in November received from 16 to 26 cents. The shipments at the present time are commanding from 21 to 31 cents.

A packing house, the third to be erected at Hemet, is about finished. It is 68 by 80 feet. It will be opened for the shipping of fruit after the first of the year.

Walnut growers of Southern California are more or less concerned in the work of the tariff commission and query is often heard as to treatment which will be given to walnuts.

The Riverside Citrus Experiment Station is improving the quality of citrus fruits by selection of variations and the finest fruits of which they can learn. It is hoped in time to develop a distinctly improved Washington navel.

Imperial Valley land owners are elated over the acceptance of the survey, and it is assured now that subdivision of some of the larger bodies of land will be made and encouragement offered to settlers on small tracts.

The manager of the San Fernando Fruit Growers' Association reports that the association will be much stronger this year than ever before, several sales of real estate having been made which transfer large orchards to the association.

Seventy carloads of oranges is the estimated crop for Hemet this year. The orange land lies to the southeast of town, and in Valle Vista, about five hundred acres in all, many of them young orchards. The orchards are in fine condition, and will yield the best quality of fruit.

Walnut growers of Southern California are endeavoring to find a reason for the apparent glut of walnuts. The production is barely above normal, and should have been taken without any remaining in the California storehouses at this time. Some think it is because of large dealers wishing to control the market.

The Coast

Alfalfa hay is selling in Tacoma at $15 per ton.

The National Stock Show will be held in Denver January 18-23.

Hood River, Ore., is making a display of apples in New York City.

One shipper of Spokane has shipped 70 cars of apples to Europe the past season.

Pendleton, Ore., is making a fierce war on coyotes, which are proving a serious pest.

One Colorado asparagus grower secured $604 from the product of one acre last season.

Seattle, Wash., recently reduced a large surplus of eggs by making a shipment to Alaska.

The grange at Lents, Oregon, now numbers 170, and is building a $6,000 concrete grange hall.

The receipts of the State Agricultural Fair of Oregon have more than doubled in the last four years.

Spokane has been selected as the next place of meeting for the National Horticultural Congress in 1910.

Owing to unsanitary conditions, the State Health Commission has closed a dairy at Bellingham, Washington.

Montana farmers are endeavoring to secure Chinese labor to take the place of unsatisfactory labor now employed.

The Washington Live Stock Association postponed its meeting, which will now be held January 8-9 at Spokane.

Many large tracts of land in the Willamette valley have been surveyed and will be subdivided early this season.

The cantaloupe crop of Colorado the last season proved on the whole successful, some growers netting $175 per acre.

Fourth annual meeting of the Washington Grain Growers' Association was held at Pullman, Washington, December 9-11.

Polk county, Oregon, recently closed a successful poultry breeders' fair. About 400 birds of high quality were exhibited.

One of the greatest industries in Mexico which is now growing faster than any other agricultural industry is that of sugar cane.

A plan is under way by which several thousand acres of rich land in Klickitat county, Washington, will be brought under irrigation.

Stockmen of Salem, Ore., have pledged $1500 for salary and expenses of an expert who will test cows and instruct dairymen in the tuberculin test.

Feeding live stock has become a great industry at Kendrick Idaho. The farmers now prefer to feed their grain and sell it on the hoof rather than to ship and sell as formerly.

One London buyer of apples recently secured a full car of premium winning fruit at the National Apple Show at Spokane and shipped to London. The car across the country was covered with banners proclaiming its contents.

The Pacific Farmers' Union is the name of the new paper which will be started at Pullman, Wash., January 1. It is under the auspices of the Farmers' Educational and Co-operative Union, and is to be the representative of those organizations in Washington, Oregon and Idaho.

Don't Forget Quality

MIDLAND Poultry Food

Is based on ***quality*** and it is quality in Poultry Food that produces eggs. ***Cheap filler*** and ***cheap grain*** will ***not*** make eggs. ***Midland Poultry Food*** contains only the ***choicest*** cereals and animal food the market affords. You ***can't*** afford to try and be successful and not get results. ***Midland Poultry Food*** will produce results. Try it and see. $1.95 per sack

PETALUMA Incubators and Brooders

Are still here, after others are gone. ***The Standard of the World Machine.*** Winners of ***more prizes*** awarded by ***World's Fair Judges*** than any other make.

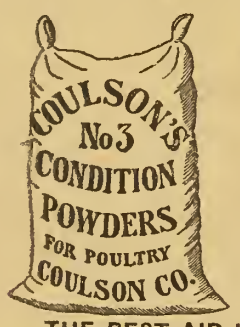
Remember, we make a hot water machine. One of the ***best hot water machines*** on the market.

Send for our Illustrated Catalogue.

Petaluma Incubator Company
Petaluma, California

Our General Agents for Incubators and Brooders and Midland Poultry Food:

Petaluma Incubator Co., Petaluma, Cal.
Aggeler & Musser Seed Co., 113-115 N. Main St., Los Angeles
Berrar & Robertson, San Jose, Cal.



Coulson's No. 3 Condition Powder

THE BEST AID IN GETTING THOSE HIGH-PRICED EGGS.
It acts as a tonic and digestive. Enables hens to lay more eggs during fall and winter.
Our FREE booklet, "THE RIGHT WAY," gives full particulars.
SOLD BY DEALERS EVERYWHERE.
Manufactured only by

Coulson Poultry & Stock Food Co., Petaluma, Cal.
Germain Seed Co., Distributing Agents, Los Angeles, Cal.

Poultry Supplies

To Be Successful:

Buy **Petaluma Incubator and Brooders**

Feed **Midland Poultry Food** Makes Hens Lay

Get Our Prices on Egyptian Corn, Swift's Beef Scraps, Bone Mills, Clover Cutters, and all Poultry Supplies. **Send for Our Large Illustrated Catalogue.**

Aggeler & Musser Seed Co.
113-115 North Main St. Los Angeles, California
Southern California Agents for Petaluma Incubators and Brooders and Midland Poultry Food

Trap Nested White Leghorns

I trap nest every bird one year before I put them in my breeding yards. and no bird that has not made a record of 13 dozen or better per year as pullet is used. I cannot afford to breed neither can I afford to sell eggs from a hen that has not made this record as a pullet. I mate 15 hens to a well matured cockerel or yearling cock bird. My breeders have roomy yards, thus assuring strong fertility. A few choice cockerels for sale.

Eggs $1.50 per 15; $7.50 per 100; $60 per 1000.

S. E. Gregg East Adams St. Riverside, Cal.

White Wyandottes

My San Jose Winnings: 1st, 2nd and 3rd Cock; 1st Cockerel; 1st, 2nd and 3rd Hen; 1st and 2nd Pullet. The above winnings were made out of ten entries.

Box 60, R. No. 1 Mrs. C. D. Hubbard San Fernando, Cal.

Profit in the Poultry Yard

By Mrs. Frank Metcalf

We solicit short articles of a practical nature from the fancier and utility breeder, giving their experience with poultry. All inquiries pertaining to feed, management, disease and its prevention will be answered through these columns.

POULTRY PROFITS.

THE Cultivator has received a long communication, or circular, it now appears, for we note that it has been printed in another paper, in which great profits are chronicled.

The poultry business in California has been very profitable to many, but it surely demands the keenest of judgment, hard work and attention to details. The easy claims to easy money may be to the disadvantage of some looking for an occupation, so the circular was referred to Mrs. Metcalf, who writes:

The writer claims that only a few hundreds of dollars are needed to start in the poultry business here, and cites a case in point. Now, to publish this letter might induce some one who is making a fair success in some other line of business to give up his certain income for a new venture and prove his undoing, for this country as well as the whole United States is full of abandoned chicken farms.

GOLDSMITH MAID.
First Prize White Leghorn Hen at San Jose and Petaluma, 1908. Owned by Frank E. Baldwin, San Jose.

This report gives the income as $1981 from 500 hens for one year. Let us try and figure out the profits before we leave the desk or shop to go into chickens. Te begin with, the hens themselves must have cost at least $1.00 each, and when marketed would bring about 50 cents each as markets go, but as they reproduced themselves perhaps that had best not be counted, although it certainly cost something to raise the pullets. To feed 500 hens and 1000 youngsters would cost a pretty penny, as I have found by years of experience, and $1.25 per head is none too much for the feed of the mature birds, each, one year. That would take $625 of his profits at a lump. The cost of raising 1000 young birds, and it would take 1000 to replace the 500 hens, you see, would not be less than $350 for feed, which would bring the cost up to $975 at the very least calculation. The eggs which didn't hatch are also a loss, although usually accounted a small one, and he surely must have had some chicks die. To raise 1000 chicks in one flock is a sad mistake, and this is the very first successful case I have ever heard of. Fifty in a flock are considered the best number, which requires more brooder room and more time to care for them.

Poultry is profitable, but to get an intelligent idea of any experiment we want the cost of the feed, the capital invested in buildings and appliances, and losses sustained by chicks dying or being killed by accident, before we can judge whether it was a successful business or not.

It is so hard to get at the real facts of a case like this. Figures are the very worst liars on earth. Why a man back east made $3000 on a farm, actual money, besides paying a manager $1000 a year, and buying expensive tools and stock—by sitting in his office and figuring it all out on a paper. He counted how many heads of cabbage could be grown on an acre, how many dozens of ears of corn, how many onions, potatoes, etc., and wondered why he had been pegging away at law all those years, only getting a paltry judge's salary when he might have been a millionaire farmer all this time.

He invested in a farm, hired his $1000 a year overseer, paid out all the money he had earned on the bench, and went bankrupt in three years. I don't know why, when figures showed him so conclusively how it could be done, but certain it is, his cabbages didn't pan out, neither did the other stuff, and failure was his portion.

Another man I knew of had a good job bookkeeping. He had a legacy of $4000 and figured out on his desk how much money could be made in chickens. Figures don't lie, he thought, so the way his profits multiplied the way he figured made him sick of his salary, and with his four thousand dollars he started in to scoop the poultry business, with a brand new, equally inexperienced wife. He bought a 14-acre ranch, with small house and barn, near a beautiful Ohio town, for $2100, and then proceeded to put up a $1300 hen house away back at the end of his farm. Poultry men who came to our place used to laugh and wonder if he meant to keep an automobile to run back and gather the eggs or do off a room or two and live in one end of it. He bought a 360-egg incubator and some high-priced eggs and set to work to fill that big building. I tried to advise him, as did other old hands at the business, but there was no use, he knew it all. He read all the books, and our experience was old-fashioned and out of date. Well, his eggs didn't hatch

Cornish (Indian) Fowl

The bird for fancy and utility. If you want the best, I can furnish them, winners at England's and America's greatest shows. Eggs from my grand double-laced, low, blocky, imported birds, $5.00, $7.50 and $10.00 per setting. Pen headed by best cockerel bred from my imported birds, mated to American bred hens, $2.50 per sitting. Young stock for breeding and exhibition a matter of correspondence.

Remember, my imported stock is the best Brent could produce, are extra large, true to shape and color. Winners of all firsts at Los Angeles, 1907-08. Clean sweep at San Jose, 1908. Send for catalogue.

Alex Aikman

1134-35 E. First St., Los Angeles

Harry McIntire

27th and D Sts.
San Diego, Cal.

Hen Pigeons $4.00 pair, mated, any color.

Runt-Homer Crosses Mated $1.50 pr

Cuckoo Cochin Bantams
$3.50 per pair

Buff Cochins $5.00 to $8.00 pair

White Wyandottes $5.00 Trio and fine Cockerels $5.00 each. I have won first prizes at all California shows.

Hatching Eggs

FROM

Quality S. C. White Leghorns, Mammoth Imperial Pekin Ducks, Golden Sebright Bantams, Black Tailed Japanese Bantams. All prize winners this season. Write for prices.

Rancho Los Encinas
R. F. D. 76, Glen Ellen, Cal.

Brown Leghorns

I won all firsts and 2 cups at Pomona Show, 1908. Eggs, $5 and $10 per 100; $1.50 and $2.50 per setting. Look up my liner advertisement in next week's paper.

Mrs. C. H. Varey
Pomona, Cal.

White Rocks

Gutting's Superiors **Bred to Lay**

They lay more than they win and they always win everything wherever shown, so figure out how they lay for yourself. We just won all firsts and seconds and two silver cups and other prizes at the Big Pomona Show.

E. GUTTING, 134 W. Slauson, Los Angeles

F. E. Baldwin's

WHITE LEGHORNS

THEY LAY
THEY PAY
At Every Pop
THEY SHOW
THEY GO
To the Very Top

Cup for Best Display, Petaluma, '07. Trophy for best display, San Jose, '08. Send for Prices and Free Booklet.

46 Washington Ave. - San Jose, Cal.

White Wyandottes

Eggs for hatching from these great egg machines. Prices $1.50 to $2.00 per 13. Orders booked now for delivery after Jan. 1st., 1909.

Wm. C. Parker, 111 Pacific Avenue, Santa Cruz, Cal.

Now is the time to hatch **BANTAMS**

Golden Sebright, Buff Cochin, and Light Brahma Eggs, $2 per 15. Prize winners.

M. E. Dillingham Box 67, San Gabriel, Cal.

YOU CAN BUY A **CHEAP INCUBATOR**

BUT IS IT FIRE-PROOF? IS IT INSURABLE?
Buy the World's Best Hatcher. Take No Risks.

CYPHERS FIRE-PROOFED INSURABLE INCUBATORS
Have been Inspected and Passed by the Fire Underwriters and bear their Insurance Label. **Free** Book tells all about it. Address nearest office.

CYPHERS INCUBATOR COMPANY, Buffalo, N. Y.
Oakland, Cal. New York City; Chicago, Ill.; Kansas City, Mo.; Boston, Mass.;

COULSON'S POULTRY FOODS
MADE IN PETALUMA
GUARANTEED
SOLD EVERYWHERE

When writing advertisers, mention Cultivator.

very well and the chicks didn't conform to his ideas of early hours, for about 8 o'clock he would go out and release them from the hot brooders and feed and water them, and let them grow or die, as they saw fit. And they certainly did see fit to die in alarming numbers, for those close, hot brooders were never cleaned properly, and those that did live were scrubs. In one year he had sunk his pile, and the place was mortgaged for all it was worth. Now, that was in Ohio, and like failures are as common as can be back east, so don't think California is an exception, only as more people are coming here looking for a soft snap than any place on earth, more failures are noted, on that account, and the legitimate chicken business gets a black eye it does not deserve.

Some times I feel like telling people that poultry is like poetry, and that a person can make a living and raise chickens, by working just as hard—at something else. Yes, that's it, work at something else, until you are certain that you have mastered the chicken business. It is just as hard to learn as any other business, and the profits are just reasonable, year in and year out. Business men who make 30 per cent. on their investments are scarce, and many of them work with all the energy they possess for much less, in addition to the capital invested. So don't rush rashly into the chicken business, but try a few hens and see how they pay, then add or reduce as the outcome pans out.—Mrs. Frank Metcalf.

Now, we trust no Cultivator reader will rush off and say that Mrs. Metcalf is "knocking" the poultry business. Quite the reverse, for the person who goes into it with eyes open and knowledge of its drawbacks is more surely a stayer than one who starts on the impulse and with enthusiasm that great profits will be secured. Only harm can come from too inflated ideas.—Ed.

BLINDNESS AMONG CHICKENS.

The most general cause of blindness in chickens is an infection caused by atmospheric conditions, says "Tribune Farmer." It is a disease allied to pink-eye in horses, and will run its course in spite of any remedy that can be used in an organ as delicate as the eye. It is an alleviating treatment which must be used rather than a curative one. Perhaps no better one can be used than a mixture of boracic acid, one dram dissolved in four ounces of water, and two ounces of Pond's extract of witch hazel. Sop the eyes with this twice or more daily. In a very bad case, use a drop or two of pure olive oil in the eye. Feed quite largely on mash food for a time, or until the eyes clear up. When the bird is totally blind—as will sometimes occur—then it must be fed from a spoon by opening the mouth and dropping the food in. It must always be kept in mind that clean henhouses, good sanitation and nursing the ailing bird are more essential by far than drugs in heading off the disease.

Goslings should be kept out of bathing water until they have a full coat of feathers. Young ducks intended for market should be kept away from pond or stream. They enjoy swimming but it toughens them and checks their growth. A good fattening ration that the young ducks relish is made from yellow cornmeal. See that they get green food if penned. They are very fond of lettuce.

BABIES FOR SALE

NINETEEN kinds of baby chicks, turkeys, ducklings, goslings, etc. Send for our price list, gives full details and information. We ship chicks safely anywhere within 48 hours, no loss. We know how to hatch and pack chicks for shipment. We are booking orders now. Place your order early and be sure then to get exactly what you want. Can supply chicks in lots of 1 dozen to 30,000 every 21 days. Write us today. Visitors always welcome.

Pioneer Hatchery, 108-112 E. 8th St., Los Angeles

Get Your Share
OF THE
High Priced Eggs
BY FEEDING
Coulson's Egg Food

IT TURNS FAILURE INTO SUCCESS, by enabling you to secure eggs in the fall and winter while prices are high.

Improvements have been effected in the composition of the **EGG FOOD** during the past year so that it is now richer in the various nutrients required by the laying hen, and is a better feed than ever before. Proof of this is had in

Actual Results

By Lewis Herbert of Penn Grove, (near Petaluma, Cal.). Began feeding 1900 hens **COULSON'S IMPROVED MASH EGG FOOD** April. Profits for each month over cost of feed:

May	$125.00
June	125.00
July	200.00
August	240.00
September	170.00

October 15th was clearing over $6.00 a day. Feeds 1¼ sacks **IMPROVED MASH** and 1¾ sacks of wheat a day.

COULSON'S BALANCED RATION POULTRY FOODS ARE GUARANTEED to contain nothing but wholesome ingredients. **OUR GUARANTY IS BACKED BY A $500.00 BOND** deposited with the Petaluma National Bank.

We have agents selling our Poultry Foods in nearly every town in California. If you can not obtain what you want from your dealer, write us and we will tell you where to get it.

Manufactured only by

Coulson Poultry and Stock Food Company ***Petaluma, California***

GERMAIN SEED CO., Distributing Agents, Los Angeles, Cal.

West Coast Seed Co.

Don't plant poor seeds—get the best.
Send for free catalogue and price list.
Also of the best

POULTRY SUPPLIES and INCUBATORS

115 W. 7th Street, Los Angeles

Single Comb White Leghorns

The first essential to success in the poultry business is that the foundation stock or eggs be purchased from a reliable breeder, one who has made a success of the poultry business from the fact that his stock has proven to be the Business Hen. Such stock or eggs we now offer you and stand back of our sales. Prices for stock on application. Correspondence solicited.

Eggs—$1.50 per 15, $7.00 per 100 and $60.00 per 1000.

STUHR-WILLIAMSON POULTRY CO.

378 Bandini Ave. Home Phone 1490 RIVERSIDE, CAL.

Queries and Replies

Questions to be answered in this department should be received at this office one week before reply is expected. Write plainly on one side of the paper and sign full name and address. Uusigned communications receive no attention.

Antlers Each Year.

May I ask if the oft repeated statement that a deer loses its antlers each year is a fact?—Appreciative Subscriber, Crows Landing.

It is a fact, and an extra prong comes with each new year's growth. The old horns are lost in the spring time, new ones coming on in May or June. They attain full growth usually by the middle of July when they are "in the velvet." They are not thoroughly hardened sometimes until the middle of September or even October.

Belgian Hares.

Where can I get Belgian hares and how are they fed and cared for? Should the males and females be allowed in the same pen? Will they do well if allowed to run loose?—J. L. R., Laton.

This question has been referred to a subscriber in the northern part of the state who has experience and is qualified to answer and will be answered in these columns as soon as returned. The sexes should be kept separate and they will not usually live long if turned loose.

Chrysanthemums.

Please tell me how and when to plant chrysanthemums and where may I get a good variety?—W. S. M., Santa Paula.

Chrysanthemum plants may be secured in season which is about April or May. That is, that is the time of dividing the old plant or of setting out the rootings made from little slips. They may be secured from any nurseryman usually; at least the nurserymen and seed houses advertising in the Cultivator can supply you. The culture is very simple and full instructions will be given in the Ornamental Garden Department in the next few weeks.

Plants from Florida.

Is there a law or restriction against having sweet potato plants sent to me from Florida? There is a certain kind grown there which I wish to try this coming season.—Subscriber, Chino.

The quarantine against all plants from Florida would prevent your receiving sweet potato or any other living plant from that state. This is because of the white fly which infests that section and to attempt to bring any plant from there would be nothing short of criminal. It might cause loss of many thousands of dollars to your community.

Budding.

How can I tell when is the proper time to bud, and how are the buds prepared? What is the best graft for walnuts? Is there any special treatment of scions?—Subscriber, San Luis Obispo.

The question is rather indefinite to give an intelligent answer, but in general we may say that with any tree the proper time of budding is when the bark will slip easily, so that the bud may be shoved in when the slit is made. With the orange the early spring growth, say in April, is favorable, and some prefer the fall budding, which occurs usually in September, before the sap stops flowing. The walnut is usually grafted, which is done in the springtime, when the sap first starts and before the leaf is out. The only special treatment for the scions is that they shall be taken while still dormant, and may be packed in wet sand to keep until the stock is in proper condition, which may be determined by the appearance of the tree, the swelling of buds, etc. As to what is the best graft, if by that you mean the age of the wood, there is difference of opinion, some maintaining that one-year-old wood is best. But regarding the wood, Mr. Neff of Anaheim says: "The scions should always be of solid, mature wood, that is, with as small pith as can be had readily and must have good living buds. Each scion should be about one-quarter of an inch in diameter, and should have two buds. The growth having buds close together is best, as shorter scions can be used."

More explicit directions for grafting, also budding, with illustrations, may be had in Wickson's California Fruits.

Varieties of Fruit.

Will you be kind enough to give an old subscriber a list of the best variety of each kind of fruit trees in this locality? Would like from earliest to the latest peaches, apples, apricots, cherries, pears, plums, prunes, nectarines and almonds. Will almonds do well planted singly, also walnuts? Also best grapes for raisins and table. Can sell surplus at cannery. We feel that your paper is an old friend so go to it with these questions. Do thin shelled walnuts come true from the seed or should they be budded or grafted?—Old Subscriber, Kern City.

It would require practically the reprinting of a nursery catalogue to give our subscriber all the information he asks and as he asks it. The first consideration is what will your local market take from you at a good price? You say the cannery will take the surplus fruit, hence the cannery should be consulted as to varieties which they will purchase. Bear in mind that in some fruits, for instance peaches, lemon clings and one or two free stones are favorites while others will not be taken at any price. Your cannery can give you information along that line. For this column to give earliest to the latest of all varieties you mention would require too much space. And in that your own locality can give you a better answer than any one at a distance; for instance apples. If you are in Watsonville you find all the apple growers recommending the Newton Pippin or the Bellflower. In your vicinity we imagine the earlier or summer apples would be preferable.

In cherries would plant very sparingly for we never have heard of cherries having been a particular success near Kern City. With almonds, unless you are fairly free from late spring frosts, we would also plant very sparingly. Walnuts may be planted singly for, while the blossoms are separate the staminate and pistillate both occur on the same tree.

The almond proves the better bearer by cross pollination, that is the planting of different varieties. The soft shell especially is deficient in pollen and will not bear well if planted alone. Neither thin shelled walnuts nor any other come true to the seed as a rule. Formerly it was thought that such would be the case. But now, as we recently heard one grower express it, he would as soon think of planting a seedling apple as a seedling walnut. This is an extreme view but indicates that budding or grafting the walnut insures best results. A nursery catalogue from a good nurseryman, or better, conversation with one who is conversant with your climatic and soil conditions will be of much more value to you than general information from this distance.

Removing Warts.

I notice article on page 587 of December 17th issue of the Cultivator, on "Warts on Cows' Teats," where the knife or acid is recommended for their removal. I consider this all wrong. Take the troublesome part between the thumb and forefinger, and with a quick twitch jerk it out by the roots, for it will come out that way. It will disturb the cow so little that I have had cows merely switch their tails, but most cows had better be tied up during the operation. Remove all the warts that are large enough to get hold of, rub a little salve on the teat, and in a day or two all traces of the warts will be gone. If they ever grow out again, repeat the operation. It is so simple that no other method will be used after trying once, and it is a mercy to the animal to remove them. One milking with sore teats will cause the cow more pain than removing a dozen warts. This is not theory, but a knowledge learned by actual practice.—W. H. Shafer, Selma.

Pecans.

Can you inform me whether the pecan will succeed in this locality? Soil is sediment or river bottom formation, in a section where frost makes orange growing risky. What profit may be reasonably expected? Where may trees be obtained?—W., Riverside.

While the pecan has been grown for many years in California it has not yet proven satisfactory enough to win extensive planting. We know of no successful orchard, although there have been individual trees that have born good crops. If you have sufficient moisture we should think you would prefer the walnut in your section. Trees may be had of any of the nurserymen advertising in the Cultivator.

Alfalfa in Walnut Orchard.

I would like to take advantage of your kindness to inquire whether or not it will be detrimental to the growth of young walnut trees to grow alfalfa between the trees?—Reader, Los Angeles.

Growing alfalfa between the rows in a young walnut orchard is not detrimental provided the alfalfa always has sufficient water to keep it in a thrifty, growing condition. The danger lies in allowing the land to become too dry and in this way checking the growth of the trees. Alfalfa is a nitrogen-gathering plant, and in this way benefits the land even when the crop is taken off the land and its root system is very large and humus will be formed by the decaying roots when the alfalfa is no longer profitable because of shade from the trees.

You can, however, improve your land faster and at the same time get some income by growing a crop of corn between the trees, then sow peas as soon as the corn can be gathered; plow the peas under in March and plant corn again, always planting the corn as early as can be done to escape late frosts. If the corn is kept well watered the trees will need but one additional watering after the corn is matured.

Vines for Hot Location.

What vines (roses or perennials) are adapted for the eastern side of a porch where the thermometer registers 110 degrees in the summer? Do you know anything about the Sipho, or Dutchman's Pipe? Will it endure the frost? I sowed seeds twice and they did not come up.—Northern California.

Few roses will thrive in a situation where the heat is so intense. Beauty of Glazenwood or Climbing Kaiserin Augusta might. Many roses will endure 110 degrees out in the open that will fail when trained against a building where they must endure the addition of reflected heat. Almost any of the Jasmine family would do, and some of them are deliciously fragrant. Some of the honeysuckles are good—notably Lonicera Halleana. Aristolochia Sipho grows throughout the entire South, and is a splendid climber and is classed as hardy in semi-tropic countries. It is easily grown from seed, but it is usually more satisfactory to buy all such plants from your local florist, grown in pots.—Q. A. L.

Potatoes at Rialto.

I am thinking of planting potatoes in the spring. My soil is light, sandy loam. Before I plant, I would like to know if any kind will pay to plant in such soil, and what kind is the best for sandy loam.—W. B., Rialto.

From observation during several trips through your locality, I would not consider you had soil that would be profitable for potato growing. Your particular tract may be an exception, and it is extremely difficult to pass an intelligent judgment without seeing the land. Sandy loam is all right if not too light, and not too poor and lacking in humus. Ascertain if you can, from your neighbors, if they have tried potatoes on land such as yours, and if so you can be helped in your decision by their testimony. You do not say whether you intend to grow for market or simply for your own use. If for market, I should not deem it wise to do so on a large scale until you had given the matter a test or had the evidence in your favor from your own locality. The White Rose is a good variety to yield and sells well because of its fine appearance. Salinas and Lompocs, as they are known in the Los Angeles market, are good and practically the same, only coming from different localities.—Q. A. L.

Canning Olives.

Kindly give information as to best method for canning olives. Is the tin can as good as the Mason glass can, if thoroughly sealed?—E. J. G., San Bernardino.

The olive is usually canned in tins and as put up commercially seems to keep just as well as in glass. It has one advantage that light is kept from the fruit until it is opened. When opened it should be removed from the tin at once. The method of canning is much the same as the cannery method of canning fruit.

The olives are cured in the ordinary way and the last brine is not made so strong as where they are to be kept in an open tub as it has not been found necessary to make the brine any stronger than is agreeable to the taste. The olives are placed in the cans, brine of the required strength poured over, then all placed in a boiler or other vessel with water surrounding the cans. Care must be taken to place the cans, especially if of glass, up from the bottom by laying

EUCALYPTUS SEED

Eucalyptus rostrata, the Red Gum
E. corynocalyx, the Sugar Gum
E. tereticornis, the Forest Red Gum
E. globulus, the Blue Gum
E. citriodora, Lemon-Scented Gum
E. cornuta, the Yate Tree
E. polyanthema, the Red Box
E. leucoxylon, Victorian Iron Bark
and Many Other Valuable Sorts

I shall be pleased to correspond with prospective buyers and give particulars as to prices on the seeds I am offering. Trial packets of any variety 15c each, 2 for 25c, or twelve for $1.25. Also young trees of many varieties for sale. Send for circular and cultural directions.

THEODORE PAYNE
NURSERYMAN AND SEEDSMAN
Home Phone A2480
345 S. MAIN ST., LOS ANGELES

PLUMBING
Plumbing Materials
WATER SEWER PIPE
ALL PLUMBING REPAIRS
We contract to furnish all the materials and do the work or furnish the materials only.
GET OUR PRICES
JAMES W. HELLMAN
Hardware, Stoves, Etc.
157-161 NORTH SPRING STREET
LOS ANGELES, CAL.

wood strips underneath. Heat the cans to 175 degrees and hold at that temperature until all fruit is thoroughly heated through. If 175 degree temperature is not exceeded the flavor will not be injured in the least. Seal and store in the dark.

Legal Queries

Edw. L. Payne, attorney, 301-304 Douglas Building, Los Angeles, will answer legal queries in this department.

Immediate mail replies cannot be given except where fee to Mr. Payne is paid. When replies are wished in Cultivator address query to 115½ N. Broadway, Los Angeles.

Statute of Limitations.

In 1890 a tract of land was cut up into smaller tracts and sold. The owner of the tract had the boundary lines surveyed and, at his expense, constructed irrigating ditches on these boundary lines. Purchasers of the sub-divisions accepted all boundary lines without question, and planted vines and trees, built fences and farmed the land accordingly. In 1902 another survey was made of a part of the tract, and from this it appeared the original lines were not correctly placed. No advantage was taken of this survey, however. A more recent owner of one of the smaller tracts who would be benefited by the 1902 survey is now claiming that owners should accept the 1902 survey, and move fences and ditches accordingly. Would he have any legal right to force his contention? Are not his claims outlawed?—Owner.

When owners of adjoining lands have acquiesced for considerable time in location of division line between their lands, although it may not be true line according to calls of their deeds, they are thereafter precluded from saying that it is not true line. The better opinion is that considerable time mentioned in cases must at least equal length of time prescribed by Statute of Limitations to bar right of entry.

In your particular case, all of the parties having had knowledge of the survey of 1902 and of the fact that the prior survey was not correct, and that the original lines were not correctly placed, and having acquiesced for a period of five years would be estopped from asserting any different lines as the boundary lines.—Edw. L. Payne.

Veterinary

Dr. R. T. Whittlesey, veterinarian, of 714 East Seventh street, Los Angeles, will answer questions in this department. In writing of sickness or injury to any animal be explicit in giving symptoms and particulars. Always enclose full name and address, but if assumed name or initials are preferred they will be used.

If an immediate mail reply is wished enclose $1.00 for such service, but for replies in paper only, no charge is made if the answer will be of general interest.

Please address all questions that are to receive gratuitous replies through these columns to California Cultivator, 115½ N. Broadway.

All communications to Dr. Whittlesey direct should contain a great big dollar.

Heaves.

I have a fine large horse. He seems to be in good health, eats well and works fine, but he has a cough mostly of a night. Some say he has the heaves, but he don't show any signs of snortness of breath when working or pulling a heavy load. Please tell me what to do for him, and oblige. Yours respectfully, T. C. H.

There appears to be a difference of opinion about your horse, even among the people who have examined him. Horses cough from various causes, and a cough in itself is not a very sure sign of any particular disease. There is a peculiarity in the cough and breathing in heaves which it is impossible to describe in print. A steaming of his head (inhalation) for an hour once daily with a solution of eucamphol and water, two ounces to one gallon, would be the treatment in my hospital.

Thrush.

Whaat is best to do for thrush in a horse's foot? Also can "contracted heels" be cured or not?—W. A. G., Inglewood.

For thrush use a saturated solution of sulphate of copper. Wet a small piece of cotton and pack the crack full, changing once daily. Contracted heels will have to be remedied by proper shoeing.

Possibly Barley Beards.

I have a mare that has been troubled for a year or more with an enlarged thyroid gland. About a year ago the gland began to swell and become very tender. It broke and ran matter for a month or more, then healed, and later broke out again. I had it treated by a man claiming to be a veterinary surgeon. He called it fistula of the thyroid gland, claimed to burn it out with caustic, and finally healed it, although the glands were still enlarged. About a week ago it began to swell again and broke today, but ran very little matter.—W. B. W., Paso Robles.

I do not believe you have a suppurating thyroid gland; at least I never knew of one. If you had given me a description of its location I could give you more information. I suspect that you have barley beards in it, and if so it will discharge as long as they remain. The wound should be thoroughly curetted, scraped out; and when once thoroughly clean it will heal quickly.

Lumpy Jaw.

I have a cow with lumpy jaw. Kindly tell me if it is contagious; also if it is curable and how to treat it.—G. M. B., Vacaville.

Lumpy jaw, actinomycosis, is not contagious and is curable in most cases. Mix one pound of potassium iodide and one quart of water, and give one half ounce of the solution twice daily. It may be necessary to repeat it.

Quarter Crack.

We have a valuable mare whose front hoof has cracked clear down two inches from the heel. We would be very grateful for information effecting a cure.—R. J. B., Los Gatos.

Your mare has a quarter crack. Trim the horn on each side of the crack about one-half inch and file the length of the crack and almost through to the quick. Fill this with tar and bind hoof with adhesive plaster or black tire tape.

Open Joint.

I have a young mare cut by barb wire about four weeks ago. The cut is located on the right fore leg just above the knee. I noticed a clear mucus substance running from the wound. A veterinarian gave me a healing powder. The wound was doing very well but now two places have broken out on the side of the knee, which discharge matter streaked with blood. She is lame and quite stiff in the joint. I am now treating the wounds with hot compresses. It seems to have inflammation. Is my treatment right? If not, please give some remedy that will cure if possible.—M. J. P. H., Santa Ana.

The clear substance you mention is probably synovial fluid. I think you have got an open joint and it is probably incurable. My advice is to kill her.

RELIABLE REMEDIES.

Under this heading will be mentioned some of the Veterinary Remedies used by Dr. Whittlesey and which the readers of the Cultivator will be most likely to find useful. They are not ordinary proprietary mixtures put up to sell but are from old well tried formulas, whose effects have been tried in an extensive practice in Southern California of nearly a quarter of a century.

Dr. Whittlesey's Sulpho-Arsenical Salve for the cure of deep fistulous ulcers in any part of the body. "Pole evil," "Fistulas," "Quitters," "Thrush," "Scratches or Grease Heal," "Warts," "Collar-sores," "Sit-fasts," in fact any chronic, indolent sore that refuses to get well under other treatment. $1.00 per package post paid with full printed directions for its use in different sores.

Dr. Whittlesey's Antiseptic Healing Powder for forming a coating or scab over large raw surfaces, to exclude the air, keep away flies, and destroy floating germs which may lodge on the sore, makes a very cheap and convenient dressing for wire cuts, fresh collar sores, and any of the many sores occurring to stock on the ranch. $1.00 pound can post paid. Enclose your dollar in an envelope and we will take all chances of its being stolen.

"The Recollection of Quality Remains Long After the Price is Forgotten."
—E. C. SIMMONS
Trademark Registered

E. C. SIMMONS KEEN KUTTER TRADE ST. LOUIS MARK U.S.A.

Wedged Heads

A Keen Kutter Hammer can *never* fly off the handle.

It is secured by the wonderful Grellner Everlasting Lock Wedge which expands the wood in the head and when driven home is forever locked in place.

This wedge is the only perfect and lasting device of its kind and is found only in

KEEN KUTTER
Quality Tools

All Keen Kutter hammers, axes and hatchets are secured in this manner.

The Keen Kutter name and trade mark cover tools of all kinds for home, shop, farm or garden, also a full line of pocket-knives, scissors and shears and cutlery.

The only tools with all risk removed. Each Keen Kutter tool is guaranteed to be perfect or your money will be returned. If not at your dealer's, write us.

SIMMONS HARDWARE COMPANY (Inc.),
St. Louis and New York, U. S. A.

Save from $1 to $2 per horse

that you now pay for clipping by doing it with this splendid

Stewart No. 1 Horse Clipping Machine

New and improved *1908* Model Ball Bearing and all enclosed gears running in oil. The price at your dealers' all complete, is ONLY $8.50

Every Horse should be Clipped Clipped horses look better, feel better, work better, and are easily cuffed. No machine ever made runs so easily, clips so fast, and lasts so long as this *Stewart No. 1.* It is fully guaranteed and must please or the purchase price will be cheerfully refunded.

All leading dealers have it. Ask to see it!

It is the greatest clipping machine of all time.
If your dealer hasn't it, write to us about it.

Chicago Flexible Shaft Co. Dept. H, Chicago

Madary's Supply House

Is the Largest West of the Rocky Mountains

For Beekeepers

All kinds of bee supplies, orange shook, packing boxes, berry crates, grape baskets, etc. The best goods and the lowest prices. Personal attention to correspondence and prompt attention to orders.

Warehouse and Salesroom, 733-9 Aliso Street
Phones—Sunset, Boyle 168; Home 1125

Write for Catalogue

C. H. Clayton, Agent — Los Angeles, Cal.

Mercer's Weed Process Foundation

If you would be successful with your bees use Mercer's Weed Process Foundation. Absolutely the best on the market. Send me your beeswax to make up.

H. J. Mercer, 948 East Second St., Los Angeles, Cal.
Dealer in All Kinds of Beekeepers' Supplies

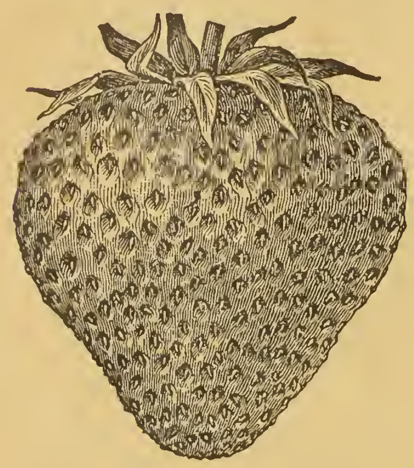
Farmers, Take Notice

To increase your crop in quantity and quality you must fertilize. The Tom Lewis fertilizer insures big crops for everything that grows. The best and cheapest fertilizer made. It is the farmers' money maker. No trouble to use. Big crops are sure to follow. This fertilizer produces 6 to 10 pounds of grapes to the bunch. For catalogue and prices write

Thomas Lewis, 1916 10th Street, Sacramento, Cal.

When writing advertisers, mention Cultivator.

100,000 The Dollar Strawberry



The phenomenal strawberry that has crowded out many of the old standard varieties, and which is now being grown almost exclusively in some of the leading strawberry districts of California. It combines three most desirable characteristics which make it a pronounced success from a commercial standpoint, viz., it is an upright grower, a heavy cropper and good snipper. Of upright growth and shy of runners, it may be planted closer than the average variety, insuring a larger yield per acre. The berries are borne on large crowns and are firm, sweet and juicy. The "only" strawberry for California.

Send for Catalogue of Berries and Trees

A. Mitting
Santa Cruz, Cal.

New Crop Seed

Plant Good Seed
Reap Good Crops

We carry everything in good new

Grass Field Vegetable SEEDS

Don't fail to plant our celebrated

Big Leaf Jersey Kale

for your poultry.
10c per oz.

Send for Booklet

Hickey & Vonsen
P.O. Box C, Petaluma, Cal.

Notice to Farmers

We will consider a proposition to plant and care for trees and vines on from 20 to 320 acres of the finest Imperial Valley garden soil on a share basis. Will give a clear title to half of the land with irrigating water for planting to orange and grape fruit trees and vines and caring for them three years.

For particulars call on or address

Imperial Investment Co.
315 H. W. Hellman Bldg., Los Angeles

The Produce Markets

Los Angeles Markets

LOS ANGELES, Dec. 29, 1908.

Butter.

Butter still stands at last week's quotation but a weak tone prevails and a slight decline is anticipated.

Produce Exchange wholesale quotations are:

Creamery ex per roll	67½
Firsts	62½
Dairy per lb	25
Eastern extra per roll	65
Ladles	24
Cooking	24
"Butterine"	16@20

Cheese.

Southern California Anchor	17@19
Northern fresh	16½@17
Longhorn	18@19
Eastern singles	16@16½
Cheddars	17@18
Swiss	17@18
Imported Swiss	27@28
Daisy	17@18
Oregon	16½
Limburger	17½@18

Eggs and Poultry.

Eggs are slightly lower than last week and a somewhat weaker tone prevails.

Eggs local candled	39@42
Eggs case count buying price	36
Storage selected	32@34
Eastern storage short time	34@36

Dealers pay for live stock.

Hens per pound	12@14
Young roosters per pound	16
Fryers	16
Broilers per lb	21
Roasters	15@16
Old rooster	7
Turkeys	16@20
Geese	12@13
Ducks	12@13
Squabs	1.25@1.75

Live Stock.

The following quotations are f.o. b., Los Angeles, on all stock.

Hogs from 175 to 200 pounds	6¼
Prime steers	4¾
Heifers	3¾@4
Calves per pound	4½@5
Sheep ewes per head	3.25@3.75
Lambs per head	2.50@3.00
Wethers	4.00@4.50

Potatoes.

Wholesale prices are:

Sweets per ctl	1.35@1.50
Early Rose fy	1.75@2.00
Northern Burbanks fy	1.10@1.30
Local Burbanks	1.50
Highland fancy	1.10@1.30
Coast	1.60@1.80
Salinas	1.65
Oregons	1.50

Onions.

Wholesale quotations:

Australian Browns	1.50
Danvers	1.50
Silverskins	1.50
Garlic	10@12

Vegetables.

Asparagus per doz	1.25
Artichokes per doz Northern	1.50
Beets per doz	35@40
Bell peppers per lb	.10@12
Beans string	10
Beans Limas per lb	8
Brussels sprouts per lb	10
Cabbage sack	1.30@1.40
Celery per crate	3.35
Celery per crate	3.00@3.50
Chili per lb	3@5
Chili dried	10@11
Chicory per doz	40
Cucumbers per doz hot house	40@1.75
Cauliflower per crate	1.50@1.75
Carrots per doz	35
Egg plant per lb	6
Green onions per doz bunches	20
Horseradish per lb	12
Lettuce per crate	1.00@1.35
Lettuce choice	75
Mushrooms per lb	35
Peas sugar per lb	10
Parsley	20
Parsnips	35@40
Rutabaga per doz	40
Rhubarb	1.00@1.25
Radishes per doz	15@20
Salsify	40
Summer squash per box	60
Spinach per doz	20
Turnips doz bunches	30@35
Tomatoes lug box	25

Citrus Fruits.

Navels fy	2.00@2.75
Tangerines	1.75@2.00
Grapefruit seedless	3.50@4.25
Grapefruit seedlings	2.50@3.00
Lemons fy	2.50
Lemons choice	1.00@1.50
Limes per basket	50

Fresh Fruits.

Wholesale prices on the market are:

Baldwins 4 tier	1.75@2.00
Bellflowers	1.10@1.25
Newton Pippins	1.10
Fall Pippins	1.10
Alexandria 4-tier	1.00@1.10
Colorado Jonathans	2.50
Red Pearmains	1.25
Spitzenberg	1.50@2.25
Casaba doz	75@1.25
Christmas melons per crate	2.00@2.25
Figs per fig box	1.25
Figs black per fig box	1.25
Guavas per basket	3@4
Muscats per lug box	90
Grapes Tokay	1.50
Grapes Red Emperors	1.50
Cornichons	1.25
Pears lb	6
Pears Winter Nellis per box	1.25
Persimmons per crate	1.25@1.75
Pomegranates per box	1.75
Quinces	75
Strawberries per box	10@25

Dried Fruits.

Wholesale prices are:

Apricots	9
Evap. apples fy per lb	6½@7
Figs loose white	5
Figs blk	5
Peaches in boxes	7½
Peaches sacks	5½
Pears	8@9
Nectarines	9@10
Prunes	3@8

Beans Dried.

Wholesale prices:

Limas per ctl	4.50@4.75
Pink No 1	3.00
Lady Washington	4.30@4.50
Small white	5.00
Black eyes	3.50@3.65
Garvanzas	4.00
Lentils	7.00@8.00
Bayou	3.50

Nuts.

Almonds IXL per lb	13½14
Almonds choice	13
Pecans polished	16@17
Peanuts Virginia	6½@7
Peanuts California	5@6

Honey.

Wholesale quotations:

Extracted Water White	8
Extracted Light Amber	6@6½
Comb W W	16
Comb white	15
Beeswax	30

Hay.

Prices paid to producers f. o. b. Los Angeles are as follows:

Barley No 1	17.00@19.00
Barley No 2	15.00@17.00
Alfalfa northern per ton	14.00@15.00
Alfalfa local	15.00@17.00
Tame oat No 1	18.00@20.00
Wheat No 1	16.00@18.00
Wheat No 2	14.00@16.00

Grains.

Wholesale selling price f. o. b., Los Angeles.

Wheat new per ctl	1.90
Kaffr corn	1.80
Corn Eastern sacked	1.80
White oats	1.85
Seed Rye	1.25

Feed Stuff.

Wholesale selling price F. O. B. Los Angeles as follows:

Cracked corn	1.85
Shorts	1.80
Bran	1.65
Oil cake meal	2.50
Feed meal	1.90
Rolled barley	1.65

San Francisco Markets

SAN FRANCISCO, Dec. 28, 1908.

Butter.

Butter has advanced 3 cents during the week and is now very firm at 36½.

The official quotations of the San Francisco Wholesale Dairy Produce Exchange for today are as follows:

California extras per lb	36½
California firsts	31
California seconds	25
California thirds	20
Eastern extras	27
Ladles extra	23
Firsts	21
Storage Cal ex	29

Cheese.

California young American fy	16½
Firsts	16
California flats fy	14½
Firsts	14
Young American Oregon fy	16½
Eastern N. Y. Cheddars fy	17
Eastern fy	16½
Oregon flat fy	14

Eggs and Poultry.

Eggs have declined heavily during the week. The start downward was made on the 21st and by Saturday last dropped to 43 from last quotation of 57.

Official quotations of the S. F. Wholesale Dairy & Produce Ex. are:

Fresh ranch extras	43
Eggs first per doz	42
Eggs second	37
Cal Storage	35
Firsts	32½
Eastern Storage ex	30
Eastern firsts	28
Eastern seconds	26
Hens per doz	4.00@6.00
Hens extra	7.00@9.00
Young roosters	6.00@7.00
Old roosters	4.00@4.50
Fryers per doz	5.00@6.00
Broilers per doz	4.00@5.00
Geese per pair	2.00@2.25
Goslings per pair	1.75@2.00
Ducks young	6.00@8.00
Live Turkeys	20@25
Dressed Turkeys	27@30
Pigeons young	2.00@2.25

Live Stock.

San Francisco prices gross weight:

Steers No. 1	4¼
Do second quality	3½@3¾
No 1 cows and heifers	3¼
Second quality	3
Hogs 100 to 150	5¾
Hogs 150 to 250	6¼
Rough heavy	4½@5
Calves per lb	4@5
Lambs spring	4½@4¾
Wethers No 1	4¼
Ewes No 1	3¾

Potatoes.

Wholesale market quotations:

River whites fy	75@90
River whites poor	50@75
Salinas Burbanks	1.25@1.50
Sweets per crate	1.25@1.50
Sweets sacks	1.00@1.25
Oregon Burbank	1.10@1.25
Early Rose, seed	1.25@1.30

Vegetables.

Wholesale quotations:

Bell peppers per lb	17½@20
Brussels Sprouts	46
Celery per doz	40@60
Celery per crate	75@1.25
Cucumbers per doz	1.00@1.25
Chili peppers per lb	5@6
Corn per sack	1.50@1.75
Egg plant per lb	12½@15
Green peas per lb	7@10
Lima beans	6@8
Mushrooms	12½@25
Marrowfat squash per ton	10.00@15.00
Squash per box Southern	1.00@1.50
Onions green per box	70@75
Okra per box	1.25@1.50
Rhubarb per lb	3@5
Tomatoes box	50@1.00
String beans	15@17½
Wax beans	12½@17½
Garlic new	6½@8

Onions.

Onions per sack	1.00@1.25

Citrus Fruits.

Navels ch	2.00@2.50
New Navels fy and large sizes	3.00@4.00
Tangerines crates	75@1.00
Grapefruit seedless	3.00@4.00
Grapefruit seedlings	1.50@2.00
Lemons ch	2.00@2.50
Lemons fy	2.50@3.25
Limes	4.00@5.00

Fresh Fruits.

Bellflowers	85@1.00
Bellflowers No 2	60@65
Spitzenberg	1.50@2.50
Newton Pippins	85@1.15
Grapes per crate	1.00@1.25
Nectarines white	50@60
Winter Nellis	75@1.50
Persimmons	75@1.00
Pomegranates per box	1.25@1.75
Quinces per box	50@65

Dried Fruits.

Prunes 4-size basis	3@3¼
Santa Clara	3¾@4

Apricots per lb: Choice 7½@8; fancy 9@10.

PEACHES—Choice 5@5½; fancy 6@7.

Apples Evap	6@7¼
Pears	5@8

RAISINS—1907 crop f. o. b.; Clusters and layers. 30-lb bxs—Imperial Clusters, 6-crown, $2; Dehesa Clusters, 5-crown, $1.75; Fancy Clusters, 4-crown, $1.40; London Layers, 3-crown, $1.10; do, 2-crown, $1.05. Seeded, 25-lb bxs—Fancy bulk per lb, 6½@7c; Choice bulk, 6½@7c. Loose Muscatels, 50-lb bxs— Standard, 4-crown, 5½c; do. 3-crown, 4¾c; do, 2-crown, 3¾c; Seedless, 4¾c. Seedless Sultanas— Unbleached. 4¾@5c. Thompson Seedless—Unbleached, 5½@6¼c. Dried Grapes, 4c.

New Crop Raisins—Preliminary prices are named as follows: Cluster—Imperial 6-crown, $2@3; Dehesa, 5-crown $2.50; London Layers, 2-crown, $1.25; 3-crown, $1.35; 4-crown, $2. Thompson's Seedless, 5¾c. Loose Muscatels, 5¾c. for 4-crown, 5c for 3-crown, 4½c for 2-crown and 4¾c for seedless.

Nuts.

Walnuts S S No 1 new crop	13½

Walnuts No 2 9
Almonds nonp 11¼
Almonds IXL .....10½@11
Ne Plus Ultra 9½
Chestnuts, Cal .....9½@14

Beans Dried.

Limas .....4.15@4.25
Pink .....2.50@2.55
Small white .....4.50@4.70
Large white .....3.75@3.85
Black eyes 3.25
Red Kidneys 3.50
Garvanzas .....2.90@3.10
Bayo .....3.00@3.10
Horse beans .....1.75@2.25

Hops.

Hops new crop .....7@9

Honey.

White comb .....15½@16
Amber 10
Extracted W W .....7@8
Extracted light amber .....5½@6
Beeswax No 1 per lb .....25@27
Beeswax No 2 per lb .....24@25

Hay.

Somers & Co. say: In the country districts there is a tremendous demand for alfalfa, which was generally anticipated but greatly increased on account of the cold weather which we have had, killing and keeping back the green feed which had started. Undoubtedly the country demand for alfalfa will continue but will be dependent of course upon later weather conditions. We have reports that in some districts in the San Joaquin valley which generally ship considerable alfalfa to market there is such an active trading among local people that prices there are considerably higher than can be quoted here in San Francisco.

Choice wheat hay .....20.00@22.00
Good wheat hay .....18.00@19.50
Other grades same .....16.00@17.50
Wheat & oat .....16.00@20.00
Tame oat .....16.00@20.00
Wild oat .....15.00@18.00
Stock hay .....12.00@13.00
Alfalfa .....14.50@18.50
Straw per bale .....60@95

Grains.

Wheat No 1.....1.67½@1.70
Barley new .....1.42½@1.45
Corn large yellow .....1.80@1.85
Oats white .....1.67½@1.75
Oats gray .....1.65@1.72½
Rye new crop .....1.45@1.50

Feed Stuff.

Bran per ton .....29.00@31.00
Feed cornmeal per ton .....37.00@38.00
Cracked corn per ton .....38.00@39.00
Rolled barley per ton .....30.00@31.00
Oil cake meal per ton.....38.00@39.50
Cocoanut cake per ton .....25.50@26.50
Middlings .....33.50@36.00

Citrus Market

LOS ANGELES, Dec. 29, 1908.

The Holiday shipments of oranges ended with satisfactory returns as a rule. The earlier and greener shipments resulted unsatisfactorily but it is hoped the green taste will not remain and that all future shipments command full price. The frost scare seems to have passed as the injury is now estimated to be exceedingly light.

Lemons are going forward regularly and commanding better prices than earlier in the season. The frost injury to the young setting crop will be comparatively light becausec of the amount of young fruit on the tree being very light.

Shipments to date this season, 1339 oranges, 607 lemons. To same date last season, 1491 oranges and 550 lemons.

NEW YORK, Dec. 28.—One mixed car, three cars navels, five cars lemons and two cars Arizona navels sold. The market is strong on navels. There is a good demand for lemons. The weather is clear and favorable.

NAVELS— Avge.
Petunia Altland Ft Co $3.00
Golden State TCC Ft Ex 3.60
Sunset SS Ft Ex 3.35
Mariposa Cal Citrus Union.....3.45
ARIZONA NAVELS—
Desert (boxes) 4.90
Desert (half boxes) 2.80
Cactus (half boxes) 2.25
David Read (boxes) 3.60
Arizona Parent Crown D R (bxs)..2.35
Arizona Jaffas (boxes) D R 2.25
U R Bowen (boxes) 2.25
CALIFORNIA LEMONS—
Independent Growers' Ft Co 2.80
Independent Growers' Ft Co 2.20
Buckeye Ohio Lemon Co 2.00
Pet SA Ft Ex 2.80
Greyhound do 2.30
Arab do 2.45
Duck do 2.05
Marguerite Cal Cit Union 2.10

CLEVELAND, Dec. 28.—Weather cool. The market is lower on navels, account the fruit being mostly of poor color. The lemon market is also lower. Six cars sold. There are ten cars on track. Two cars navels were withdrawn. Three cars Floridas sold from $1.80 to $2.50, average about $2.25. The market is firm on good stock. There are four cars Floridas on track.

NAVELS—
State TCC Ft Ex Lindsay 2.30
Bear and Eagle do 2.40
Serenade TCC Ft Ex Ridley 2.65
Tulip TCC Ft Ex Porterville 2.65
Red Label TCC Ft Ex Lindsay 2.65
Blue Label do 2.40
A-One E Peycke Co 2.65
Deal do 2.55
LEMONS—
Young America P. & McKevitt ..2.15
Exhibit 1.45

PITTSBURG, Dec. 28.—The market is steady on navels. The prices are low on account of the quality of the fruit offered. The market is firm on good stock lemons. Fifteen cars of Florida oranges sold; good fruit averaged $2.05. Six cars California citrus fruit sold. Three cars on track.

NAVELS—
Orchid Altland Ft Co 2.45
Del Monte 2.25
Clown Sparr Ft Co 2.30
Pansy Colton OG Assn 2.80
Pansy do 2.70
Whittier ST Ft Ex Whittier 2.70
LEMONS—
El Modena SS Ft Ex El Modena..2.40
El Modena do 1.45

PHILADELPHIA, Dec. 28.—One car lemons sold. Weather cool. The market is easier. There are four cars on track. Seven thousand five hundred boxes of Florida oranges sold from $1.40 to $2.30 per box, average $1.70. The market is steady on Floridas.

LEMONS—
Loma Limoneria Co 2.75
Bridal Veil do 2.07
White Cross do 1.75

CINCINNATI, Dec. 28.—Weather cool. The market is weak. One car lemons and five cars oranges sold. Three cars on track. Florida Brights and Russets sold $1.75 to $1.90.

LEMONS—
Arab SA Ft Ex San Dimas 2.20
Duck do 1.75

ST. LOUIS, Dec. 28.—Weather cool. The market is weak on small sizes lemons. Firm on good stock navels. Five cars California and five cars Floridas sold. The market continues depressed on Floridas. There are twelve cars on track.

NAVELS—
Orchid Altland Ft Co 2.50
Robin Spence Ft Co 2.40
Vista de Robles Stewart Ft Co 2.25
Red Label TCC Ft Ex Lindsay ..2.65
Full Value do 2.35
BUDDED—
Vista de Robles Stewart Ft Co 2.05
LEMONS—
Selected N W Blanchard 2.25

BOSTON, Dec. 28.—Six cars sold. The weather is favorable. The market is very strong on navels. Easier on lemons. There are three cars on track.

NAVELS—
State TCC Ft Ex Lindsay 2.90
Moore Estate Stewart Ft Co 3.45
Gobbler do 2.90
LEMONS—
Aurora E Peycke Co 2.65
Big R SB Ft Ex Rialto 2.25
Yacht do 1.80
Pet SA Ft Ex San Dimas 2.95

The San Jose Grange Patrons of Husbandry have endorsed the President's position regarding the detective service, and declare that there are some members of Congress who need watching by the secret service.

SEEDS, BULBS, TREES

New 1909 Catalogue
Ready January 10th.

GERMAIN SEED & PLANT CO.

326 South Main Street
LOS ANGELES CALIFORNIA

Classified Liner Columns

Rates 1½ cents per word per issue. No ad. accepted for less than 25 cents. Our classified columns are the clearing house for the readers of the Cultivator. Here you can insert an ad. for the small sum of 1½ cents per word per issue, and be sure that it will be read by thousands.

FARM LANDS FOR SALE.

FOR SALE—AN 80 ACRE FARM, WELL stocked with vegetables, berries, grain, chickens, houses, corrals, etc. Lots of good water, piped to different parts of place. Plenty nice timber. Well supplied with farming and garden implements, vehicles and all kinds of tools. Two horses and cow, good gasoline engine which operates pump, grain mill, green bone cutter, washing machine, wringer, vegetable cutter, grindstone. Good 6000 gallon tank. Large brooder house and runs; also 4 large Jubilee Brooders. Good roads, and best of all, good markets. Six room house with all furniture. Telephone. As I have the "Imperial Valley" craze, $5500 takes everything. $3000 cash, balance 6 per cent. See the crops on this place. You'll find it's a sure enough bargain. WM. MANTZ, Santa Maria, Cal.

FOR SALE—320 ACRES OF THE FINEST level land in Fresno Co. at $20 per acre, ½ cash. Rich sedimentary soil free from alkali, hardpan, or washes. 4 miles from Mendota and only 1 mile from two pumping plants that give a continuous flow of 300 miners inches. The adjacent lands are held at $30. J. E. FARNHAM, Hollywood, Cal.

FIFTEEN ACRES IN KINGS COUNTY, sandy loam, good house, water, trees and vines; ¼ mile from town. Drop me a card. G. C. O. Box 175, Lemoore, Cal.

FOR SALE—$600 BUYS A RELINQUISHment to 160 acres S. W. of Mendota. This land is worth $4000 when proven up. An opportunity of a life time for a young man. All cleared and leveled with a two room house. The irrigating ditch is now within ½ mile of it, 1 mile from the Panoche Ranch buildings and telephone connections. This is perfect land. J. E. FARNHAM, Hollywood, Cal.

I make a specialty of orange and alfalfa ranches, and exchanges. 826 MAIN St., ROOM 9, Riverside, Cal., N. R. BELL.

POULTRY

BLUE ANDALUSIANS—MRS. GRIFFITH'S Blue Andalusians are still in the lead; noted for their utility and show records, layers of large white eggs weighing from 26 to 28 ounces per dozen. Eggs for hatching $2.50 per 15 guaranteed; also few trios $7.50 to $10. MRS. GRIFFITH, 3957 HALLDALH AVE., Los Angeles, Cal. TEL WEST 841.

BUFF ORPINGTONS—BLOOD AND BREEDing tells. Five years careful selection for points and laying; results, first prize pullets last year and 50 per cent egg yield during moulting season this year. Eggs, $1.00, $1.50 and $2.00. Special prices on incubator lots. E. G. WALL, 1920 Monticello Ave., Hollywood, Cal. Phone Hollywood 1943.

BLACK BEAUTY POULTRY YARDS—Black Minorcas exclusively, bred for eggs and size, unsurpassed as layers or table birds. Eggs $6.00 per 100, single settings $1.50. Incub. chicks $12.00 per 100. cockerels $2.50 each. Mrs. A. F. Frese, Box 19, Dixon, Cal.

CAMPINES, GREAT LAYERS, BEAUTIFUL fowls, splendid foragers. Recently imported from Belgium. Eggs for hatching $3.50 and $5.00 per doz. E. SMITH, 3610 East First St., Los Angeles, Cal.

CHAS. E. SMITH—BREEDER OF BARRED Rocks exclusively. Winners of the blue wherever shown. Eggs $3.00 per 15, stock for sale. GARDENA, Cal.

FOR SALE—SOME FINE PENS OF THORObred Rhode Island Reds, also a 3 acre blue gum grove for rent to a chicken man on easy terms. B. Y. YOUNG, Huntington Beach, Cal.

RHODE ISLAND RED EGGS FOR HATCHing. Fertility guaranteed. $2.00 for thirteen, $7.00 per hundred. SCOTT WILSON, Altadena, Cal.

DAY-OLD CHICKS, LEADING BREEDS. Send for circular. San Jose Hatchery, 395 EAST ST. JAMES St., San Jose, Cal.

O. L. CRANE, BREEDER OF PIT AND Cornish Indian Games. Rural No. 3, Santa Rosa, Cal.

SITUATION WANTED.

MARRIED MAN, EXPERIENCED IN MOST branches of farming, desires to take charge of ranch. W. T. B. WILCOX, Cupertino, Cal.

GRAPE CUTTINGS.

CHOICE GRAPE ROOTS AND CUTTINGS. Thompson Seedless, Flame Tokay, Cornichon, Muscat and Red Emperor. Cuttings, price per 100, 50 cents; per 1000, $3.50. Price for rooted vines, Thompson Seedless, Flame Tokay, Cornichon, Red Emperor, Rose Peru, $3.00 per 100 and $20.00 per 1000. J. C. SMITH, Burbank, Cal.

FOR SALE—THOMPSON SEEDLESS AND Zinfandel rooted grape vines—first class—$10.00 per thousand. GRIDLEY COLONY NURSERY. Gridley, Cal.

I HAVE ABOUT 25,000 ZINFANDEL VINES left. Must sell before February 15th. Address HUGO ZENTNER, Capay, Cal.

BERRY PLANTS.

FOR SALE—LOGAN, MAMMOTH, PHENOMenal, Himalaya, Blackberry, Dewberry; strong plants, $10.00 per thousand. Strawberries, $3.00 per thousand. GRIDLEY COLONY NURSERY, Gridley, Cal.

FOR SALE—STRAWBERRY PLANTS, Brandywine, Excelsior and Arizona, $3.00 per thousand. Mammoth and Himalaya Giant Blackberry, $3.00 per hundred. FRED L. WING, Upland, Cal.

FOR SALE—LOGAN, MAMMOTH PHEnomenal and Himalaya berry plants, etc. Send for prices. R. J. Hunter, Oak View Berry Farm, GRIDLEY Cal.

FOR SALE—THE NEW IMPROVED EVER bearing Raspberry Canes $10.00 per thousand. Place your orders now. SUMMERS BROS., R. F. D. No. 6, Box 226, Los Angeles, Cal.

MACHINERY.

FOR SALE—UNION GASOLINE AND DISTillate engines complete stock for stationary work also, hoisting. See our line before buying as we can save you money on either new or secondhand machinery of any kind. BAILIE & BRANDT Co. Agents for Union Gas Engines, 943 N. Main St., Los Angeles.

FOR SALE—JUST OVERHAULED IN LOcal machine shop, small steam engine, also distillate engine. Will guarantee a bargain. 117 BRUNO ST., Los Angeles, Cal.

FOR SALE—MEHRING MILKING MAchine with extra parts and covered pail, all in good order. WM H BIRD Box 6, Compton, Cal.

FOR SALE—WHITE & MIDDLETON GASOline engine as good as new, at a snap; fully guaranteed. N. W. Cor. Main & Bruno Sts., Los Angeles, Cal.

FOR SALE—RENT OR EXCHANGE. BOILers and engines, gas engines, pipe and oil well casing, pumps, all sizes and makes; get our prices before you buy. A. CANNADY & CO., 691 N. Main st., Los Angeles, Cal.

TREES.

TREES AND PALMS—TEXAS UMBRELLA, Pittosporum, Lagulnara, Brazilian Pepper, Eucalyptus Ficifolia, Divicia, Pinus Maritima, Pinus Sylvestris, Italian Cypress, Catalina Cherry, Arbor Vitae, Acacia Melanoxylon Balled or Potted, Acacia Armata, Dracaena Draco, Dracaera Indivisa, Washingtonia Robusta, Erythea Eduis, Chamaerops Excelsa and Phoenix Canariensis Palms. All kinds of fruit trees. Ask for catalogue and special prices on large orders. Golden State Plant and Floral Co., 21st and OREGON AVE., SANTA MONICA.

FOR SALE—VALENCIA LATE ORANGE trees. Write for our prices. ADOLPH RIMPAU. Anahelm, Cal.

FOR SALE—READY FOR PLANTING, 25,000 Blue Gums, 100,000 Red Gums. Orders booked for No. 1 grape cuttings by the 1000 or 10,000. Rooted grape vines, the very best at low prices. Catalogue free. H. L. BAUER & SONS, 737 S. Spring St., Los Angeles, Cal.

WALNUT TREES—5000 LARGE, STOCKY seedlings. Seed from grafted trees of Placentia Perfection variety. Will sell very cheap if taken before Jan. 1st, as land must be cleared. G. W. SHERWOOD, Fullerton, Cal.

LEMONS, VALENCIAS, NAVELS, SANTIAgo. Frostless Nursery. L. F. Thurston, proprietor. Cleanest, largest and thriftest stock in Orange Co. Frostless. 1½ miles east of Villa Park. Address Santa Ana, R. D. 1; Sunset Telephone 354 Orange.

FOR SALE—LEADING VARIETIES PEACH and apple trees, good stock, bed-rock prices. GRIDLEY COLONY NURSERY, Gridley, Cal.

FOR SALE—A FINE LOT OF GRAFTED walnut trees, Placentia Perfection variety, on black or English roots. W. A. LETTIN, Whittier, Cal., Home Phone, 1734.

CO-OPERATIVE LANDS.

CO-OPERATIVE COLONY NOW IN ACtual possession and operating 10,000 acres land with stock and improvements. Only 400 memberships. Each colonist gets house and lot and equal share in industries, factories and 8,000 acres land. $350 secures permanent residence and employment. If your application is accepted, you can come now or later. Write for booklet. Room 304, 45 KEARNY St., San Francisco, Cal.

FERTILIZERS.

PROFIT IN FERTILIZING
depends as much on judicious purchasing of fertilizers as on the intelligent study of the requirements of the crop. You may get the analysis you want, but from cheap materials of slow availability. When you buy
ARMOUR'S ANIMAL FERTILIZERS
you are assured of the highest grade of materials. They can be depended upon for results. Send for copy of Fertilizer Facts"
THE ARMOUR FERTILIZER WORKS
Los Angeles, Cal.

HOGS.

REGISERED BERKSHIRE AND POLAND China hogs, both sexes. C. A. STOWE, Stockton, Calif.

Vacaville Fruit Company, composed almost exclusively of growers, has shipped during the past year 214 cars. At a recent annual meeting the old officers were re-elected, as follows: L. J. Harbison, president; C. M. Hartley, vice-president; H. C. Blake, secretary; C. J. Uhl, treasurer; and these, with T. H. Buckingham, R. E. Burton and J. N. Rogers, form the board of directors.

The walnut men are somewhat concerned over the outcome of the hold over walnut crop, and efforts will be made to bring the Walnut Growers' Association on a stronger basis. It is feared by some, however, that the hold over may result in a weakening of the old association unless immediate steps are taken.

Sutter county rainfall to date amounts to 4.26 inches.

The Oldest Savings Bank in California

FOUNDED IN 1857. CAPITAL FULLY PAID $1,000,000.00

The Savings and Loan Society

101 Montgomery St., Cor. Sutter St., San Francisco

Exclusively a Savings Bank whose policy is for ***Conservatism*** and ***Safety,*** the result of ***Fifty-One Years' Experience.***

Deposits may be made and withdrawn by mail.

San Francisco Savings Union

Founded June 18, 1862 **Northwest Cor. California and Montgomery Sts., San Francisco**

Conducts a Savings Bank Business Exclusively

Capital Paid Up, $1,000,000.00 Surplus, $1,183,632.00

Total Assets, $27,508,850.00

E. B. POND, President.

W. C. B. de FREMERY AND C. O. G. MILLER, ... Vice-Presidents

LOVELL WHITE, Cashier. . . . . R. M. WELCH, Asst. Cashier.

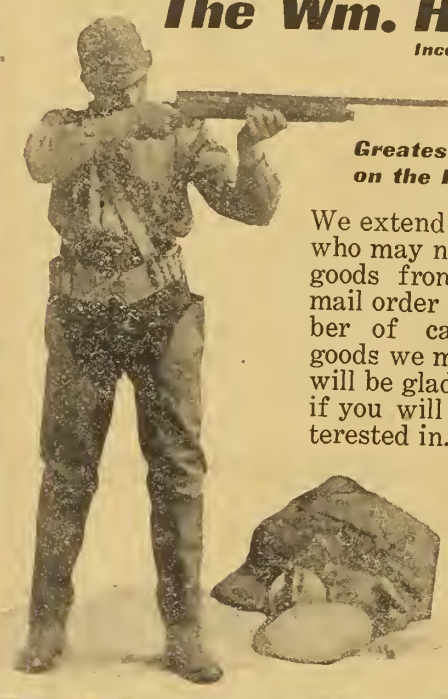
Directors: John F. Merrill, Wm. A. Magee, W. C. B. de Fremery, H. C. Breeden, Jacob Barth, Fred H. Beaver, Wakefield Baker, C. O. G. Miller, E. B. Pond.

Every facility afforded for opening accounts and making deposits and withdrawals by mail. Correspondence invited.

The Wm. H. Hoegee Co.

Incorporated

Los Angeles



Greatest Sporting Goods House on the Pacific Coast

We extend a cordial invitation to those who may not be able to obtain certain goods from their dealers to try our mail order system. We issue a number of catalogues illustrating the goods we manufacture or handle, and will be glad to mail you any of them if you will mention line of goods interested in.

WE MANUFACTURE

Tents, Awnings, Stack Covers, Irrigating Hose, Corduroy and Khaki Suits, Picking and Feed Bags, Ammunition Pouches, Gun Cases, Scabbords, Etc.

Angle Lamp

The Light That Never Fails

Thousands in use all over the country. A good light is the greatest pleasure and the first necessity of every home.

The only lamp on the market that is sold under an absolute guarantee.

Remember, the light from Kerosene is the light science has agreed upon as being the purest and best, because it is soft and mellow and restful to the eyes.

Here are a few of The Angle Lamp Merits:

NO UNDER SHADOW. NO SMOKE, NO ODOR, LITTLE HEAT.

GREAT ECONOMY—COST LESS TO BURN than an ordinary lamp. As easy to operate as gas or electricity, and better than either. ABSOLUTELY SAFE under all conditions. Lighted and extinguished like gas. Burned HIGH or LOW like GAS without a trace of odor. And a BRILLIANT, soft, steady, shadowless light—but this you will have to see to appreciate.

The lamp as shown in cut burns 22 hours on 3 quarts of oil.

Send for Illustrated Catalogue with Prices

Boesch Lamp Co., 1135 Mission St., San Francisco

Established 1869 Incorporated 189

Pioneer Rubber Sanded ROOFING

What Rubber Sanded Roofing will do is told of in our Booklet, "Roof Talk," which will be sent free upon request, together with samples of the Roofing itself.

PIONEER ROLL PAPER CO.

Department 11 Los Angeles, Cal.

Do You Want

A Well Lighted Home

You can have the best light at small cost by using the

Superior Acetylene Generator

No more smoky lamps. No strained eyes. Write for catalog.

Superior Light and Heat Co., 151-153 No. Clarence St., Los Angeles

Household Department

IN THE COUNTRY.

I would fly from a city's rule and law,
From its fashions and forms cut loose,
And go where the strawberry grows on its straw
And the gooseberry grows on its goose;

Where the catnip tree is climbed by the cat,
As she clutches for her prey—
The guileless and unsuspecting rat,
On the rattan bush at play;

I will watch at ease the saffron cow.
And the cowslip in their glee,
As they slip in joy from bough to bough
On the top of a cowslip tree.

And list while the partridge drums his drum
And the woodchuck chucks his wood,
And the dog devours the dogwood plum
In the primitive solitude.

Oh! let me drink from the moss-grown pump
That was hewn from the pumpkin tree!
Eat mush and milk from a rural stump,

From folly and fashion free—
New-gathered mush from the mushroom vine,
And milk from the milkweed sweet—
With luscious pineapple off the pine;
Such food as the gods might eat.

And then to the whitewashed dairy I'll turn,
Where the dairy maid hastening hies
Her ruddy and golden-red butter to churn
From the milk of the butterflies.

And I'll rise at morn with the earliest bird,
To the fragrant barnyard pass,
And watch while the farmer turns his herd
Of grasshoppers out to grass.

—Pacific Union.

AN ENCOUNTER.

THERE was a dark spot surrounding the young man's left eye and various cuts and bruises were sprinkled impartially over the rest of his countenance. He walked as if his knees were stiff and he occasionally rubbed the back of his neck as if it hurt him.

"I'll bet," said his friend, after carefully studying him, "since you are six feet three, that the other fellow got the worst of it!"

"He was over six feet, too," said the battered young man. "You might call it a draw unless you were particular about fine points. Anyhow, he looks worse than I do! I——"

"Seems to me that for a man of peaceful instincts you've managed to do pretty well," said his friend. "I didn't think you lost your temper so easily. Still, in this hot weather there's no telling. What did you have against him? How did he irritate you?"

"It was howlingly funny," explained the battered young man. "At the same time, if any one had inquired, I might not have been of the same opinion, but time alters all things, you know, and the encounter was three days ago.

"His name was Timson, and he came from Oshkosh. But in spite of those drawbacks he was all right—college man and all that. I couldn't hate him even though he did cast eyes toward Betty Haswich, who is the prettiest of the Haswich girls, and whom I rather like myself.

"We were down at Mrs. Haswich's cottage for the week end and Timson and I were given a room together. It was a large room, with windows opening out on a balcony overlooking the lake, and when you went in you sniffed lavender.

"Timson had the luck to be the man on the spot when Betty Haswich and some others took it into their heads to go for a moonlight automobile ride. They said they were going to drop in on some friends ten miles away, and I knew what that meant—back not before midnight. Well, I talked with Betty's older sister and played a rubber of bridge and then went upstairs. I wasn't sleepy, for it was only 10 o'clock, but there didn't seem much to do. Funny, isn't it, how some persons always seem to keep things going and to make things interesting? That's why I like Betty.

"The moon was shining, and it was hot, so I went out on the balcony for a smoke. You know how dark it is in the country even with a husky young moon working? Well, the grounds were full of shadows and everything was still and mysterious. After awhile I began to grow drowsy from the effects of the moon and the quiet and the shadows, so I got to my feet and put one foot over the low sill of the window into the dark room. Then I stopped, for just coming stealthily through the door, was a man.

"He, too, stopped as my figure loomed up in the window. We might have been carved out of granite for a minute. I could hear him breathe—the deep breaths of a man who had been surprised. My heart thumped a little, too, for it isn't pleasant to run on a burglar. He hadn't made a sound coming upstairs or at the door. He evidently was an expert.

"I think we jumped at each other simultaneously. At the first grip I knew I had a fight on my hands that was going to be something good. I set my teeth and he gritted his, and we went at it hammer and tongs without a word of preliminaries. I found I needed all my breath for active service without wasting any on pink-tea conversation.

"He smashed my eye, and I cracked his jaw as we rolled over against the table and upset it. We fought all across and around that room with no regard for the furniture. Of course the noise was fierce and there were shrieks from all parts of the house. Presently, just as he was strangling me and I was yanking his hair out by the roots everybody burst in upon us with lights and some of the men pulled us apart.

"I wish you could have seen that room. Window curtains down, one chair smashed, the writing materials on the table scattered, the bed coverlet torn in two, the hardwood floor scraped and the rugs in hard knots. In the middle of the wreck and ruin were Timson and I, battered, bleeding, torn to pieces as to clothes, gasping like fish and trying to get at each other like two bulldogs!

"Oh, it was very simple. The automobile had broken down, as usual, two miles from home, and the party had come in by the road at the back. Finding the house in darkness, they had come upstairs quietly. Their idea was not to disturb us. That is what Timson kept repeating pathetically—that he hadn't wanted to disturb me, and so had come in carefully. He is a thoughtful man, Timson. Of course he supposed I was asleep and the man climbing in at the window was a robber.

"Betty said we both deserved what we got for being such idiots. I'm terribly afraid that girl is a flirt, and

doesn't care about either of us from the way she laughed. She hung to the door and simply shrieked. I'm going down next week to remonstrate with her for her heartlessness."

"Is Timson going, too?" inquired the friend.

"If he does," said the battered young man, "I'll finish him this time!"—Chicago Daily News.

FARMER'S FRUIT CAKE.

The goodness of fruit cake depends upon the quantity of fruit, the spices, and proper aging. Ordinary dried and preserved fruits if prepared in this way become just as tasty, and much less expensive, than the regulation currants, raisins, citron, etc.: Take one cup each of dried or preserved apples, quinces, peaches, prunes, watermelon, apricots, or plums, and chop into small pieces. There should be four or five cups of this chopped fruit. Put into a granite pan with two cups of molasses or sugar, and a little water. Add the spices, a teaspoonful of those preferred. Boil the fruit till it has absorbed all the syrup, being careful not to scorch. Let it cool and then stir in a cup of flour.

Make a simple cake batter of one egg, half-cup of butter or lard, one cup of sugar, half-cup of milk, two teaspoonfuls of baking powder sifted into enough flour to make a firm batter. Add half-cup of cocoa for coloring, and lastly the prepared fruit, and mix thoroughly. Bake slowly from one to two hours.

For aging, store away in earthenware crocks, occasionally moistening the cake with grape or blackberry juice. This cake in a few weeks becomes very richly flavored, and is so inexpensive that it should often be found in the school lunches and on the tea table.—Mrs. King.

HOMELY HINTS.

Spots and stains on frocks and coats are frequently the despair of the wearers, for nothing can make a garment look worse. The general effect of untidiness and dirt is repellant, and sometimes applications of soap, ammonia or gasoline seem only to make stains, etc., more prominent. This is partly because the cleaning agent has not been adapted to the material, and also because the work is improperly done.

It makes no difference whether silk, wool or cotton is to be cleansed, there must be a fresh piece of cloth underneath to absorb the soiled liquid that soaks through. Otherwise the cleaning fluid, laden with dirt, has no place to go and simply spreads over the original place. Several layers of absorbent material underneath are absolutely necessary, and it is doubtful if anything is quite as good for this purpose as cheese cloth.

Next to this condition it is important to spread the soiled place out on a smooth surface, that the spot may be watched to see that no dirty ring is forming. A skirt board or table is best for this, and the absorbent and scrupulously fresh cloth beneath should be large enough to move several times so that the old wet dirt may not be rubbed in again.

A bit of old white flannel is the best for wetting and rubbing, and there should be another with which to work the place dry, or nearly so. With care such as this home cleaning is quite practicable.

For removing grease spots from white linen or cotton goods use soap or weak lyes; for colored calicoes, warm soapsuds; for woolens, soapsuds or ammonia; for silks, benzine, ether, magnesia or chalk.

Spirits of wine will clean soiled silk embroidery. Dip a camel's hair brush in it and brush the trimming till the dirt is removed.

Vinegar and salt will brighten up copper and zinc with surprising ease and rapidity. All articles so cleaned must be washed in soap and water and then rinsed before they are put away. A little ammonia added to the water will hasten the cleaning process by attacking the grease.

The use of a little kerosene will lessen the work of dusting. Pour a little of the oil on a woolen dusting cloth and use it for wiping stairs and hardwood floors.

Porcelain bath tubs and basins are quickly cleaned, but iron sinks soon become thick with grease. A little kerosene added to the suds with which they are cleaned lessens the work. A tablespoonful of vinegar to one-half cup of water will remove grease from iron.

A piece of camphor gum placed in the silver drawer will keep the silver from tarnishing.

THE BEAUTIFUL IS OURS.

"Too many of us fall into the mistake of thinking that beauty is necessarily expensive. It is not so. Beauty is cheap, in the sense that it is to be had for the taking. We need not go without beautiful trees and shrubs and vines because we lack money with which to buy them of the growers. The nurseryman has not the monopoly of all that is desirable in this respect. Go into the fields and forests—and go with the seeing eye—and you will find ample material for the ornamentation of the home grounds—material quite as desirable as that which the dealer offers you at a good round price. So long as we can have native shrubs like the clethra and the elder and the spirea, the wild rose, the dogwoods and the alders, and many others that I need not mention here, and such vines as the celastrus, the ampelopsis and the clematis, we need not lack for material with which to make the home beautiful."—Eben Rexford.

OVER THE EGGS AND BACON.

He scraped with his knife a bit of butter off the sporting page.

"The writer of that poem on flying is accused of plagiarism now," he said.

"It's awful," she exclaimed. "the way these men go about the country marrying innocent women! Wipe your mustache, dear."

He wiped his mustache and, with a frown, inspected the result upon his napkin.

"Plagiarism." he said, "means a literary theft."

"Stole some books did he?"

"No, no; he stole ideas. They say a woman wrote the poem years ago."

"And now they bring it up against her, eh? Oh, these newspapers! But look at the mess you've made there with your coffee. I do wish you'd try to be a little more careful."—New Orleans Times-Democrat.

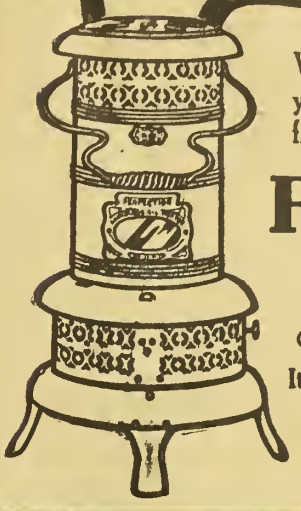
HOWARD'S REPLY.

The twins were being congratulated upon the arrival of a small brother when the neighbor inquired:

"Well, how did you boys like the boy?"

"Oh," answered Howard, nonchalantly, "we thought it was all right; but mamma would rather have had an automobile."

Glowing Heat
From Every Ounce of Fuel

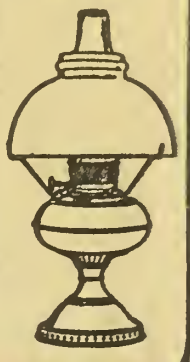


When the mercury drops out of sight, and you just *can't* keep the house warm, you'll find it wonderfully convenient to use a

PERFECTION Oil Heater

(Equipped with Smokeless Device)

It's very light—carry it about—heat *any* cold room. Turn the wick high or low—no danger—no smoke—no smell. Easily cared for and gives nine hours of cozy comfort at one filling of brass font. Finished in nickel and japan. Every heater warranted.



The **Rayo Lamp** with its flood of steady, brilliant light is ideal for the long winter evenings—you can sew by it—won't tire your eyes. Latest improved central draft burner. Made of brass, nickel plated. Every lamp warranted. If your dealer cannot supply the Rayo Lamp or Perfection Oil Heater, write our nearest agency for a descriptive circular.

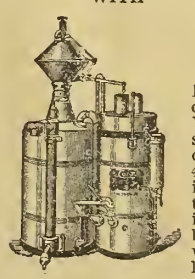
STANDARD OIL COMPANY
(Incorporated)

Here They Are.

The newest styles from the country's leading factories. Good, or they wouldn't be here; low priced, or we wouldn't be telling you about them. Just think of the kind of vehicle you want and depend upon finding it here. Whether you buy or not your time will be well spent here. We make it part of our business to treat visitors right.

ARNOTT & CO. (Inc.)
112-118 So. Los Angeles St.
LOS ANGELES

Light and Cook with COLT TRADE MARK Acetylene



Favor us with an inquiry concerning Colt Acetylene. We shall take pleasure in sending you free of charge our excellently compiled 44-Page Catalogue containing complete and instructive matter regarding piping, fixtures, stoves and burner pertaining to this wonderful and inexpensive lighting system.

Fowler Shankland, Pacific Coast Distributor
204 Severance Building
Cor. 6th and Main, Los Angeles
Phones: F7514; Main 4830

Hague Domestic Oil Burner

Showing the Method of Attaching to Cook Stove. A device for using low grade distillate. Saves 40 per cent of cost of coal or city gas—let us prove it. Write for circular.

Hague Domestic Oil Burner Co.
214 Winston St., Los Angeles, Cal.

Save Money and get a better choice by shopping in a Large City. We will do your Shopping for you. Send for our Free Book No. A. It Tells You How. ***Los Angeles Purchasing Co.,*** Pacific Mutual Bldg., 3d and Hill Sts., Los Angeles, California

BOYS LEAVE THE FARM
When good, clean, manly amusement is not provided. But you can
KEEP THEM HOME
with a Portable Billiard and Pool Table? All sizes. All prizes. Catalog?
C. Ridderhof, Laughlin Bldg., Los Angeles

Sutter county is working for good roads.

Placer county orchardists are busy pruning and spraying.

Index Volume XXXI

July to December, 1908

BEES.

A—Apiary Management, 152; Amongst the Bees, 569.
B—Bee Keeping on Small Scale, 40; Bees and Fruit Growing, 152; Beeswax, 152; Bees on the Farm, 215; Bees and Horticulture, 215; Bees for Farmers 353; Bees on Small Farms, 400.
D—Danger in Old Hives, 40.
H—How the Bee Does It, 400.
M—Manufactured Honey, 40.
O—Organized Bee Keepers, 569.
Q—Queens, Introducing, 569.
W—Water for Bees, 40.

CALIFORNIA HORTICULTURALLY.

A—Apricot Pits, 55; Argentine Ant, 103; Almond Prices, 225; Acreage of Deciduous Fruits, 225; Alden Anderson, 497.
B—Banner Fruit Season, 413; Bonanza Fruit Year, 497; Beet Growing, 497.
C—Craw Ill, 16; Compere Retained, 16; Craw, Alexander, 27; Canada Thistle, 79; Colonizing Northern Counties, 319; California Prosperous, 319, 536.
D—Destructive Oak Moth, 55; Department of Agriculture and the Farmer, 79.
F—Fresh Fruit Shipments, 103, 176; Flax in Sacramento Valley, 225.
G—Gypsum on Hard Pan, 176; Growing Industry, 176; Good Season, 176; Growl from the Metropolis, 413; Good Work for the Farmer, 497.
H—Hop Growers' Troubles, 225.
I—Infected Peach Stock, 497.
N—National Apple Show, 55.
P—Pear Blight, 497; Popularity of the Fig, 536.
R—Russian Thistle, 55; Rain in the North, 497.
S—Subdivision in Sacramento, 55; Slandering Lady Birds, 55; State Fair, 176; Shipments of Fresh Fruits, 225.
T—Thrips Investigation Extended, 55; Table Grapes Situation, 103; Table Grape Grower's Movement, 225; Table Grapes Grown by Wholesale, 319.
U—Unexplored Horticultural Field, 3; Unusual Season, 413.
W—Wine Growers Nervous, 536.

CITRUS.

A—Avocado or Alligator Pear, 29, 436; Auction of Oranges, 76; Absorbing Power of Soil, 412.
B—Better Care, Orange Groves, 53.
C—Citrus Culture in Salt River Valley, 52; Contrast of Fruit Growing, 77; Citrus Culture in Florida, 101; Citrus Crop will be Good, 245; California History, 148; Citrus Imports, 196; Lemons vs. Sicily, 268; Citrus Fruits in Southern California, 292; Citrus Trees, to Clean, 364; Cuba's Orange Crop. 364; Costly Lessons, 604; Citrus Conditions in Salt River, 628.
D—Destructive Pest in Italy, 29; Die Back, 124; Date Culture, 531.
E—Exchange Convention, 268; Eat California Sunshine, 268.
F—Fertilization Opinions, 4; Fruit as Food, 53; Fumigation in Northern Counties, 149; Fumigation, Latest Methods, 171; Fertilizer Suggestion, 244; Frost Protection, 315; Fumigation Generator Cover, 316; Fungous Diseases of Scale, 556; Florida Green Oranges, 580; Florida Orange Conditions, 604.
G—Gum Disease, 28, 124, 196; Grapefruit, 340; Guavas, 580.
H—Health and Disease in the Citrus Tree, 100; History of Fertilizing, 316.
I—Irrigation in Florida, 5; Irrigation of Oranges, 149; Iceless Refrigerator Cars, 149; Improvement of Citrus Fruits, 580; Irrigate for Good Lemons, 628.
K—Kansas City Rumpus, 52.
L—Lemon Importers, 388; Louisiana Oranges. 388; Lemon Crop Handling, 484; Lemon Pruning, 508; Lemon Industry, 532.
M—Mango Culture, 196; More Reasonable, 220; Mulch Deeply, 388; Manure, Value of, 388.
O—Oranges on Mesquite, 53; Oranges in Texas, 101; Olive Pickling, 293; Orange Acreage Increasing, 340; Oranges in North, 364; Olive Tree, 412; Oranges at Coachella, 460.
P—Poultry Manure, 244; Parasites, 460; Persimmons, 604.
S—Stable Manure, Time to Use, 220; Small Growers Should Wake Up, 220; Sapota, 245; Scale in Highland, 533.
T—Tents Over Big Trees, 292; Tulare County Fair, 508; Tulare County Oranges and Lemons, 555.
W—Wonderful Possibilities, 436.
Y—Yellow Spotting of Citrus Leaves, 605.

DECIDUOUS.

A—Apples in England, 78; Apple Situation, 102; Apple Picking and Grading, 222; Advertising, 246; Apple Crop Handling, 271; Apple Picking, 439; Apple Packing, 557; Apple Tree Planting, 630.
B—Bearing, to Induce, 150.
C—Correction of Insect Names, 30; Canning Fruits, 30; Coddling Moth Parasites, 78; Cherry Slug, 78; Conserve the Soil, 247; Cherry History, 271; Charges Against Fruit, 296; Crops Between Trees, 342; Concord Walnut, 365; Cling Stones Scarce, 364; Crown Gall, 511; Cider Vinegar, 534; Convention Report, 555; Crude Oil Emulsion, 606.
D—Drying Fruit, 3; Dry Rot of Grapes, 7; Dry Atmosphere, 7; Deciduous Fruits in Sacramento Valley, 246.
E—Entomological Field Work, 30; Evaporation of Apples, 603.
F—Fruits as Medicine, 54; Fruit Bud Forming, 247; Farm Machinery Weathering, 248; Food Values of Dried Fruits, 534.
G—Gumming Stone Fruit Trees, 6; Grafting Apple on Pear, 6; Grape Varieties for California, 27; Grape Packing, 54; Grosse Prunes, 198; Grape Growing in Imperial, 198; Grapes, Eastern Varieties, 270; Gummosis of the Cherry, 296; Grape Growing Difficulties in Imperial, 414; Green Manuring Crops, 607.
H—Humus, Creating, 126; Horticultural Economy, 247; Humus in Vineyard, 630.
L—Little Peaches 6; Lest We Forget, 271, 317; Lodi Grape Selling, 414.
N—New Peach, 414.
O—Oil Emulsions, 318.
P—Peach Troubles, 6; Plant Diseases, 6; Prune Drop, 30; Powell in North, 30; Pacific Coast Nurserymen, 31; Prune Drying, 78; Peach Grafting, 150; Pears, Picking, 150; Poisoned Soils, 248; Pear Picking, 296; Pedigreed Vines, 436.
R—Root Rots, 198; Resistant Grape Roots, 223.
S—Suckering, 7; Subterranean Fruit Pest, 30; Soil Analysis, 127; Scions, to Cut, 150.
T—Thin Your Fruit, 6; Table Grapes on Resistants, 30; Tariff on Fruits, 127; Table Grapes Storage, 174; Thrips, Method of Fighting, 270; Tree Troubles, 389.
U—Unseasonable Blooming, 150.
V—Viticulturists Meet, 54; Vineyard Irrigation, 198; Vineyard Planting, 462; Vineyard Care, 510; Vineyard Soil, 557.
W—Walnut Gathering Machine, 30; Walnut Tree Pruning, 31; Water and Plants, 102; Walnuts, 102; Walnut Growing, 123; Walnut Crop, 174; Walnut Budding, 223; Whiffletree Injury to Young Trees, 223.
Y—Yellows, 438.

EUCALYPTS.

Special Eucalyptus Number December 17.

E—Eucalyptus in Northern California, 176; Eucalyptus Seed, Gathering in Australia, 200; Eucalyptus Trees for Profit, 459; Eucalypts Which Revel in Desert Heat, 579.
G—Growing Eucalypts from Seed, 593.
H—Hardy Eucalypts, 195.
J—Jarrah Tree, 19.
R—Resistant Eucalypts, 17; Rostrata or Jarrah, 114.
V—Valuable Gift from Australia, 581; Varieties of Eucalypts, 585.
W—Wealth in Eucalypts, 579.

FORESTRY AND IRRIGATION.

D—Disastrous Consequences, 343.
E—Elementary Lesson in Irrigation, 99.
F—Forest Fires, 43; Forest Preservation, 449.
H—Hawaiian Irrigation, 321.
I—Irrigation, 43; Irrigation in Southern California, 267; Irrigation, Day or Night, 343; Irrigation, New, 437.
P—Patrol of National Forests, 449.
R—Resources a Menace, 508.
T—Trees, a Few Acres, 200.
U—Use of Water, 104.

FARM NAMES—16, 67, 91, 139, 186, 283, 341, 485.

GENERAL AGRICULTURE.

A—Alfalfa Seed Bed, 95, 448; Agricultural Research, 176; Alfalfa Curing, 320; Amendment Number One, 390; Agricultural Education in California, 391; Agricultural Hungary, 414.
B—Birds as Destroyers of Insects, 224.
C—Corn Origin of, 128; California Weeds, 197; Cotton in Imperial Valley, 321; California Prosperous, 486; Cereal Improvement at University, 627.
D—Davis Institute, 363; Dry Farming, 507.
F—Farmers Life, 224; Flax in California, 401; Foundations for Good Highways, 483; Farm Implements, 617.
G—Good Roads, 115; Gasoline Engine Best, 448.
H—Hay Baling in Field, 211.
I—Imperial Valley, 547; Invasion by Express Companies, 628.
L—Lime Action, 95; Laws, Revision of, 219; Lime, 545.
M—Marketing Produce, 300.
N—Need of Farmers Organizations, 56; Napa County's Stone Bridges, 415.
P—Parcels Post, 41, 329; Paint, Inexpensive, 56; Propagation by Cuttings, 80; Purposes University Farm, 369.
R—Rainfall over Surface of the Earth, 197; Races Without Betting, 416; Rice Industry, 631.
S—Soil Fertility, 128; State Fair, 243; Stick to the Staples, 407; Sugar Beet Industry, 416; Sugar Beet Fertilizer, 617.
T—Torrens Land Title System, 269.
V—Value of Manure, 41.
W—Why Farmers Should Belong to the Grange, 56; Whittier Farmer's Club, 211.

HOUSEHOLD HINTS.

A—Apple Salad, 308.
B—Baked Apples, 69; Blackberry Pudding, 261.
C—Cleaning Fabrics, 45; Cucumber Pickles, 141; Cleaning Brushes, 164; Canned Corn, 213; Chow Chow, 261; Chop Suey, 285; Codfish Recipes, 429; Carving Turkey, 525; Christmas Dainties, 621.
D—Dill Pickles, 237.
F—Flies Cause Epidemics, 21; Fruit Corn Muffins, 69; Floor Staining, 164; Farina with Berries, 261; Fruit Juices, 333; Fig Preserving, 357; Fig Recipes, 381; Farmer's Fruit Cake, 645.
G—Green Tomatoes Soy, 141; Green Corn, to Cook, 189.
H—Homely Hints, 21, 44, 69; How Much to Use, 21; Honey Muffins, 69; Hair Tonic, 213; Holland Soup, 453.
I—Invalids' Dishes, 453.
L—Luncheon Arrangements, 93.
M—Mucilage, 45; Mayonnaise, 308.
P—Polishing Cloths, 45; Peanut Butter, 69; Personal Neatness Club, 92, 285, 405; Peach Pickles, 261; Potato Salad, 308.
R—Raspberry Shortcake, 261; Raspberry Cream, 261; Raspberry Mousse, 261; Rattlesnake Bite, 263.
S—Sweet Ripe Cucumber Pickles, 141; Salads, 213, 308; Sweet Cucumber Pickles, 261; Sugar Cured Meat, 287; Sauer Kraut, 453.
T—Tomato Catsup, 141; Thanksgiving Dinner, 501; Time to Cook Vegetables, 549.
V—Vinegar Making, 248.
W—Washing Summer Dresses, 165; Washing Heavy Overhalls, 164; Wax Finish, 429.

LEGAL QUERIES.

A—Agent's Commission, 475.
F—Killing on Water, 451.
P—Personal Property on Leased Land, 451.
S—Statute of Limitations, 641.
T—Trees Over Line, 451; Trees on Line, 527.

ORNAMENTAL GARDEN.

A—Ants in Garden, 65; Anemone, 377.
B—Beauty of Flower Borders, 33; Beautify the Yard; 65; Bulbs After Flowering, 65; Bulb Planting, 89; Back Yard Gardens, 187, 257; Bird Houses, 187; Bulbs as House Plants, 425; Blackwood, 632.
C—Chrysanthemums, 65; California Gardens, 112; Calladium, 305.
D—Dandelions, 65; Dandalions, to Kill, 329.
F—Flower Arrangement, 89; Flowers Better than Fly Paper, 281; Ferns. to Repot, 34o.
G—Golden Flowers, 33; Grass Culture, 89; Goldfish, Care, 235; Goldenrod Breakfast, 329.
H—Hollyhock Rust, 329; Hanging Baskets, 632.
I—In My Garden, 9; Iris, 112; Italian Gardens, 235; Indebted to California, 345.
K—Keeping Fresh Flowers, 9.
L—Lily of the Valley, 65; Lawn, Summer Care of, 163; Lippia, 163; Lily Culture, 211; Landscape the Farm, 441.
M—Mildew on Roses, 235.
N—Nasturtiums, 33; Narcissus, 425; Neatness, 441.
P—Pansy, Seed Sowing, 235; Potting Plants, 609; Pepino, 609.
R—Rose Aphis, 33; Roses, Work With, 345; Rose Climbers, 412; Repairs, 632.
S—Showy Plants, 281; Shade Tree Pruning, 512.
T—This Month, 9, 329, 441; Transplanting Wild Flowers, 9; Trees made Symmetrical, 305; Tree of Heaven, 632.
W—Water Lily Pond, 512.

PESTS AND DISEASES.

A—Argentine Ant, 151; Ants, to Kill, 383; Ant Problems, 413.
C—Coddling Moth Disappearing, 319.
F—Flea Beetle in Hops, 175.
G—Gopher Poison, 90; Gipsy Moth, 174; Grasshopper Disease, 224.
N—Newly Introduced Pests, 225.
P—Plant Louse Remedies, 90; Pear Blight Decreasing, 225; Pear Thrips, 319; Peach Blight Spray, 319.
S—Squirrels and Gophers, 150.

POULTRY.

A—Abnormal Appetite, 39; Alfalfa as Poultry Food, 110; Apoplexy, 158; Alameda County Show, 400; Ailments and Remedies, 446; Air Slaked Lime, 590; Alameda Poultry Show, 591.
B—Beef Scraps, 14; Blood Spots, 39; Balanced Food, 62; Breeds, Relative, Value of, 86; Balanced Ration, 159; Bumble Foot, 183, 424; Bone Substitute for Grit, 278; Bowel Disease, 399; Beans for Poultry, 495; Bantam House, 567; Bronchitis in Poultry, 590; Buckeyes, 614; Broiler Raising, 614; Blindness, 639
C—Clipping Wings, 63; Cottonseed Meal, 136; Curtains, Muslin, 136; Cheaper Feed, 159; Chick Mortality, 159; Crop Bound, 184; Chick Troubles, 207; Chicks Eating Each Other, 207; Close House, 208; Chicks to Roost, 254; Crop Dropsy, 303; Changing Layers, 351; Chicken Chat, 374, 518, 566; Capons, 375; Condition Powders, 399; Causes of Sickness, 447; Crooked Bill, 472.
D—Dry Farm Feed, 111; Doves, Protect, 208; Dust Bath, 303, 351; Died in the Shell, 376; Dry Feeding, 399; Duck Culture, 423; Duck Notes, 424; Ducks and Geese, 495.
E—Eggs, Brown and White, 39, 136; Egg Production, 182; Egg Flavor and Color, 230; Egg Color, 303; Egg Preserving, 326; Eggs is Eggs, 399; Egg Preserving, 423.
F—Fruit and Poultry, 14; Feeding Chicks, 14; Feather Eating, 86; Fattening Turkeys, 111; Feeding Problems, 230; Fruit for Poultry, 302, 398; Fattening for Market, 375; Feeding Properly, 376; Farmers' Wives Keep Poultry, 422; Fat Hens, 448; Fattening, 544.
G—Geese, 63, 183, 567; Grit, 87, 424; Good Layers, 160; Guinea Fowls, 255; Grit and Charcoal, 352; Green Cut Bone, 424.
H—Hens, Do They Pay, 160; Hopper Feeding, 183; Hard Crop, 518; Hens Die, 542; Hygrometer Gauge, 592.
I—Interesting Egg Record, 14; Indigestion, 134; Inbreeding, 326; Indian Games, 543; Incubators, 592.
K—Kaffir Corn, 62; Keeping Yard Clean, 352; Killing Poultry, 398; Kings County Show, 633.
L—Limberneck, 15; Layers, 15; Laying Hens in Condition, 374.
M—Mites, 15; Molting, 183, 255, 279, 447, 592; Molting, To Control, 302; Molasses for Fowls, 399; Mite Extermination, 399; Mite Remedy, 544.
N—Naked Poultry, 352.
O—October Eggs, 158.
P—Poultry Manure, 110; Poultry Profits, 134, 207; Poultry Pointers, 135; Poultry Practice. 184; Poultry Keeping, 231; Pigeons, 302, 592; Patience, 303; Poultry Houses, Inexpensive, 350; Poultry Yard Revenue, 350; Pullets Don't Lay, 376; Pedigreed Poultry, 424; Poem of Peace, 446; Pekin Ducks, 447; Preparing for Show, 470; Pumpkins for Fowls, 495; Poultry Talk, 496; Petaluma Show, 633; Pomona Show, 633; Poultry Profits, 638.
R—Roup and Fleas, 15; Rhode Island Reds, 38; Roup, 62, 279, 327, 423, 472; Reliable Information, 206; Roup Prevention, 254.
S—Small Flocks, 38; Sex of Eggs, 63; Skim Milk for Poultry, 87; Setting Hens, 160; Short Course, 255; Strain, Importance of, 303; Sleepy Disease, 376; Skim Milk, 399; Southern California Poultry Show, 495; San Jose Awards, 520; Squab Dressing, 544.
T—Ticks, 39; Tuberculosis, 135; Turkeys on the Farm, 256; Turkey Troubles, 278; Trap Nests, 280; Tale of Tails, 422; Thanksgiving Poultry, 494; Turkey Raising, 518; Turkeys, 542, 592; Twentieth Annual Show, 616.
U—Utility Stock, 542.
V—Value Hen Manure, 62; Vitality, 230; Vegetable Stimulants for Hens, 256; Ventilation, 302.
W—What to Feed, 38; Water Basin, 39; White Wyandottes, 544.
Y—Year Old Hens, 350; Yellow Legs, 351.

QUERIES.

A—Aphis, 42, 138; Air Pump, 66; Alfalfa for Pigs, 66; Alfalfa Cutting, 115; Aphis-Weevil, 115; Almond Hulls, 138; Apple Cider, 162; Abnormal Appetite, 162; Apricot Pruning, 282; Alfalfa Grinder, 307; Afterbirth Removal, 330; Ants, 330; Alligator Pears, 331; Alfalfa by Eucalyptus, 354; Alfalfa on Alkali, 354; Agricultural Schools, 378; Alfalfa Sowing, 426; Alfalfa Fertilizer, 427; Ashes, 431; Abortion, 450; Apples, 474; Ascalano Olives, 498; Apples Named, 499; Artichokes, 523; Alfalfa Pasturing, 546; Alfalfa Planting, 570; Arsenic to Hogs, 571; Absorbents for Stables, 595; Asparagus, 595; Alkali, 618; Antlers Each Year, 640; Alfalfa in Walnut Orchard, 640.
B—Bee Paper, 19; Brown Scale, 42; Blackberry, 114; Bananas, 162; Bean-Weevil, 186; Bermuda Grass, 210; Barley, 210; Black Scale Fumigation, 234; Butter Won't Separate, 258; Butter Won't Gather, 282; Breeding Goat, 282; Bottleneck Melons, 306; Budded Loquats, 307; Bean Harvesting, 307; Barley Planting, 330; Bees Injuring Fruit, 330; Bread for Hens, 330; Basswood, 330; Breeds of Hogs, 331; Bronze Turkeys, 331; Bermuda Grass, 354, 378; Black Walnut Root, 402; Blackeye Beans, 427; Books on Fruit Growing, 427; Buff Orpingtons, 499; Bran for Cows, 523; Blackleg, 546; Bone Cutter, 599; Burr Clover, 599; Bitter Cream, 599; Belgian Hares, 640; Budding, 640.
C—Camphor Distillation, 90; Cucumber Pickles, 138; Cow, Drying Off, 162; Cow Peas, 210; Commercial Fertilizers, 210; Cover Crop, 234; Cover Crops for Walnuts, 234; Chrysanthemum Freaks, 306; Cracked Hoof, 307; Chicken Fleas, 307; Clock to Mend, 330; Colorless Peaches, 331; Chemical Content of Vegetables, 403; Cement Water Tank, 427; Chestnut Troubles, 431; Cow Peas, 498; Charcoal from Mesquite, 498; Calf Shed, 523; Coming to Her Milk, 523; Chestnuts Will Not Keep, 523; Cornichon on St. George, 570; Cement in Plaster, 570; Cut Worms, 594; Chrysanthemums, 640.
D—Dodder, 42, 186, 498; Dry Land Pastures, 66; Diseased Peaches, 138; Dried Fruit Wanted, 306; Dry Pasture, 306; Douglass Mixture, 307; Defective Teat, 330; Destroying Stumps, 522; Ditch Manuring, 619.
E—Egg Sex. 114; Eradicating Mites, 282; Eucalyptus Seed, 378; Eucalypts, 474, 619; Eucalypts in Arizona, 474.
F—Fertilizers for Potatoes, 18; Fungus on Apples, 19; Fumigating Tent Dip, 42; Fertilizer for Tomatoes, 66; Flavoring Milk, 66; Fuller's Rose Beetle, 66; Fly Extermination, 114; Frog Raising, 114: Fig Drying, 138, 306; Fungus Disease, 306; Fistula, 331; Fig Preserving, 354; Fruit for Poultry, 354; Farrow Cow, 378: Fever, 474; Fall Plowing, 475; Florida Plants, 640; Fruit Varieties, 640.
G—Grape Packing, 114; Gypsum, 138; Galled Shoulders, 210; Grape Juice, 234, 306; Grape Pruning, 282; Grape Leaves Diseased, 335; Garget, 378; Grafting Wax, 426; Garden Magazine, 499; Grafted Nuts, 499; Green Manuring, 522; Grapes for Coast, 546; Gypsum on Hardpan, 546; Green Crops, 546.
H—Himalaya Blackberry, 18; Hard Milker, 210; Horticultural Commission, 306; Hen Manure for Oranges, 330.
I—Insect on Grape Leaf, 114; Intensive Farming, 186; Itch, 307; Indian Games, 331.
J—Jerusalem Cherry, 186.
L—Land Entry, 90; Lawn Making, 138; Lippia, 210, 403; Landscaping Small Plat, 330; Locoed Horse, 330; Licorice, 331; Loganberry Pruning, 378; Little Peaches, 450; Lath House, 498; Lime on Roses, 523; Lawn Seed, 570; Lady Bugs, 618.
M—Moon is Dark, 18; Manure, to Apply, 19; Mold on Grape Juice, 42; Milk Fever, 210: Mange, 234; Mites, 258; Mule Footed Hog, 450; Meningitis, 450; May Beetles, 475; Machine Oil, 498; Mildew on Pumpkins, 522; Mushrooms, 570.
N—Nematodes, 186; Nursery Stock, 571; Nodules on Peas, 618.
O—Onions on Heavy Land, 66; Onion Sets, 66; Old Apricot Trees, 66; Organize, 90; Oranges as Fertilizer, 138; Olive Culture, 186; Onion Seed, 234: Overheated, 282; Olive Curing, 306, 307; Orange Tree Gumming, 307; Old Age, 330; Other Side, 354; Orange Twigs, 402: Orange Seed Preserving, 426; Olive Oil, 498; Orange Tree Stock, 595; Orange Culture, 595; Olive Canning, 640.
P—Powdery Mildew, 42; Potato Output, 42: Potatoes in the Moon, 66; Pruning Tomatoes, 66; Pruning Raspberries, 66; Peas for Cover Crops, 66; Planting Potatoes, 186; Peddling, 210: Peaches Not Coloring, 258; Pecan Grafting, 306; Plums, 306; Prune Packing, 354, 403; Pumpkins for Cows, 474: Prune Trees, 426; Picholine Olives, 427; Pecans, 450; Peach Tree Borer, 475; Persimmons, 498; Peanut Butter, 503, 523, 546; Pork and Hams, 503: Pruning Malagas, 523; Price Fertilizing Elements, 546; Planting Trees, 570; Pruning Peaches, 570; Pruning Deciduous Trees, 594; Pruning Grapes, 594; Poultry Manure, 595; Peanut Butter Sandwiches. 618; Peanuts, 618; Poinsettias, 618; Pecans, 640; Potatoes at Rialto, 640.

Anthrax Cure, Milk Fever Outfits. See O. J. Weber Co., 555-557 S. Los Angeles street, Los Angeles.

R—Rabbit Raising, 42; Red Spider, 42, 162; Red Gum, 42; Red Scale, 114, 186; Ropiness in Milk, 258; Raisin Curing, 258; Root Knot, 282; Roup Experience, 354; Roselle Jelly, 402; Replanting Orange Trees, 450; Rex Spray, 498; Raisin Stemmer, 522.
S—Squirrel Pests, 18; Spray for Spider 42; Squash Bugs, 66, 282; Skunks Robbing Bees, 90; Sweet Corn, 114; Separator, Best, 115; Strawberry Runners, 138; Seed Inoculation, 186; Strawberry Fertilizer, 282; Skin Diseases, 282; Sorghum, 283, 378, 450; Stable Manure, 402; Spotting of Cabbage, 426; Scaly Bark, 426; Spineless Cactus, 475, 570; Salt Grass, 503; Smut, 570; Spray Pumps, 594; Stiff Calf, 595.
T—Tomatoes Dropping, 18; Thrips, 18, 139; Turkestan Alfalfa, 114, 450; Twig Borer, 114; Tuberculosis, 234; Tipping Loganberries, 234; Ticks, 307, 331; Tomatoes, 331; Tuberculosis Germs, 450; Transplanting Dates, 450.
V—Vinegar Making, 162; Vetch, 402; Vetch with Hay, 431; Various Questions, 450; Vineyard Stakes, 595; Vetch for Green Manuring, 595; Vineyard Planting, 599; Vines for Hot Location, 640.
W—Wax for Floors, 66; Watermelons Dying, 138; Weevil, 162, 330, 475; Walnut, Bleach Seed, 186; Winter Rhubard, 234; Walnut Grafting, 282, 330; Washington Grapes, 306; Walnuts in North, 306; Walnut Dip, 331; Wounded Cow, 378; Walnut Bleach, 378; Walnut Stocks, 378; Wickson Plums, 402; Wire Worms, 522; Wormy Apples, 427; Water Cured Olives, 503; Wool Batting, 547; Walnut Shells Imperfect, 547; Walnut Planting, 570; Walnuts, 594; Warts to Remove, 640.

STOCK AND DAIRY.

A—Advanced Dairying, 57; Alfalfa Palace, 83; Arabian Horse in California, 275; Absorbents in Stable, 490; Alfalfa Growing, 586; American Breeders' Association, 587; Alfalfa, 610; Anthrax History, 611.
B—Bran Mash, 103; Boar, 106; Breeders Associations, 177; Bone Spavin, 178; Berkshire Show and Sale, 323; Barren Cows, 419; Bacon and Pork, 489; Best Time to Water Horses, 539.
C—Congested Udder, 35; County Fair, 51; Champion Stallion of the World, 59; Colts, Teaching to Eat, 106; Cattle Killing, 107; Cattle, Never Drench, 130; Collar Boils, 131; Calf Scours, 131; Cattle, Preparation for Exhibition, 147; Corn Cutter, 177; Colt on Its Own Resources, 178; Cottonseed Meal for Dairy Cows, 179; Clay Buttercup, 201; Cotton Seed to Hogs, 227; Clip Your Horses, 239; Careful Milking, 395; Calves Well Bedded, 518; Cow, 538; Consumption, 560; Creamery Short Course, 562.
D—Developing the Heifers, 10; Dairy Form, 83; Decreasing Costs, 105; Dairy Show, 107; Dry Year, Teaching of, 226; Dehorning Cattle, 275; Dehorning, 466; Dog, Our Friend, 515.
F—Feeding Correctly, 81; Fly Repellants, 130; Forest Ranges for Sheep, 179; Fistula or Poll Evil, 202; Feeding, Principles of, 203; Four Days at State Farm, 489.
G—Grubs, 11, 82; Goat Situation, 249; Grain Feeding on Pasture, 297; Giant Couch Grass, 323; Green Forage for Hogs, 514.
H—Healing Wounds, 35; How to Milk, 59; Hog Cholera, 75, 130, 227, 250; Hot Weather for the Horse, 106; Hog Notes, 107; Horse, Watering of, 130; Heaves, 131; Hot Days, 153; Hot Weather in Dairy, 298; Holstein Type, 443; Horse's Foot, 514; Horse Breeding to Type, 515; Hog, to Handle, 539; Hand Separators, 634.
I—Importance of Live Stock Industry, 299; International Live Stock, 466.
J—July, 1908, 34; Judging Stock, 251.
K—Koumyss, 227.
L—Lumpy Jaw, 59; Late Ideas, 201.
M—Molasses as Feed, 58; Milch Goats in California, 178; Milch Goats, 202; Milk Fever, Wrong Treatment, 274; Milk Supply, 346; Missouri Mule Stories, 371; Milk Making, 417; Milk as Food, 442; Milk and Cream Contest, 466; Milk for Pigs, 491.
N—November Work, 465.
O—One Cow's Milk, 370; Ox As a Worker, 443.
P—Purslane, 82; Prepotency, 82; Pig Pasture, 131; Pigs Weaned, 131; Puffs on Horses' Legs, 131; Protein Content of Different Feeds, 322.
R—Ropy Milk, 418; Ramblings, 634.
S—Stable Manure, 11; Sorghum as a Forage, 82; Scours, 106; Summer Work, 129; Startling Story of Losses, 130; Short Horn Sale, 177; Sheep, Eating Up, 227; Sorghum, Feeding, 249; Sand Cracks, 299; Silo and Silage, 322; Southern California Dairy Association, 323; Sick Animal, to Examine, 361; Sick Stock, 419; Stoppage of Bowels, 467; Sheep Breeding, 539.
T—Type in Cows, 393; Tuberculosis, 394; Tuberculin 395.
V—Veterinary Hospital, 347.
W—What's the Use, 10; Warts, to Remove, 131; Water Trough, Model, 274; White Spots on Horses, 539; Warts on Teats, 587.

VEGETABLE GARDEN.

A—Asparagus, 32; Ashes for Vegetables, 88, 440; Asparagus, Rust Resistant, 185; Artichokes, 344.
B—Beans and Vetches, 161; Brussels Sprouts, 185; Blackberry Orange-Rust, 209; Berry Growing, 233.
C—Cabbage Worms, 209, 233; Celery Plants Going to Seed, 304; Celery Shipping, 328; Celery Growing in California, 387; Celery Industry, 464; Co-operative Marketing, 537.
E—Egg Plant Raising, 185; Endive, 280.
F—Fruit Cures, 328; French Method, 411; Financial Conditions Facing Small Fruit Growers, 608.
G—Garden Notes, 8; Garden Beans, 88; Greens, 209; Gophers, to Kill, 440.
L—Lima Beans, 368.
M—Melons, When Ripe, 8; Mulching, 32; Methods of Growing, 440.
O—Onions in the Southwest, 291.
P—Packing Squash, 8; Peppers, 64; Potato Irrigation, 113; Potash for Potatoes, 113; Potato Stalk Weevil, 161; Pea Weevil, 233; Preserving Small Fruits, 280.
R—Raspberries and Blackberries, 88; Rhubarb Competition, 137; Raspberries, 328; Root Cuttings, 328.
S—Spray for Plant Lice, 32; Soils for Garden, 64; Squash, 64; Shasta County Onions, 209; Seed Rot of Potatoes, 280; Strawberries, 304; Seaweed as Manure, 344; Sunflowers, 368; Strawberry Culture, 488.
T—This Month, 8, 137, 328, 440; Tool Care, 113; Tomatoes, 161; Time Savers, 304; Tomato Blight, 339.
W—When Will They Come, 32, Weeds, 137.

VETERINARY.

A—Abscess, 355.
B—Bone Spavin, 163; Bad Feet, 571; Barley Beards, 641.
C—Cribbing, 139.
D—Dilator, 258; Diseased Feet of Cattle, 503.
E—Eruptions, 379.
F—Fistula, 258.
G—Galled Shoulders, 162; Glanders, 258.
H—Hoofs Crumbling, 355; Horse Running at the Nose, 599; Heaves, 641.
K—Kidney Worm, 139; Kidney Trouble, 355.
L—Lameness, 90; Liniment, 599; Lumpy Jaw, 641.
O—Open Joints, 641.
Q—Quarter Crack, 641.
R—Running Sore, 162; Refuses Hay, 162, Rubbing Tail, 379.
S—Sunstroke, 139, 258; Spavin, 258, 431; Scours, 379; Summer Sores, 431; Stringhalt, 527; Sheep Poisoned, 527.
T—Tape Worm, 283; Teats Injured, 431; Tumors, 599; Thrush, 641.
U—Undeveloped Teat, 258.
V—Veterinary College, 119.
W—Wind Puffs, 379.

THE TURNING POINT.

In dealing with our natural resources we have come to a place at last where every consideration of patriotism, every consideration of love of country, of gratitude for things that the country and the institutions of this nation have given to us, call upon us for a return. If we owe anything to the United States, if this country has been good to us, if it has given us and our people our prosperity, our education and our chance of happiness, is there a duty resting upon us to see, as far as in us lies, that those who are coming after us shall have the same opportunity, and ought we, apart from any business consideration, apart from the question of the immediate dollar, to take up this question of the future wealth and happiness and prosperity of the people of the United States? It seems to me that in one phase of it, at least, this question rises far above all matters of business, all matter of the prosperity of the individual now, and becomes a great question of national preservation. And while we all have a right to a reasonable use of natural resources during our lifetime, while we all may use, and should continue to use, the good things that were put here for our use, in the last analysis this question is larger than a business question. It is a higher question than any other question which is likely to come before us, except the question of national preservation and national efficiency.

This is one of the great quiet crises that come in the lives of men and the lives of nations, and upon the decision which we make within the next very few years will depend the future of this nation throughout all of its existence. We have come to a great turning point and we have reached, fortunately, that turning point with a leader in the person of the President to point the way to a wise solution of the problem which comes before us. We have reached that turning point with every probability of solving the question right. None of us believe that this nation will be allowed to go down hill. None of us believe that the prosperity that we enjoy now, we shall fail to hand on to our people, but the only wise and reasonable basis upon which we can afford to proceed is that we shall change from the policy of recklessness of the past into a policy of foresight in the future,—Gifford Pinchot in American Industries for June.

OLD TRUSTY INCUBATORS AND BROODERS
The easiest to operate because it runs itself

We Pay Freight
Five Years Guaranty
Also the most durable. Made of the best materials and gives the perfect, even radiation of heat to all parts of egg chamber. Regulator so perfect that you might run it without a thermometer. Sold on
40, 60 AND 90 DAYS' TRIAL and Five Years' Guaranty.
Highest quality, fairest prices, fairest terms. No matter where you live, McClanahan, the Incubator Man, can save you money in prices and in results, and save you chicken troubles.
SEND FOR BIG FREE BOOK
Chock-full of common-sense chicken talk and straight from the shoulder money-making suggestions. 300 illustrations. It is Free. Write today sure, and get his special offer.
E. E. McClanahan 112 E. Eighth St., Los Angeles

HANDLING WATER FOR RESULTS.

There are four principal factors that go to make up plant growth: Light, heat, food and water. In all arid countries we usually have plenty of light and heat, and the soil is rich in plant food, but the water is really the controlling factor. Through it, all plant food is carried in solution to the plant and distributed to its various parts. We might compare irrigation to the lever on an engine; to one who does not understand how to manipulate the lever it might be a disastrous business to tamper with it. We might liken water to this lever of the engine, by supplying the right amount of water at the right time, and, in the right manner, the plant will grow to its full capacity from germination until the ripening period.

On new land where irrigation has never been practiced no water table has been developed or established; all water, therefore, supplied is absorbed by the ground until an excess accumulates, when the water table becomes established, its depth below the surface usually being governed by the amount of water supplied. It can be readily seen that more water can be applied on new land than on land that had been irrigated for any considerable length of time. Plants only use the ascending or capillary water, which we term moisture. All the excess, or the amount of water supplied in saturating the ground must be taken care of, either by under drainage, or evaporation before the plants can begin to use the capillary water. Plants do not use descending water, or water going into the soil; they can only use the capillary water coming up. In order to make the word capillary water understood, we might use this illustration. Take a handful of snow and just let it touch water, and the water will climb to the top of the sponge; this kind of water is what the plant uses. To saturate the ground with water and keep it so simply prohibits plant growth, and plants can be killed more quickly with an excess of water than by drouth.

Bearing these things in mind we can see that to irrigate is not to run water onto the soil, but to supply the needed moisture in such a manner that plants can use it.

It is seldom that you can find two plots of land exactly alike, that can be irrigated the same. Nor can we find two different crops growing on the same kind of land that require irrigation at the same time, as different crops use different amounts of moisture, and at different times.

The study of irrigation means a study of the soil, in connection with its depth, its mechanical condition, the kind of crops being grown, under drainage, and the depth of the water table, if any. When the soil is underlaid with sand or gravel, there being no hard strata between, a water table is seldom established, unless it be on bottom lands where the water level of the streams prohibit under drainage. But on uplands where the soil is very deep, or there is a hard stratum underneath the soil, sooner or later a water table will be established. On such soils water should never be used to excess, as alkali in harmful qualities will be developed and the cost of reclaiming them from the bad effects of these harmful salts will be greater than the original cost of the irrigation system covering such lands.

DIVIDEND NOTICE.

THE GERMAN SAVINGS AND LOAN SOCIETY

Member of Associated Savings Banks of San Francisco, 526 California Street. Mission Branch, 2572 Mission Street, near 22nd.

For the half year ending December 31, 1908, a dividend has been declared at the rate of four (4) per cent. per annum on all deposits, free of taxes, payable on and after Saturday, January 2, 1909. Dividends not called for are added to and bear the same rate of interest as the principal from January 1, 1909.

GEORGE TOURNY, Sec'y.

SEASON'S GREETINGS.

One of the neatest mementos sent out this season was by Silva & Bergtholdt Co. of Newcastle. This firm is proving to be one of the most enterprising and pushing of the nurserymen of the State, and the success which their big business is achieving is merited.

ALAMEDA COUNTY POULTRY SHOW.

The Coulson Poultry & Stock Food Co. had a fine display of Poultry Foods and Supplies at the Show, and distributed a large number of circulars and free samples.

One exhibit which attracted special attention was a "Fireless Brooder" in operation with young chicks, which had been successfully raised up to 2 weeks old.

ALAMEDA COUNTY POULTRY SHOW.

Among the prize winners was H. C. Scrutton, who won on White Minorcas: First, second and third cockerel; first, second and third pullet; first and fifth hen; third, fourth and fifth, cockerel. Cup for best display of Minorcas and cash prize for best display in the Mediterranean class.

The Del Valle Nursery, owned by H. L. Bauer & Sons of Los Angeles, is issuing a very neat little catalogue. All kinds of orchard and ornamental trees and plants are catalogued. Though condensed, the catalogue is quite complete with prices attached.

The seventh annual convention of the National Nut Growers' Association held an interesting and profitable meeting at Chattanooga, Tenn., Oct. 27-29. The election of officers resulted as follows: President, J. B. Wight, Cairo, Ga.; Secretary, J. F. Wilson, Poulan, Ga.

The Popular

Western

Built In the West **Best** For the West

FACTORY AT YOUR DOOR

LONGEST LIFE LEAST FUEL FEWEST PARTS ALWAYS GOES

Largest Well Testing Outfit In Southern California

Irrigation Plants

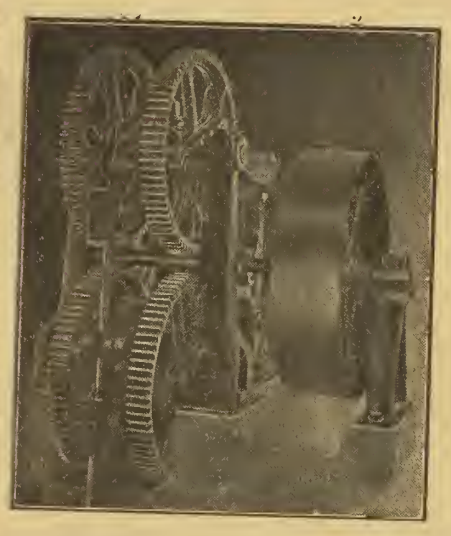
Designed
Constructed
Installed

We Test Our Customers' Wells

WESTERN GAS ENGINE CO.

WORKS AND OFFICE
908-932 No. Main St.
Los Angeles, Cal.

New Pomona Double Plunger Deep Well Pump Head



Most Efficient Deep Well Pump in the State

It Is Made in California

Built in Three Sizes—from Ten to Forty Horse Power

It is the smoothest running deep well pump because there are no dead centers, no jerk or jar, and no danger of breaking the pump rods. Be sure and write for our big catalogue. Watch this space for further information.

Pomona Manufacturing Co.
Pomona, Cal.

THE

Latest Deep Well

Guaranteed to deliver from 100 gallons per minute upwards, depending on the diameter and capacity of well, from a depth of 50 to 300 feet below the surface. Can be either belt driven or direct connected to electric motor as occasion requires.

Write for Catalogue 46B.

Byron Jackson Iron Works

Turbine Pump

A deep well pump that has no valves or plungers to wear or get out of order, no gears, consequently no noise or breaking of teeth.

Compact, durable, always primed and ready to operate, constant flow, hence increased capacity of well.

This type of pump is fast taking the place of Vertical Steam, Deep well Plunger and Propeller Pumps.

Main Office and Works:
Carlton Station
West Berkeley, Cal.

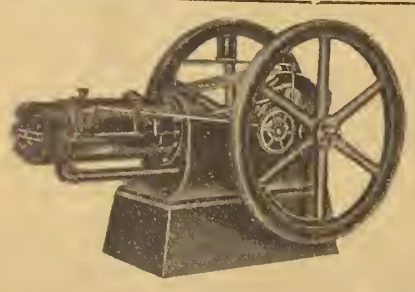
WOOD PIPE

Made from California Redwood or Selected Washington Douglas Fir

NATIONAL WOOD PIPE CO.
Stave Pipe 2 inches to 10 feet Diameter up to 400 feet Head

SAN FRANCISCO OFFICE 318 MARKET ST.
LOS ANGELES OFFICE, 404 EQUITABLE BANK BUILDING
OLYMPIA, WASH. SALT LAKE CITY, UTAH

Prices, specifications, hydraulic data, and general information furnished upon request.



For the Land's Sake!

IRRIGATE WITH A

Commercial Gas Engine

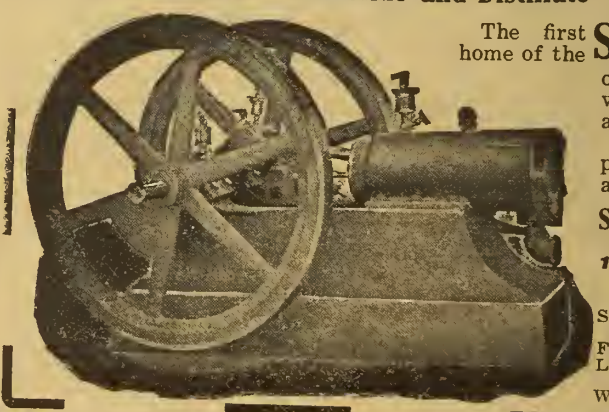
SEND FOR BULLETIN NO. 12
AND YOU WILL

Commercial Engine Company
953-955 No. Main St. - Los Angeles, Cal.

ARNOTT HARNESS $10.00 to $80.00

Everything guaranteed. Money back if not satisfactory. Factory in Los Angeles. California leather for all uses. Send for No. 10, eighty page FREE Catalogue.
ARNOTT & COMPANY 112–118 So. Los Angeles St. Los Angeles, Calif.

Samson Gasoline and Distillate **Engines**

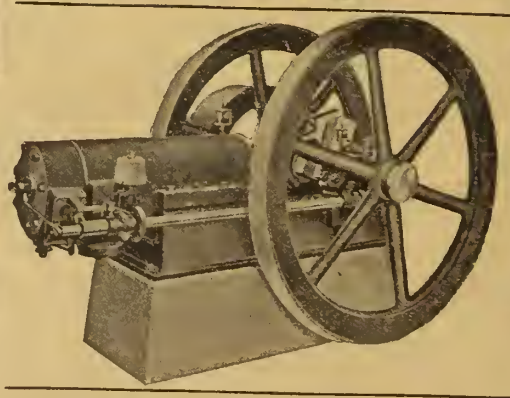


The first home of the **SAMSON** engine is a large one. Its second home, which is everlasting, is a happy one.

They may be compared with the sea—always ready to roll.

Samson Iron Works
Office and Factory:
1100 to 1198 Aurora St.
Stockton, Cal.

BRANCHES:
San Francisco,
Cor. Market and First Sts.
Fresno, 920 J St.
Los Angeles,
204 N. Los Angeles St.
W. L. Cleveland Co., Agent



HERCULES DISTILLATE ENGINE

Heavy, Strong and Simple in Construction

The Right Engine at the Right Price

Horizontal and Vertical; All Sizes. Buy direct from the manufacturer and save agent's commission. Send for our new Catalogue C.

The Hercules Gas Engine Works
351 Market St., San Francisco
Telephone Douglas 3630

BOSTROM'S IMPROVED FARM LEVEL

Used for irrigation and drainage work. Cheapest and best level yet invented for farm use. Has the latest patented improvements in simplicity and usefulness. Can be operated by any one. Price including telescope tripod and target rod $15.00.

PALACE HARDWARE COMPANY
581 Market Street, San Francisco.

Coast Agents. Send for Circular.

UNIVERSITY OF ILLINOIS-URBANA
3 0112 042653888